Exploring the use of patient feedback in pharmacy consultations

Volume 1 of 2

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Abstract

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Backgrounds

Patient feedback has received increased attention to enhance different healthcare services including consultations with healthcare professionals. There is currently a dearth of research on using patient feedback in assessing pharmacy consultations. The aim of this thesis was to explore the use of patient feedback in assessing hospital pharmacists' consultation skills.

Methods

This thesis includes three studies; the first was a systematic review to identify patient feedback questionnaires regarding assessing consultation skills of healthcare professionals. The second was a think-aloud study to pre-test the suitability of using a questionnaire identified in the systematic review in a hospital pharmacy setting. A final study was undertaken to explore the feasibility of collecting patient feedback on hospital pharmacists' consultation skills using the identified questionnaire.

Results

The systematic review identified twelve questionnaires, none used in the pharmacy setting. One questionnaire was more promising to be taken forward since it had more evidence in terms of its psychometric properties. Cognitive interviews conducted using the questionnaire indicated its potential suitability to assess hospital pharmacy consultations. Feasibility study reflected positive views regarding patient feedback and its role in enhancing consultations, as expressed by patients and pharmacists. Some barriers were encountered by pharmacists regarding the process, all of which maybe resolved by assigning an independent third person to collect patient feedback. Some suggestions given primarily from pharmacists

indicated the questionnaire may need amendment to make it more relevant to the pharmacy setting.

Conclusions

This thesis provides an overview of patients' and hospital pharmacists' views about patient feedback and its role in enhancing pharmacists' consultation skills. Several barriers were encountered with suggestions given on how the process could be improved. The thesis revealed many areas warranting further investigation, such as exploring the impact patient feedback may have on consultation development and the role of the organisation in supporting pharmacists.

بِسْمِ اللَّهِ الرَّحْمَٰنِ الرَّحِيمِ(1)

قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَاۖ إِنَّكَ أَنتَ الْعَلِيمُ الْحَكِيم (32)

“You are glorious indeed! we have no knowledge except what You have taught us. You alone are All-knowing and All-wise”

The Quran, sūrat Al-baqarah (The Cow),

Verse (2:32)

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Glossary

ABIM	American Board of Internal Medicine
BMA	British Medical Association
CCG	Clinical Commissioning Group
CPD	Continuous Professional Development
CDSR	Cochrane Database of Systematic Reviews
CFA	Confirmatory Factor Analysis
CFEP	Client Focused Evaluations Programme
CPPE	Centre for Pharmacy Postgraduate Education
EIF	Expression of Interest Form
IEIF	Interview Expression of Interest Form
GDPR	General Data Protection Regulation
GPhC	General Pharmaceutical Council
GMC	General Medical Council
IQ	Interquartile
ISQ	Interpersonal Skills Questionnaire
LAP	Leicester Assessment Package
MISS	Medical Interview Satisfaction Scale
MSF	Multisource Feedback
MRC	Medical Research Council
MKO	The More Knowledgeable Other
NA	Not Applicable
NHS	National Health Service
NIH	National Institutes of Health
NISQ	Nurses Interpersonal Skills Questionnaire
NNUH	Norfolk and Norwich University Hospital
NR	Not Reported
NWVTS-PSQ	North Worcestershire Vocational Training Scheme Patient Satisfaction Questionnaire
OSCE	Objective Structured Clinical Examination
PAR	Physician Achievement Review
PBI	Problem Based Interviewing
PBCL	Physician Behaviour Checklist

PCN	Patient and Carer Network
PDSQ	Patient-Doctor Satisfaction Questionnaire
PFC	Patient Feedback Checklist
PFRF	Patient Feedback Response Framework
PIL	Participant Information Leaflet
PIS	Participant Information Sheet
PPiC	Patient Partnership in Care
PPPC	Patient Perception of Patient Centeredness
PPP	Patients Per Practitioner
PPS	Physicians Patient Survey
PSQ	Patient Satisfaction Questionnaire
QAF	Questionnaire Administration Form
QOF	Quality and Outcomes Framework
RACGP	Royal Australian College of General Practitioners Training Program
RPS	Royal Pharmaceutical Society
Researcher	PhD student
SD	Standard Deviation
SP(s)	Standardized Patient(s)
TA	Think-aloud
UEA	University of East Anglia
UK	United Kingdom
US	United States
WHO	World Health Organisation
ZPD	Zone of Proximal Development

Initials

HA	Hiyam Al-Jabr
JD	James Desborough
MT	Michael Twigg
RS	Robin Saadvandi
SS	Sion Scott
TK	Thando Katangwe

Publications and list of conference proceedings from thesis

- Al-Jabr, H., Twigg, M. J., Scott, S., Desborough, J. A. Patient feedback questionnaires to enhance consultation skills of healthcare professionals: a systematic review (2018), Patient Education and Counselling, 101, (9), 1538-1548. https://doi.org/10.1016/j.pec.2018.03.016.

- Al-Jabr, H., Twigg, M. J., Desborough, J. A. Exploring what patients think when answering the Interpersonal Skills Questionnaire (ISQ): a 'think-aloud' study (2018), Research in Social and Administrative Pharmacy, 15, (5), 619-622. https://doi.org/10.1016/j.sapharm.2018.07.005.

Published Conference Abstracts

- H. Al-Jabr, M. Twigg, J. Desborough. Patient feedback questionnaires to enhance consultation skills of healthcare professionals: a systematic review. International Journal of Pharmacy Practice, 26 (Supplement 1) 11-12, 2018. This abstract was presented at the Health Services Research and Pharmacy Practice (HSRPP) conference 12-13 April 2018 held at the University of Newcastle. The systematic review presented was the oral presentation winner at the HSRPP conference.

- H. Al-Jabr, M. J. Twigg, R. A. Saadvandi, J. A. Desborough. Exploring what patients think when answering the Interpersonal Skills Questionnaire (ISQ): A 'Think aloud' study. Research in Social and Administrative Pharmacy,14 (2018) e47-e48.

- H. Al-Jabr, M. J. Twigg, T. Katangwe, R. A. Saadvandi, J. A. Desborough. Exploring patients' views about giving feedback on pharmacy consultations using semi-structured qualitative interviews (Interim results). International Journal of Pharmacy Practice, 27 (Supplement 2) page 20, April 2019.

- H. Al-Jabr, M. J. Twigg, R. A. Saadvandi, J. A. Desborough. Is it feasible for hospital pharmacists to collect feedback from patients on their consultation skills? American Society of Health-System Pharmacist (ASHP), Summer Meetings and Exhibition, Boston, 2019.

- H. Al-Jabr, M. J. Twigg, T. Katangwe, R. A. Saadvandi, J. A. Desborough. What patients think about giving feedback on hospital pharmacy consultations? A qualitative interviewing study. American Society of Health-System Pharmacist (ASHP), Summer Meetings and Exhibition, Boston, 2019.

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Now, the PhD is over, I finally have time to work on my wish list, where to start? ☺.

1 Chapter 1: Communication in the healthcare system

1.1 Introduction

Despite the tremendous advancement in medicine that facilitates disease diagnosis and treatment, conversation continues to be fundamental in collecting information in encounters between physicians and patients (Street, 1991). Roter and Hall (2006, p. 4) stated that "*...talk is one of the two fundamental ingredients of medical care. The other fundamental ingredient is the expert knowledge that both participants bring to the encounter… Talk is certainly the fundamental instrument by which the doctor-patient relationship is crafted and by which therapeutic goals are achieved"*.

The number of medical encounters conducted annually with patients is significant, with estimates of about 340 million encounters undertaken by General Practitioners (GPs) every year in the United Kingdom (UK) (NHS England, 2013b). When including encounters conducted in secondary care settings and by other healthcare professionals, it is easy to see how important communication and communication skills are to the healthcare system.

A growing interest has been shown over the past few years regarding communication in healthcare, especially in trying to define and characterise the important elements that will help in constructing an effective interaction with patients and linking this to desired outcomes such as satisfaction (Safran et al., 1998, Kinnersley et al., 1999), and adherence (Butler et al., 1996, Maly et al., 1999, Svensson et al., 2000)

To begin with, consultations are a skilled behaviour that belongs to the wider field of communication (Greenwood et al., 2006). Although both terms may look the same from the outer perspective, they are not entirely interchangeable. Communication refers to the whole process of human interaction, where information is being exchanged and shared between a sender and a receiver using different pathways of verbal and non-verbal channels. Consultation, on the other hand, is narrower in scope and usually refers to discussions taking place with an individual with specialised knowledge. In the healthcare system, these discussions happen with a healthcare professional (Jee et al., 2016), usually on a one-to-one basis. For the purpose of this thesis, the use of the word 'communication' will be in

reference to the whole process of human conversational interaction, whereas 'consultation' will be used to refer to the specific one-to-one healthcare professional-patient interaction.

1.1.1 General definitions and elements of communication

Communication represents a building block for medical practice (Thompson and Anderson, 1982, Bensing and Sluijs, 1985, Teutsch, 2003). It is a process that is most frequently conducted by doctors, with estimates of 150,000-300,000 medical encounters to be executed by each doctor during their professional lifetime (Cushing, 1996, Lipkin, 1996, Silverman et al., 1998a, Kurtz et al., 2005, McEwen and Harris, 2010), making it an indispensable part of their everyday practice. Each of these encounters represents a potential opportunity for the healthcare professional to encourage patients to make positive behaviour changes (Stott and Davis, 1979). Pendleton eloquently described communication as: *"the central act of medicine which deserves to be understood."* (Pendleton et al., 1984).

There is no universally accepted, standard description of 'doctor-patient communication' (Deveugele et al., 2005, McCluskey et al., 2011). Interpersonal communication has been described as *''the process by which information, meanings, and feelings are shared by persons through the exchange of verbal and non-verbal messages''* (Brooks and Heath, 1985, p. 3). Similar descriptions were also given by Arnold and Boggs (1995) and Balzer-Riley (1996) where it was referred to as a process of joint transfer of information between a sender and a receiver that uses a mixture of verbal and non-verbal communication skills. These definitions highlighted the components of interpersonal communication, i.e. the verbal and non-verbal elements (McCluskey et al., 2011). Verbal communication refers to words selected and transferred when talking. Words have significant influence, therefore, they need to be neatly selected to match the receiver's level of understanding (McEwen and Harris, 2010). When interacting with patients, it is essential for healthcare professionals to use simple words to construct clear, concise, consistent and credible messages (Marshal and Stevens, 2015). The use of

medical jargon should be avoided as it complicates the patient's understanding of intended messages (King and Hoppe, 2013).

The second element of communication; the non-verbal element, is an inevitable behaviour that is not always controlled (Kurtz et al., 2005). Non-verbal communication was described as being capable of making the invisible visible (DiMatteo et al., 1980), transforming messages beyond the spoken word. It includes a mixture of components such as kinesics (body language), proxemics (personal zone and distance from others while talking), physical contact (e.g. shaking hands, smiling), communication environment, and personal characteristics (e.g. appearance) (Berry, 2007). It is a highly influential element when interacting with others, especially with face-to-face interactions (Berry, 2007). An additional third element of communication known as paraverbal or paralinguistic element has also been described (McEwen and Harris, 2010, Ranjan et al., 2015). However, it is sometimes considered as a subtype of non-verbal communication (Berry, 2007). This element refers to voice characteristics and the way words are being said (sound volume, pitch, tone, and speed). Thus it helps in giving meanings to messages transferred verbally (McEwen and Harris, 2010).

These three elements of communication (verbal, non-verbal, and paraverbal) were previously described by Albert Mehrabian (1972) in his "7%-38%-55% rule" where he described the proportions that each element takes while interacting with others, see Figure *1-1*.

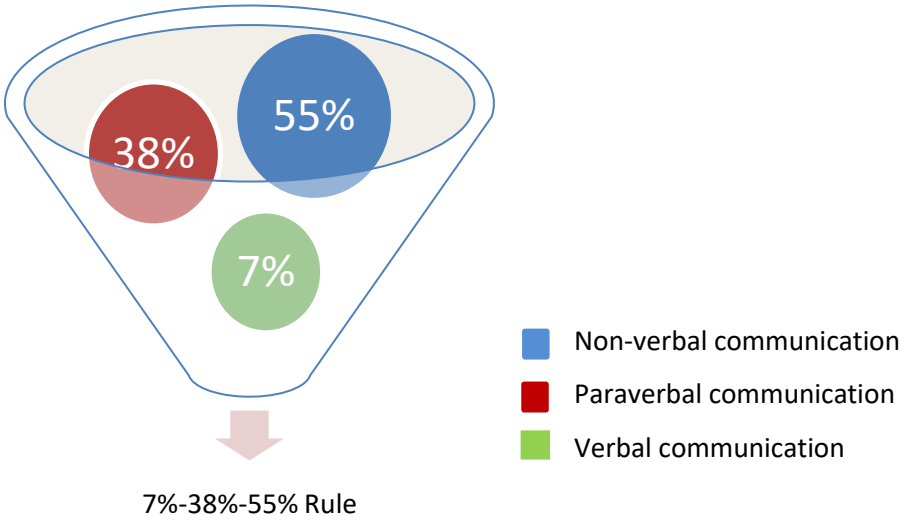

Figure 1-1 The 7%-38%-55% Mehrabian's rule of communication. Adapted from (Mehrabian, 1972).

Mehrabian's rule suggests that during an encounter, most of the information is transferred through non-verbal pathways, with only seven percent transferred verbally. However, for communication to be effective, messages transferred by the three channels (i.e. verbal, non-verbal, and paraverbal) should be complementary to facilitate patients' understanding.

The way of employing these three elements to construct useful consultations with patients effectively has been a debate for over 50 years. Achieving a good consultation is the key to effective treatment (Stewart, 1995, Williams et al., 1998, Dulmen and Bensing, 2001, Roter, 2000), and the quality of interaction between healthcare professionals and patients is linked to enhancing several outcomes of therapy, such as patient satisfaction and adherence (Stewart, 1984, Kinnersley et al., 1999, Stewart et al., 2000). Extensive work has been undertaken across the years to identify the best ways of conducting successful consultations, and it resulted in the development of various consultation models and theories of human interactions. These are discussed in further details in the following section.

1.2 Consultation models and theories of human interaction

Over the past century, healthcare professionals have tried to model consultations with their patients so that they can conduct more organised encounters to achieve better outcomes. As a result, a wide range of consultation models and theories have been developed and extensively used in analysing interactions between healthcare professionals and patients. A consultation model can be described as a proposed theoretical description of the communication process (Ramesh et al., 2012). It is simply a framework that is composed of several phases, questions and strategies, all of which are constructed to organise work. Consultation models have changed over the years as the understanding of the healthcare system and patient behaviour has increased. Newer developing models are directed to enhancing services, not only in terms of disease diagnosis and management, but also in terms of disease prevention and health promotion (Simon, 2009).

The reason for having such a wide range of models is that each model was trying to identify the best way of interacting with patients. Some models are task-oriented while others are structure-oriented, and some are basically theories describing the nature of human interaction and how it can be improved. Certain models might be preferred over others, and sometimes, a combination of these models are used by healthcare professionals in their consultations. A consultation model is thus merely a guiding tool to help healthcare professionals better understand the real world of patients' medical encounters. This section will cover in a chronological order the major different consultation models.

1.2.1 The Bio-medical Model (1800)

The bio-medical model was developed during the 1800s and is probably the oldest model available. It is based on always attributing illness/disease to a single underlying cause and that correction of that cause will help in returning the patient back to healthy status (Wade and Halligan, 2004). The model follows a scientific approach that is composed of several steps which end up with diagnosis and treatment (Shah and Mountain, 2007). In this model, the patient's verbal input is not highly regarded. The focus here is more directed to procedures and laboratory tests that will help in reaching a diagnosis (Wade, 2009). The approach is described in Figure *1-2*.

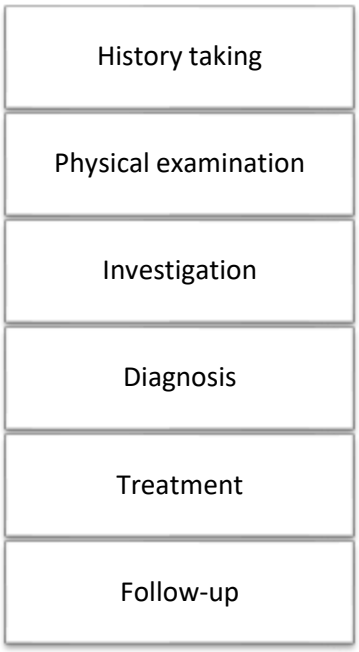

Figure 1-2 Scientific approach of the bio-medical model. Adapted from Shah and Mountain (2007)

Despite being dominant in the past century (Wade and Halligan, 2004), the bio-medical model has failed in explaining the different forms of illness (Wade, 2009). This could be attributed to its focus of interest, i.e. concentrating more on discovering the underlying pathology without paying attention to patients'

preferences, needs, and expectations, a dimension that was given more weight in subsequent models. The model neglects the human side of the interaction, and views patients as being abnormal because they have illness/disease. Consequently, the model might not be highly influential in enhancing the professional-patient interaction and relationship.

1.2.2 Balint Theory (1950s)

Balint theory was developed by a psychologist called Michael Balint. Balint was inspired to develop this model by the group discussions held between GPs regarding their patients. In his theory, Balint suggested that physical, psychological, and social elements of an individual are inseparable in which psychological problems can cause physical symptoms, and organic disorders can lead to psychological consequences (Pawlikowska et al., 2007). Therefore, it is the doctor's responsibility to use adequate skills in exploring these problems. Balint's model is focused more on the emotional aspects of the doctor-patient relationship, in addition to giving special attention to the skill of active listening (Balint, 1957, Pawlikowska et al., 2007).

Balint's approach was described as being doctor-centred as it paid more attention to doctors' feelings. According to Balint, by addressing those feelings, doctors can become more sensitive towards their patients and thus more capable of affecting their thinking and behaviour even without needing to write a prescription, a concept popular of Balint's approach that was known as *'the doctor as a drug'* (Balint, 1957).

In the late 1960s, Balint had developed the term "patient-centred medicine" to clarify that each patient must be seen as a unique human-being (Balint, 1969). His work represents a stepping stone towards a healthcare system that should take into account patients' needs. Nowadays, Balint's theory is viewed as a continuous legacy that is represented by the Balint Groups, where GPs join to use his framework in developing their consultations (The Balint Society, 2012).

Although Balint's theory helped in clarifying the interaction between doctors and patients, it did not quite explain how to conduct a consultation in its entirety. It also did not draw a structure to be followed, thus, highlighting a difficulty in identifying which task to be accomplished, and how to accomplish it within the limited time frame of the consultation.

1.2.3 The Health Belief Model (HBM) (1950s)

The HBM is a psychological model that focusses on demonstrating and predicting health behaviours of individuals. The model was initially developed in the late 1950s by Rosenstock and colleagues (Northouse and Northouse, 1992) to help understand the reasons behind decreased public participation in preventive health measures for asymptomatic diseases (Rosenstock, 1974). The HBM was later used to predict patients' responses to disease manifestations (Kirscht, 1974), as well as their compliance with therapy (Becker, 1974, Becker and Maiman, 1975).

The HBM lists different variables that affect human behaviour to stimulate a preventative health action, such as perceived susceptibility, seriousness and threat to a disease, and perceived benefits and barriers to the preventative action. The HBM is not an actual consultation model, rather, it is a hypothetical approach that is concerned with predicting and explaining the health-related behaviours of individuals. The development of this model marked the start of a systematic, theory-based research in health behaviour (Hochbaum et al., 1952).

1.2.4 Transactional Analysis (1964)

Transactional analysis is a theory of social interchange that was developed by Eric Berne during the 1960s. In this theory, Berne described three ego states that every individual can go through once activated at any given moment. An ego state is practically described as a mixture of feelings that are associated with a group of consistent and correlated behaviours (Berne, 1968). Thus, the way individuals behave is largely dependent on the ego state they are in and its associated feelings.

Berne also suggested that each individual has his/her own archive of these ego states, where shifting between these states happens all the time, and they can be activated by a given situation. Once activated, the person can then think, behave, feel, or react as a parent, an adult, or as a child (Berne, 1968). A summary of these ego states is provided in Figure *1-3*.

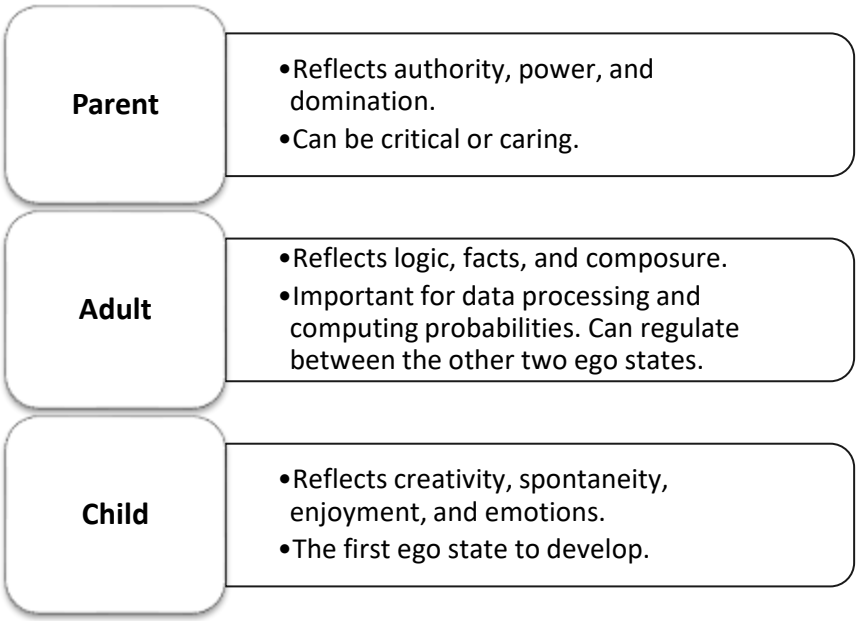

Figure 1-3 Three ego states of the transactional analysis theory. Adapted from Pawlikowska et al. (2007, p.187)

According to this theory, conversations are referred to as transactions that are taking place between at least two people. The success of the transaction is dependent on the ego state of those involved in the conversation. In the healthcare system, most clinical encounters are manifested by a healthcare professional who gives medical instructions in a commanding, controlling but caring manner (parent state) to a patient who receives this information in a submissive, dependent and obedient manner (child state). Such relationship is arguably not useful, neither for the patient nor for the healthcare professional. This kind of paternalistic, authoritarian interaction might be associated with false assurances to the patient who is assuming the child state, thus risking the patient's autonomy and making the

interaction be doctor- rather than patient-centred. It may also render the patient less responsible and more dependent on the healthcare professional (Bailey, 2014). Therefore, Berne explained that it is the responsibility of the professional to change their ego state in a way that will encourage the patient to change their accordingly, until they both reach the desired adult-adult state. This state is known to work the best, where the patient becomes an independent, responsible, information handler and decision-maker (Berne, 1964, Berry, 2007).

Although this theory stimulates patients to become more active, it does not provide a clear structure to follow. Additionally, It is more focused on putting those involved in a consultation in the right ego state, and it assumes that by doing so, the consultation will be successfully executed. However, it does not take into account other internal or external factors that may influence the consultation. Therefore, it seems to be a useful tool to be used in conjunction with other consultation models rather than using it alone.

1.2.5 The Six-Category Intervention Analysis (1976)

The Six-Category Intervention Analysis was established by a psychologist called John Heron. It is a comprehensive model that summarises a group of different interventions to be used by the healthcare professional during a patient encounter (Heron, 1976). Heron suggested that each intervention has a particular place within the consultation, and that the doctor can use it to stimulate patients to change their behaviours positively. Interventions in this model are divided into an authoritative (doctor-centred) interventions; where the healthcare professional assumes a dominant role, and a facilitative (patient-centred) interventions; where the patient is more actively involved (Heron, 1976). Interventions are illustrated in Figure *1-4*.

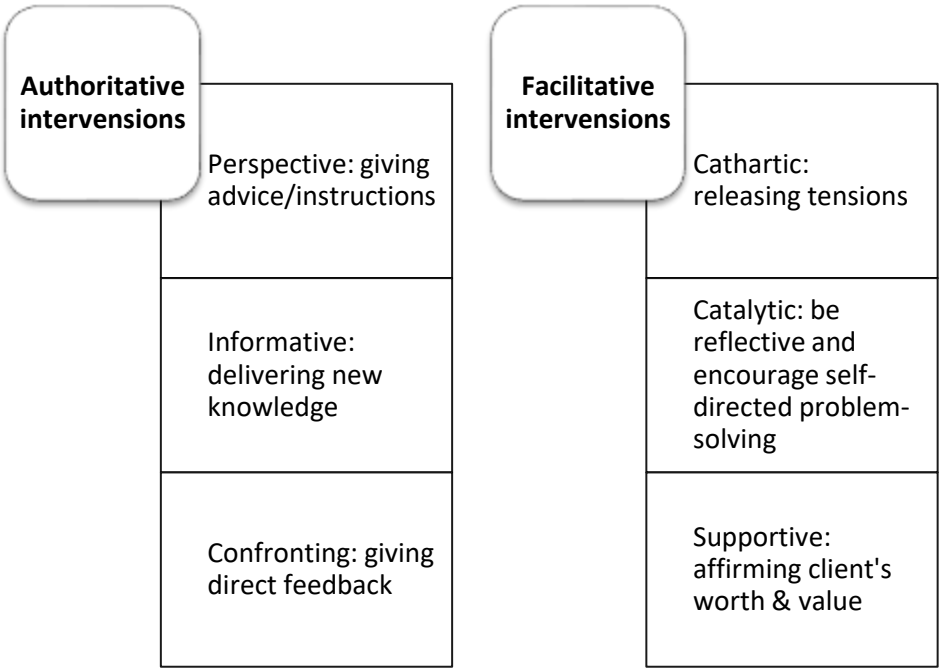

Figure 1-4 Doctor and patient centred interventions of the six-category intervention analysis. Adapted from Heron (1976, p. 144)

Heron described the above mentioned interventions as being completely 'value-neutral', meaning that none are superior to the other, all are of equal importance and highly interdependent. In this model, Heron further subdivided these categories into varied types of interventions that can be used depending on the situation. For example, 19 different types of interventions are mentioned under the cathartic category, all of which can be employed to help the patient release his/her tension (Heron, 1976). However, which category to use and how to move between them is highly variable and is influenced by many factors. These include factors related to the doctor, the patient, and to the relationship and rapport developed between them. Selection of an intervention requires careful attention to the patient's verbal and non-verbal cues that will signal the need to change intervention tactics (Heron, 1976).

This model is useful in terms of providing professionals with a wide range of interventions they can use. However, Heron did not explain neither the content

(what is to say or to do) nor the manner of conducting each intervention (associated verbal and non-verbal behaviours to use). The model does not explain how to practically employ these interventions or the skills needed under each category. An organised framework is missing from this model, as it does not provide a clear path for professionals to follow.

1.2.6 Byrne and Long's Model (1976)

The Byrne and Long's model was developed in the mid-1970s. It was established after analysing tape-recorded consultations of GPs with their patients. Byrne and Long (1976) used these recordings to design a framework composed of six tasks to be covered during a medical encounter, the tasks are:

1- Establishing a relationship with the patient.
2- Attempts to discover or actually discover reason(s) for the patient's attendance.
3- Conducting verbal and/or physical examination.
4- The doctor, or the doctor and the patient, or the patient (in that order of probability) consider the condition.
5- Detailed treatment or further investigation.
6- Consultation termination (usually by the doctor).

The Byrne and Long's model was the first one to include the tasks of starting and finishing a consultation, in addition to considering the patient's problem (Denness, 2013). Byrne and Long (1989) also described various consultation styles, i.e. doctor- and patient-centred styles. The model introduced several checklists to be used by doctors to help them identify their direction of centredness (Byrne and Long, 1989, p. 140). Byrne and Long's model has given the basis for other, later models to develop (Ramesh et al., 2012).

Unlike previously discussed models, this one provided a framework for different tasks to be accomplished within a consultation, however, the provided framework is highly doctor-centred. This could be attributed to the fact that this model was developed in the 1970s, during which the paternalistic approach was predominant (Moulton, 2007).

1.2.7 Biopsychosocial Interpretation Model (1980)

The Biopsychosocial model was designed by George Engel. While it is scientific in its approach in a way similar to the bio-medical model, it considered additional, previously missing areas. Engle stressed the importance of considering the whole psychosocial context of a person alongside the biological aspects of health and disease during a consultation. The model suggests that every person is influenced by three factors; biology, psychology, and social factors, and that these factors should be taken into account at each encounter (Engel, 1980). As the bio-medical model was incapable of explaining several medical conditions due to lack of an identifiable underlying cause(s), such as migraine (Wade, 2009), the biopsychosocial model was presented as being more appropriate. By considering the biopsychosocial factors, Engel argued that this would enable physicians to better understand a patient's state of health, and then work towards designing a plan that will help him/her in returning to the healthy status (Engel, 1977).

This model was described as a comprehensive approach to the field of disease and human behaviour, in which it enhances a better understanding by providing a conceptual framework for obtaining information, and considering options other than biology to be involved in a patient's condition (Dogar, 2007).

1.2.8 Helman's Anthropological or Folk Model (1981)

The Folk model was developed by Cecil Helman, a medical anthropologist and a GP. His model focused on answering the following questions that are considered very important to the patient:

1- What has happened?
2- Why has it happened?
3- Why to me?
4- Why now?
5- What would happen if nothing was done about it?
6- What should I do about it?

According to Helman, answering these questions would help in making the consultation more satisfying to the patient (Helman, 1981), whereas failing to do so could lead to an imbalance between the doctor's and the patient's agendas (Denness, 2013). This model highlights the importance of understanding the world of the patient, and how he/she perceives and deals with the illness, and then tailoring advice based on their understanding (Chrisman, 1977, Dingwall, 1977).

Although less task-oriented when compared to other models, an organised working template is missing from Helman's model, which may not clarify which direction to follow when conducting a patient consultation, and might even lead to skipping some important issues that need further discussion.

1.2.9 Pendleton Framework (1984)

David Pendleton, a social psychologist, devised this model with three other GPs (Schofield, Havelock, and Tate). Their work was an expansion of that conducted by others such as Byrne and Long, where a structure was designed for the consultation process with many patient-centred tasks to be accomplished (Pendleton et al., 1984). The framework has increased the attention not only to meeting patients' needs, but also to increasing their understanding and ability to manage their own care. It divided a consultation into seven tasks to follow from start to end (Moulton, 2007). These tasks are summarised in Figure *1-5*.

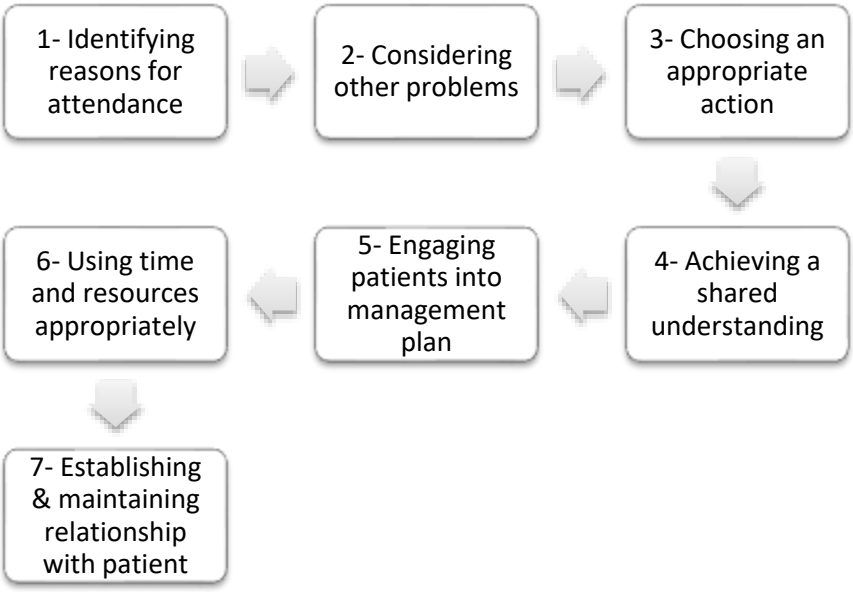

Figure 1-5 Seven tasks of Pendleton framework. Adapted from Pendleton et al. (2003, p. 3)

Although the framework developed a structure for the consultation, the number of tasks to accomplish represented a challenge for professionals. Most doctors conduct their consultations within 10 minutes, but this might not be possible with the increased number of tasks to be fulfilled. As the number of tasks is increased, the likelihood of accomplishing these tasks is decreased (Warren, 2006). Moreover, the increased number of tasks may cause confusion to the healthcare professional during the patient's encounter, and may result in rushing the consultation in order to maintain work schedule (Denness, 2013).

1.2.10 Disease Illness Model (1984)

This model was initially developed by McWhinney and colleagues. It explained two types of low health states; i.e. disease (the objective problem affecting the body) and illness (subjective emotions and thoughts felt during sickness). The model differentiates between these two states, where disease is a more general condition that has similar symptoms between the different individuals, whereas illness is unique since it expresses one's personal thoughts and feelings. The model

emphasised that both conditions do not necessarily coexist, it suggested that by identifying the difference between disease and illness, this will help in saving time and effort spent over unsuccessfully searching for the underlying pathology (Weston et al., 1989). Several years later, this model was developed further by Stewart and Roter in the 1990s (see section 1.2.15 for further details).

1.2.11 Roger Neighbour (1987)

Neighbour created this model with the belief that it will *'enable [us] to consult more skilfully, more intuitively and more efficiently'* (Neighbour, 1987, p. xiv). A consultation in this model is described as a journey with five main checkpoints, each checkpoint represents a task to be accomplished and requires the use of certain consultation skills that will help in identifying patients' hidden agenda. Tasks and skills are summarised in Figure *1-6*.

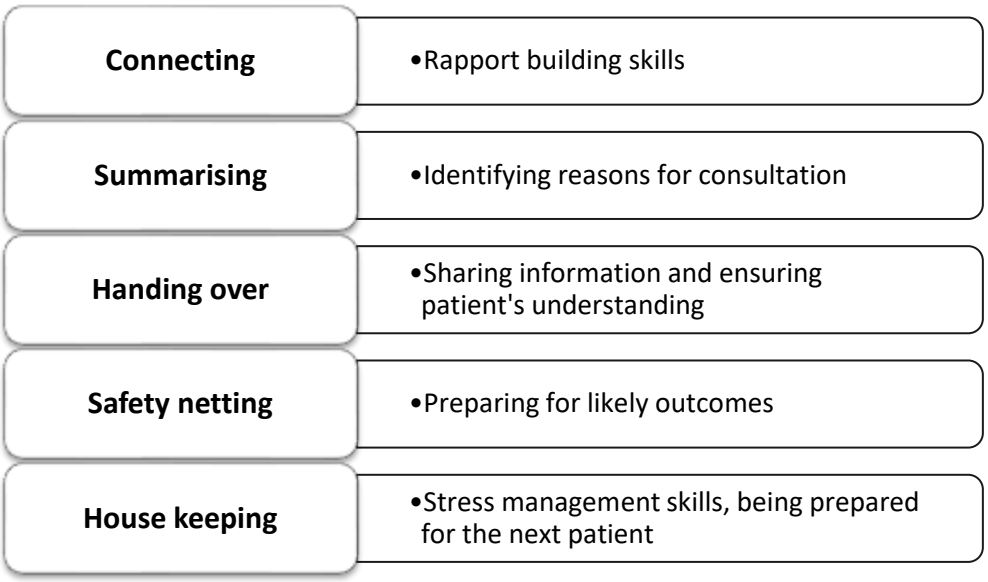

Figure 1-6 Tasks of Roger Neighbour model. Adapted from Neighbour (2004, p. 84)

These five tasks of Neighbour's model encompass 169 sub-skills to use (Warren, 2006). However, this does not mean that one must master all of these skills or use

them in every medical encounter, rather, the importance is to use the right skills at the right time, and in an efficient manner.

This model differs from preceding ones in bringing new areas that were not mentioned before, such as safety netting and housekeeping, both of which help the consultation to be carried out in a more organised and healthy manner (Neighbour, 1987). It was also the pioneering model in presenting the task of summarising, where the doctor reflects his understanding of the patient's cause of attendance (Neighbour, 1987, Moulton, 2007). Neighbour viewed the doctor as being a catalyst (rather than a drug as described by Balint), who aids in problem solving and enhances the patient's awareness.

The five tasks proposed by Neighbour appear to be more achievable than Pendleton's seven tasks, Byrne and Long's six-phases or even the unstructured consultation proposed by Balint. Nonetheless, mental distraction was described to be associated with this model, where the doctor might start focusing on more than one thing, i.e. the patient and the next stage to follow. This was explained by Neighbour as having two heads, one is the 'organiser' head which is doctor-centred, concerned with consultation skills related to issues like management, planning, asking questions and keeping records, whereas the other is the 'responder' head which is more patient-centred, interested in skills that enhance a consultation, like active listening, information processing as well as being empathetic. According to Neighbour, for a consultation to run successfully, balance must exist between both heads (Neighbour, 1987).

1.2.12 Patient-centred Interviewing (1991)

Devised by Robert C. Smith (1991), with the Michigan State University group (Smith, 1996, Smith, 2002). This model is composed of five steps and 21 sub-steps that were designed to facilitate teaching students how to effectively carry out a patient consultation. The model focuses on using a humanistic and scientific approach while interacting with patients, encouraging them to voice their interests, concerns and expectations (Smith, 2002). The model is illustrated in Table *1-1*.

Table 1-1 Patient-centred interviewing. Adapted from Smith (2002, p. 36-65)

Consultation steps	**Associated tasks**
Step 1: Setting the stage for the interview.	1. Welcoming patient. 2. Use patient's name. 3. Introduce self and identify your roles. 4. Ensure patient's readiness and privacy. 5. Remove barriers. 6. Ensure patient's comfort.
Step 2: Chief complaints and agenda setting.	1. Indicate time available. 2. Indicate own needs. 3. Obtain list of what patients want to discuss. 4. Summarise and finalise agenda
Step 3: Opening history of present illness.	1. Use open-ended beginning questions. 2. Use open-ended questions. 3. Obtain additional data from non-verbal sources.
Step 4: Continuing patient-centred history of present illness.	1. Obtain description of symptoms. 2. Develop context of symptoms. 3. Develop an emotional focus. 4. Address emotions. 5. Expand story.
Step 5: Transition to doctor-centred process	1. Summarise briefly. 2. Check accuracy. 3. Indicate change of inquiry

The general theme of this model is to allow patients to tell their story while moving from one step to the next. The model outlines a wide range of communication skills that can be used to enable the professional to better understand the patient's condition (Smith, 2002).

Patient-centred interviewing is a comprehensive model that offers a behavioural plan to follow, and it seems to enhance patient satisfaction (Smith et al., 2006). It was among the first models to be used for teaching medical interviews to medical students (Fortin et al., 2012). It organises work and tasks of the interview in a simple, comprehensible way, giving students a framework to follow and providing them with the necessary skills that can be used with high flexibility.

1.2.13 The Leicester Assessment Package (LAP) (1994)

This is another patient-centred model, developed by Fraser et al. It summarises seven major categories of skills, mentioned below with the relative weightings for each category (Fraser et al., 1994).

1- Interviewing/history taking (20%).
2- Physical examination (10%).
3- Patient management (20%).
4- Problem solving (20%).
5- Behaviour/relationship with patients (10%).
6- Anticipatory care (10%).
7- Record keeping (10%).

The weighting percentages were concluded from the available published studies (Peterson, 1956, Hampton et al., 1975, Sandler, 1979, Marinker, 1981, Campbell, 1987), and they reflect the importance of each category with its competencies in relation to the whole consultation, which is actually an exceptional characteristic of this model. During consultations, the healthcare professional is expected to show proficiency in these seven categories to become capable of better handling the patient consultation. Feedback was incorporated into the LAP model to allow further improvement in the consultation skills of students or doctors. However, although the LAP provides a list of tasks to be covered during a patient consultation, it lacks a clear structure to follow with regards to the order of undertaking these tasks.

1.2.14 The Calgary-Cambridge Guide (1996)

The Calgary-Cambridge Model was established by Kurtz and Silverman. It is a patient-centred model that supports a collaborative partnership between patients and healthcare professionals (Kurtz and Silverman, 1996, Silverman et al., 1998a). This is the only model among the others that logically conjugates consultation process with content. While most previous models concentrated on giving a

structure to the consultation, the Calgary-Cambridge guide did not only draw a structure, but it was also the first to consider consultation outcomes (Silverman et al., 1998b).

The structure provided by this model is composed of five main phases (Figure *1-7*), each phase requires different skills to be used. A total of 71 key consultation skills line up the Calgary-Cambridge guide. However, healthcare professionals are not expected to demonstrate all skills in every patient encounter (Greenhill et al., 2011), but efforts must be directed towards applying the right skills at the right time. The Calgary-Cambridge guide was further developed in 2002. The enhanced version combined between history taking elements of the bio-medical model with new elements that involved patients' perspectives and physical examination (Kurtz et al., 2003).

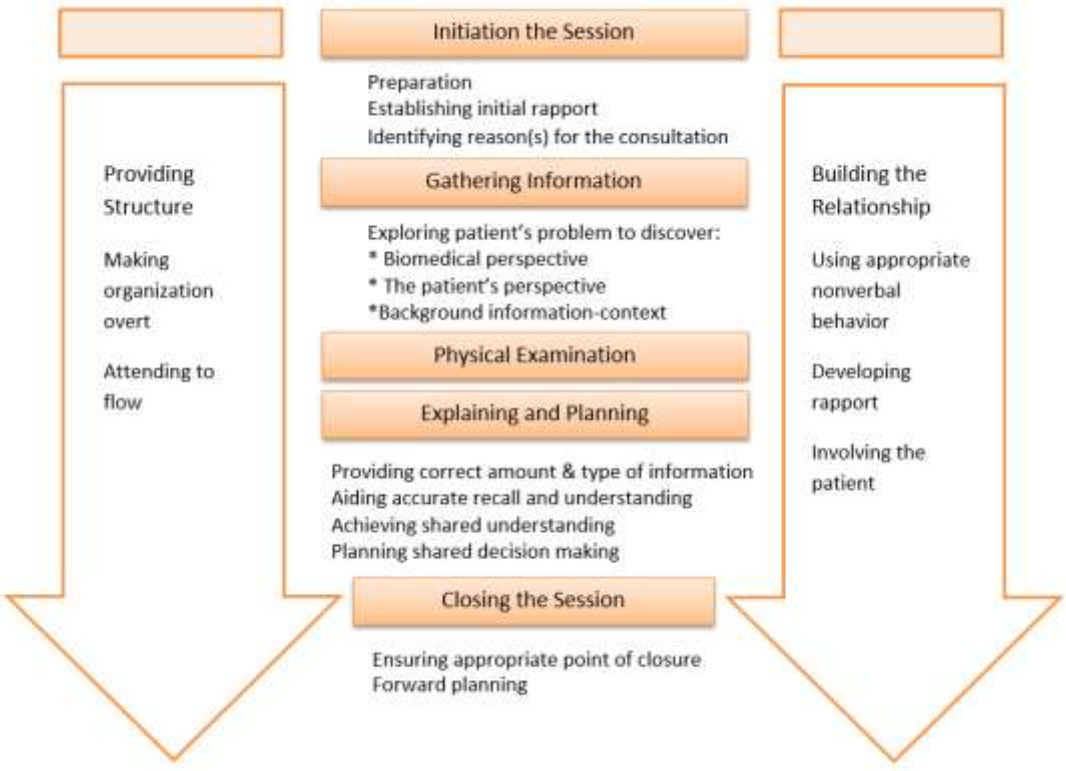

Figure 1-7 Enhanced version of the Calgary-Cambridge Guide. Adapted from Kurtz et al. (2003, P. 806)

The Calgary-Cambridge guide was characterised as being applicable to various healthcare professions, surpassing medicine to include nursing and pharmacy (McEwen and Harris, 2010). It is used in over a half of medical schools in the UK within communication skills programs (Gillard et al., 2009), and also used in the United States (US), Canada, and Europe (Burt et al., 2014). The guide is most commonly used to teach consultation skills at both undergraduate and postgraduate levels, across general practice settings and specialist environments (Burt et al., 2014).

Marrying between structure and content of a consultation is a characteristic that played a role in making this model probably one of the best used, not only in teaching consultation skills to students, but also in real world practice (Kurtz et al., 2003). The structure designed by this model is simple, breaking down a consultation into five main phases, and defining the specific skills to be used in each phase. The model grouped all factors that help leading a successful interaction with patients, it is structured, task-oriented and patient-centred.

1.2.15 Stewart and Roter (1997)

In 1997, the disease illness model was further developed by Stewart and colleagues, and while considering the previous work of Byrne and Long and that of Engel, it was developed into a model they called 'patient-centred clinical method' (Levenstein et al., 1986). This enhanced version described two frameworks taking place in a parallel fashion, each requiring a special set of skills to be implemented by the healthcare professional during the consultation. The frameworks are described in Figure *1-8*.

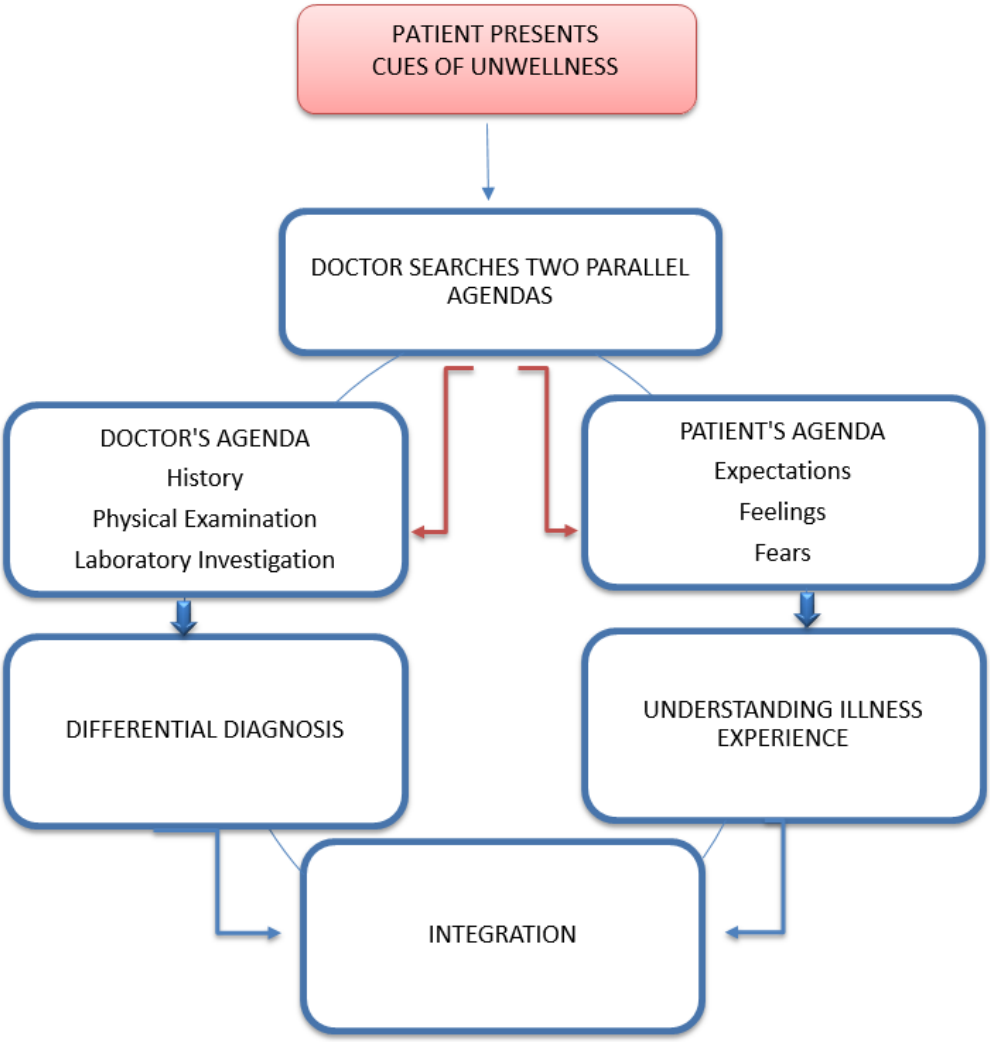

Figure 1-8 Patient-centred clinical method. Adapted from Levenstein et al. (1986, p. 25)

During a consultation, the doctor needs to move back and forth between their agenda and the patient's agenda in a coordinated and consistent way, so that the created management plan will satisfy the patient's expectations, feelings, and fears. The essence of this model is to enable the professional to understand illness from the patient's perspective (McCracken et al., 1983, Levenstein et al., 1986). The model emphasised the importance for the healthcare professional to possess qualities like empathy, honesty, besides knowledge for the consultation to be conducted effectively (Levenstein et al., 1986). It is a holistic, patient-centred model that does not neglect neither the patient's nor the doctor's agenda and is considered useful for educational and research purposes (Pawlikowska et al., 2007).

It is equivalent to Pendleton's framework and the Calgary-Cambridge guide in terms of its patient centredness and meeting patients' expectations. However, the model does not match consultation skills to the different stages of the consultation and a complete structure to the consultation is not provided.

1.2.16 Other models:

Problem-Based Interviewing (PBI) is an additional model that utilises a systematic pathway of investigation that eventually leads to diagnosis and treatment (Lesser, 1985). The model provides a problem-oriented treatment, is patient-centred and can be utilised in other fields of medicine (Lesser, 1985).

The SEGUE Framework developed by Gregory Makoul, 2001. The SEGUE is an acronym that stands for the five tasks of the encounter (i.e. Set the stage, Elicit information, Give information, Understand the patient's perspective, and End the encounter). As with other acronyms, it aims to facilitate remembering tasks to be accomplished in addition to providing a framework that organises the encounter from start to end. This framework is an assessment tool that can also be used for teaching consultation skills to students.

BARD Framework: BARD framework was proposed by Ed Warren in 2002. The focus of this model was directed towards the doctor-patient relationship, signifying that both the doctor and the patient have roles to play. This model brought a new endeavour in considering a consultation by covering all of its aspects; i.e. the BARD aspects: Behaviour, Aims, Room, and Dialogue. It focuses not only on consultation dynamics, but also on the environment within which it takes place, to help the professional in using the effective skills during the consultation (Warren, 2002).

Tate's Model, named after Peter Tate, one of the co-authors of the Pendleton's model. Tate developed this separate model where he described that patients were gaining knowledge more than before, probably because of the arrival of the internet, which increased the availability of information. Tate drew a structure for

the consultation with five phases related to identifying reasons for attendance, identifying problems, and problem management (Tate, 2010).

1.3 Core consultation skills

A wide range of skills have been proposed to use at medical encounters with patients, however, it was important to identify the specific skills that are considered core to help conduct successful consultations with patients.

Separate to consultation models, several studies and consensus statements tried to identify these core skills (Larsen and Smith, 1981, Smith et al., 1981, Riccardi and Kurtz, 1987, Brown et al., 1989, Simpson et al., 1991, Street, 1991, Roter and Hall, 1993, Makoul and Schofield, 1999). A consensus statement called Kalamazoo I was developed in 1999 at the Bayer-Fetzer conference in Kalamazoo, US. The conference was attended by 21 experts of various medical backgrounds who were interested in identifying the elements that constitute a good doctor-patient consultation (Brunett et al., 2001). Brief presentations were given by participants, which included descriptions of the consultation models they frequently use. The conference concluded seven key elements representing good consultation skills that are core to medical practice (Brunett et al., 2001). These elements are described in Table *1-2*.

Table 1-2 Core elements of good practitioner-patient consultation. Adapted from Schirmer et al. (2005, p. 185)

Core Elements of Good Practitioner-Patient Consultation	
Building rapport	Enhancing partnership Respecting patient's participation
Opening discussion	Allowing patient to complete his/her opening statement Eliciting patient's concerns Establishing and maintaining a personal connection
Gathering information	Using open-ended and closed-ended questions appropriately Summarising information Listening attentively using proper non-verbal and verbal techniques
Understanding patient's perspective of illness	Exploring contextual factors Exploring beliefs, concerns and expectations Acknowledging and responding to patient's ideas, feelings and values
Sharing information	Using simple language Checking patient understanding Encouraging questions
Reaching agreement on problems and plans	Encouraging patient participation Checking patient's willingness to follow the plan Identifying and enlisting resources and supports
Closing discussion	Asking patient for other concerns Summarising and affirming agreed points Discussing follow-up

Besides providing an agreed list of core consultation skills, this consensus statement was also helpful in developing curricula related to teaching and assessing patient consultation (Joyce et al., 2010).

1.4 Summary

The previous section described the different models of consultation, how they have developed over the years and the core consultation skills identified as important by different professionals. Each of the described models represents a useful guide to help students and professionals in enhancing their consultation performance during medical practice. Different models differ in their styles, size, and focus of interest, however, there is a great overlap between them. Most of the discussed models are task-oriented with an inclination toward patient-centredness. In fact, some models are not considered suitable with current modes of thinking, especially the ones

where the healthcare professional is in full control of the encounter, such as the bio-medical model.

It is important to note that the development of consultation models across the years was highly influenced by the prevailing culture that characterised the era of their development, thus, as the world changed, models were changing as well. The continuous development in all aspects of life and the wide availability of information has encouraged people to change and become more active at their encounters with healthcare professionals (Ziebland et al., 2004, Tan and Goonwardene, 2017). Several models have noted this change and were built in a constructive and flexible way, leaving the door open for further future development such as the Calgary-Cambridge guide. However, it is important to remember that regardless of the chosen model, it is not a rigid book that should be strictly followed. Every consultation is a unique experience by itself, with different patients and medical conditions. Thus healthcare professionals must adapt their consultations according to their patients, and they can even use more than one model if necessary.

As consultations were changing, this was associated with increased patients' involvement in their own care. This development was associated with the evolution of a new concept called "patient-centred care". The following section will explore this concept in more detail.

1.5 Patient-centred care

Patient-centred care is a concept that has been shaped over the years and has been considered as one of the important elements of providing high quality healthcare (Committee on Quality of Health Care in America, 2001). It is based on a collaboration between service providers and service users, equipping the latter with the needed skills and knowledge to become more confident in making informed decisions as well as in managing their own care (The Health Foundation, 2014). However, shifting the healthcare system to become more patient-centred was not a straightforward process, especially as the system was originally

established to be more focused around professionals' needs (Morgan and Yoder, 2012). To help change the healthcare system to become more patient-centred, the way of delivering services and the roles and responsibilities of healthcare professionals and patients has to be changed and redefined as well.

1.5.1 Historical evolution of patient-centred care

Lauver et al. (2002) suggested that it was probably Florence Nightingale who started the concept of person-centred care based on a differentiation she made between the focus of medicine (disease) to the focus of nursing (patient). However, in the middle of the 20th century, Carl Rogers, an American psychologist established the term "client-centred care" which he later developed into "person-centred care" indicating that both terms can be used interchangeably (Rogers, 1986).

During the 1960s, Balint brought this concept back into light through his 'patient-centred medicine' concept, and he was the first one to relate patient-centredness to clinical settings aiming to better understand patients' complaints while considering their unique individualities, tensions, conflicts, and problems (Balint et al., 1970, Balint et al., 2013). The concept has since been shaped and coined by several authors, however, it was not until 1980, when Engel developed the biopsychosocial model and encouraged implementing this concept into clinical practice which thus supported paying more attention to patients.

Patient-centred care was also described by Lipkin et al. (1984) in which he underlined the importance of paying attention to a patient's hidden agenda. As discussed previously, Stewart and colleagues further developed this term by addressing the agendas of both the patient and the doctor (Levenstein et al., 1986).

During the 1980s, the Picker Commonwealth Program for Patient-Centred Care was established to endorse the practice of patient-centredness in hospitals and healthcare services. The research was conducted by the Picker Institute, in collaboration with Harvard School of Medicine in the early 1990s (Tseng and Hicks, 2016), and it resulted in characterising eight principles of patient-centred care

Figure *1-9*. (Gerteis et al., 1993a, Gerteis et al., 1993b, Luxford et al., 2010, Tseng and Hicks, 2016). This was the first work to consider the patient's perspectives and it was later used as a basis for constructing the National Research Cooperation (NRC) Picker surveys dedicated to measuring patients' experiences with healthcare (NRC Picker, 2008).

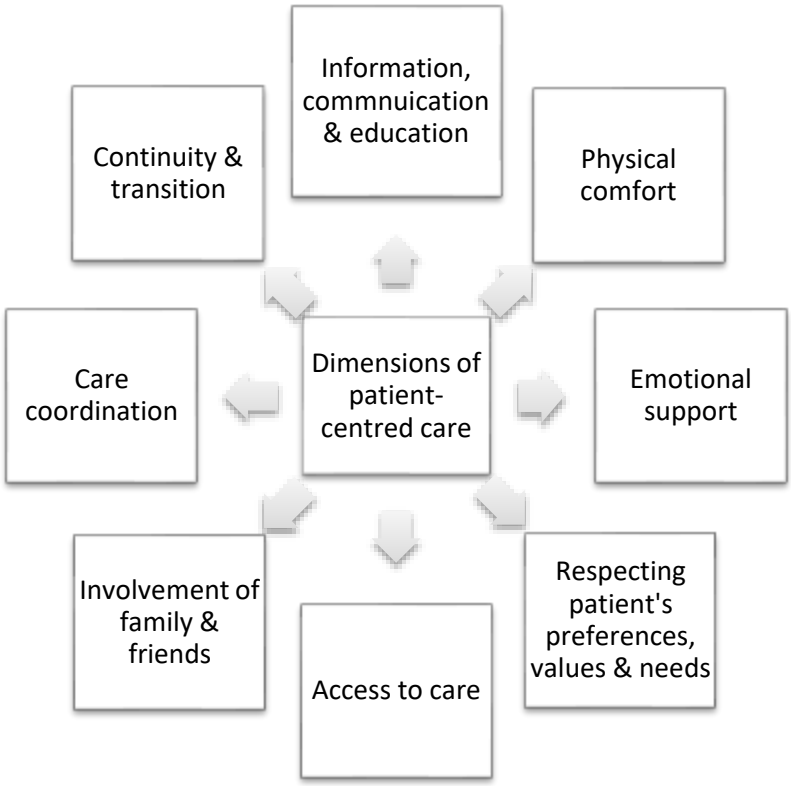

Figure 1-9 Dimensions of Patient-centred care. Adapted from Shaller (2007, p. 2-3)

Since the millennium, various studies were conducted and provided numerous descriptions of patient-centred care (Institute of Medicine, 2001, Coulter, 2002, Bauman et al., 2003, McCormack, 2003, Cronin, 2004, McCormack and McCance, 2006, Robb and Seddon, 2006, International Alliance of Patients' Organizations, 2007, Leplege et al., 2007, Shaller, 2007, DerGurahian, 2008, Goodrich and Cornwell, 2008, Goodrich, 2009, Berwick, 2009, Hobbs, 2009, Epstein and Street, 2011, Dancet et al., 2012, Morgan and Yoder, 2012, McMillan et al., 2013, Lusk and Fater, 2013). However, no single definition is globally accepted (International

Alliance of Patients' Organizations, 2007). This could be justified since this concept represents a newly developing and growing domain of healthcare.

The various definitions available share the notion of respecting patients' needs, preferences and values as being the important features of patient-centred care. Amongst these definitions, and probably one of the most commonly used is the one that is embraced by the Institute of Medicine (IOM), which views patient-centred care as "*care that is respectful of and responsive to individual patient preferences, needs and values, and ensuring that patient values guide all clinical decisions*." (Institute of Medicine, 2001). The importance of this concept was furtherhighlighted by IOM in its same report (Crossing the Quality Chasm: A New Health System for the 21st Century, 2001), where 'patient-centredness' was included as one of the six aims to improve the healthcare system.

The process of developing this concept across the years was associated with developing a number of different terms usually used interchangeably. These include personalisation, relationship-centred care, person-centredness, personalised care, mutuality and patient-centred communication (Epstein et al., 2005, Leplege et al., 2007, Luxford et al., 2010, Morgan and Yoder, 2012, The Health Foundation, 2014). For the purpose of this thesis, the term "person-centred care" will be used as it considers the patient as a whole person without being confined to a medical problem(s). It also highlights the use of consultation skills that protects patients' dignity, privacy and confidentiality for the purpose of achieving desired outcomes of therapy, not only for the healthcare professional, but for the patient as well.

1.5.2 Benefits of patient-centred interpersonal consultation skills

Consultations in healthcare are a strategic process (Kellermann, 1992), always having a target to fulfil, which is achieving desired outcomes of therapy. Health outcomes are highly influenced by the consultation skills a healthcare professional uses during patient consultations (Roter, 1977, DiMatteo and DiNicola, 1982, Bartlett et al., 1984), where good selection and use of skills will facilitate achieving

better outcomes (Starfield et al., 1981, Riccardi and Kurtz, 1983, Fraser et al., 1986, Orth et al., 1987, Kaplan et al., 1989, Fallowfield et al., 1990, Ong et al., 1995, Stewart, 1995, Kinmonth et al., 1998, Stewart et al., 1999, Epstein, 2000, Stewart et al., 2000, Lewin et al., 2001, Mead and Bower, 2002, Clever et al., 2006, Epstein and Street JR, 2007, Rao et al., 2007, Levinson et al., 2010, McCormack et al., 2011). Several outcomes of therapy were identified including enhancing patients' adherence and satisfaction, reducing malpractice suits, improving quality of care, and reducing financial burdens on the healthcare system (Bartlett et al., 1984, Little et al., 2001, Wanless, 2002).

Among the different outcomes, patient satisfaction is probably one of the most commonly recognised, which has been receiving a growing interest over the years. This is a normal consequence of consumerism development in public policy and in the healthcare sector (Walker, 2006), where patients, as consumers of health services, play an important role in its continuous development. Satisfaction is reflected by patients who receive care that addresses their needs and concerns (Little et al., 2001). Enhancing patient satisfaction influences other outcomes of therapy, such as adherence (Bartlett et al., 1984, Dang et al., 2013). Thus, a good consultation may induce better understanding (enhances satisfaction) and probably a consequent recollection of transferred messages (enhances adherence) (Bartlett et al., 1984, Ley, 1988).

Economic benefits were also reported to be achieved when using good consultation skills and person-centred care. In the UK, the Wanless report has shown a light over these benefits indicating that around £30 billion annual savings could be obtained by 2022 through maximising patients' participation and engagement in their own treatment (Wanless, 2002). Moreover, financial benefits may also be induced by the enhanced control of chronic medical conditions (Makoul, 2001, Heisler et al., 2002, Makoul and Curry, 2007, Rider et al., 2007, Chen et al., 2008, Heisler et al., 2009, Schoenthaler et al., 2009), and mortality, medication errors and infection rates all seem to be reduced (DiGioia, 2008, Meterko et al., 2010), besides reducing the unnecessary referrals and rates of hospital attendance (Stewart et al., 2000, Bauman et al., 2003).

Another improved outcome is the decrease in malpractice suits against practitioners (Smith et al., 1995, Laidlaw et al., 2001, Oh et al., 2001). In the UK, poor consultations also represent one of the leading causes of complaints within the National Health Service (NHS). The Scottish Public Services Ombudsman report revealed that about 10% of complaints made from 2007-2009 were linked to decreased quality of consultation and staff behaviour, besides issues of dignity and confidentiality while interacting with patients (Scottish Public Services Ombudsman). The number of inquiries filed against acute trusts has increased from 8178 in 2013-14 to 8853 in 2014-15 (Parliamentary and health service ombudsmen, 2015), with around 20% of these complaints affiliated to consultation and behaviour of staff.

1.6 Consultation skills assessment and feedback

In a healthcare system, assessment of consultation process requires covering all of its aspects, from initiation until closure, evaluating the various skills used including building rapport, use of empathetic behaviour as well as using suitable non-verbal competencies (Wehbe-Janek et al., 2011). Several studies have focused on consultation assessment (Whelan, 1999, Duffy et al., 2004), and several tools were identified (Figure *1-10*), however, no single one was deemed effective to assess consultation skills in their entirety (Hobgood et al., 2002).

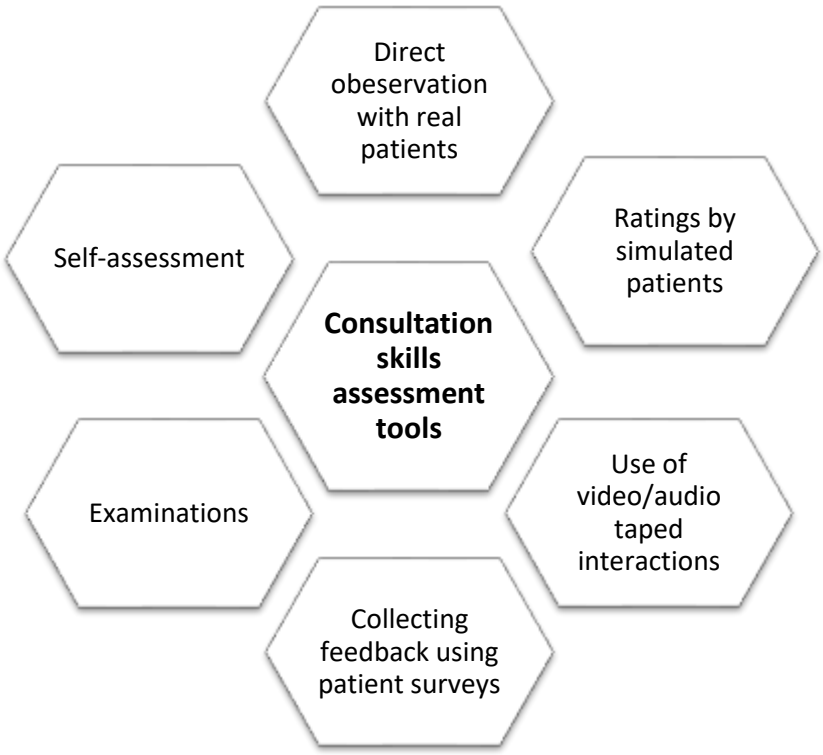

Figure 1-10 Consultation skills assessment tools. Adapted from Duffy et al. (2004, p. 501)

Among the above mentioned tools, collecting feedback from patients was described as probably the most suitable tool for assessing consultation skills (Bartlett et al., 1984, Greenfield et al., 1985, Cleary and McNeil, 1988, Ware and Hays, 1988, Webster, 1989, Bertakis et al., 1991, Delbanco, 1992, Street Jr, 1992, McLeod et al., 1994, Cleary and Edgman-Levitan, 1997, D'Angelica et al., 1998, Brown et al., 1999, Loblaw et al., 1999, Vom Eigen et al., 1999, Barr and Vergun, 2000, Weisman et al., 2001, Lipner et al., 2002, Zaslavsky and Cleary, 2002, Makoul, 2003), and is even better than assessments performed by observers (Duffy et al., 2004). As a consumer of the healthcare system, the patient is most suited to evaluate the skills used by the healthcare professional during the consultation (Duffy et al., 2004). Feedback is usually collected from patients in the form of surveys/questionnaires.

Collecting feedback from patients could provide a potential opportunity for a healthcare professional to learn more about his/her performance, thus exploring

areas that need to be strengthened (Murante et al., 2014). This can help in motivating behaviour change by making the necessary corrective actions (Ouchi, 1979, Ferreira and Otley, 2009). The process through which feedback results could be used to enhance performance varies between individuals. Several learning theories have been referenced in the literature, explaining how individuals learn and develop when being exposed to a learning opportunity. These learning theories are discussed in further detail in the next section.

1.7 Learning theories

Over recent decades, several learning theories have been proposed by different theorists, educational psychologists and researchers to help explain the learning process through which learners obtain, organise and employ new skills and knowledge (Hilgard and Bower, 1966, Ormrod, 2004, Snowman and Biehler, 2006). According to Braungart and Braungart (2007). Learning is not a static process, rather it is dynamic where individuals continuously change their behaviours, feelings and thoughts when learning something new (Braungart and Braungart, 2007).

It is argued that all learning practices are supported by a learning theory or philosophy (Zittleman and Sadker, 2015). A learning theory was described as *"a coherent framework of integrated constructs and principles that describe, explain or predict how people learn"* (Braungart and Braungart, 2007, p.52). Establishing an understanding of learning theories will enable educators to select learning strategies that meet their intended goals and objectives (Zittleman and Sadker, 2015).

A wide range of learning theories has been discussed in the literature (Figure *1-11*). Each describes learning from a certain perspective, some have learners acting as passive recipients of knowledge, whereas others demand them to become more actively involved in their own learning, however, an overlap between the different theories also exists (Taylor and Hamdy, 2013). A brief description of the major learning theories is presented in the following section.

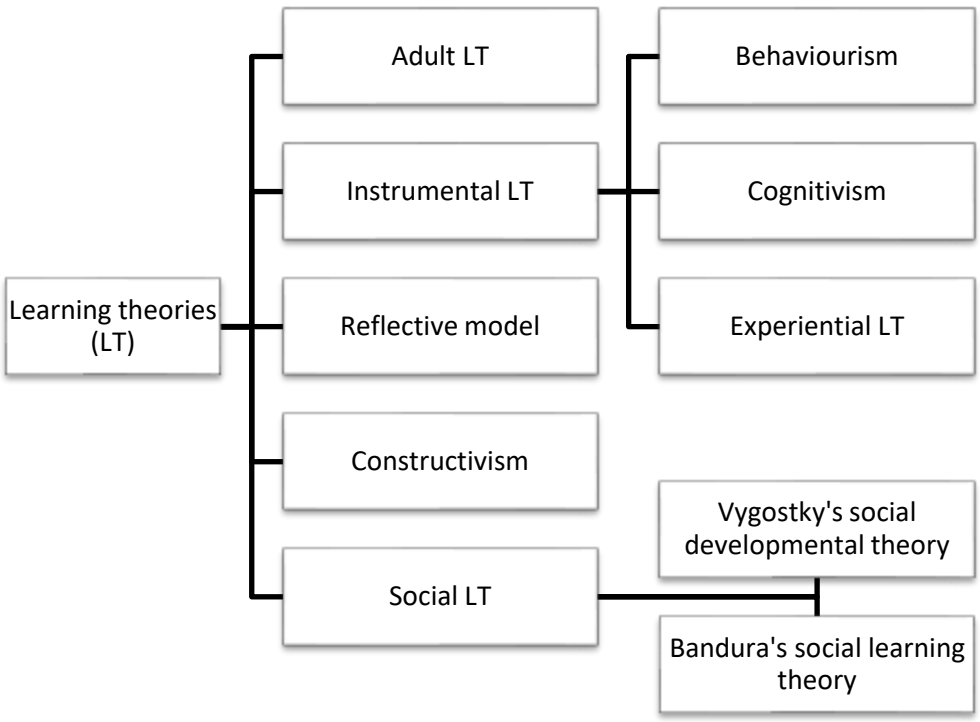

Figure 1-11 Major learning theories. Adapted from (Braungart and Braungart, 2007, Taylor and Hamdy, 2013)

1.7.1 Adult learning theory (andragogy)

The adult learning theory, or sometimes referred to as andragogy, was developed by Malcolm Knowles during the 1960s to distinguish between how adults learn to how children learn (i.e. pedagogy). Knowles argued that adults are different from children with respect to their learning needs and motivation (Knowles, 1990, Hubbard, 2003, Reischmann, 2004).

Andragogy is defined as *"the art and science of helping adults learn"* (Knowles et al., 1998, p. 61). Knowles summarised in andragogy six assumptions on how adults learn and the motivation that drives their learning (Knowles et al., 1998, Kaufman, 2003, Hubbard, 2003, Bezuidenhout et al., 2004, Moore, 2010, Knowles et al., 2012).

1. The need to know: Adult learners need to know the reason(s) and benefit(s) behind learning. Adults here have a desire to learn things that can benefit them personally and professionally, and that will satisfy their needs.
2. The learner's self-concept: With growing up, individuals tend to become more independent and self-directed on what they want to learn, how, when, and which learning activities to be involved in that will satisfy their needs. Thus, adults are independent and self-directed learners who are responsible for their learning decisions.
3. Adult learner experience: Adults have an accumulated experience that they bring to the learning activity. This experience contributes and acts as a rich source of learning.
4. Readiness to learn: Adults are ready to learn when the learning activity can bring benefit(s) to their work and everyday life. Adults are more interested and will invest more effort in learning things that are meaningful to them, help them achieve their goals, and that have practical application in their life.
5. Orientation of learning: Adults are more interested in learning tasks that are oriented to solving problems and that have implications in their life. According to Knowles et al. (1998), unlike children, adult learners are self-directed and are driven by internal motivational factors and interested in learning opportunities that are oriented to problem solving.
6. Motivation to learn: Motivation is an important aspect of adult learning. Various sources of motivation have been described including social welfare (i.e. the need to improve ability to serve people), professional advancement (e.g. job promotion), social relationship (i.e. the need to make new friends and associates), social stimulation (i.e. to take a break from the routine work to overcome frustration/boredom), and cognitive interest (i.e. the need to learn and to satisfy an inquiring mind) (Lieb, 1991, Merriam and Caffarella, 1991, Abdullah et al., 2008). However, all motivational sources are classified as either external (e.g. higher salary, a better job), or internal (e.g. increase job satisfaction, self-esteem). The later was described to be a more powerful source of motivation.

Knowles derived seven principles of learning from the assumptions above. These principles were considered guidelines in teaching independent and self-directed learners (Kaufman, 2003). These principles are:

1. Establishing a learning climate that is effective and that allows learners to safely express themselves.
2. Involve learners in planning their learning process.
3. Involve learners in identifying their own learning needs, which will stimulate their internal drives for learning.
4. Encourage learners to become in control of their learning by supporting them to develop their learning objectives.
5. Encourage learners to identify resources that will help them in achieving their learning objectives.
6. Support learners in implementing their learning plans.
7. Involve learners in assessing their learning experience. This will develop their critical reflection skills.

1.7.2 Instrumental learning theories

Instrumental learning theories are a group of theories that focus on the individual experience of the learner. It includes behaviourism, cognitivism, and experiential learning theories (Taylor and Hamdy, 2013).

1.7.2.1 Behaviourism

Behaviourism was originated by Pavlov and colleagues. According to this theory, an individual's learning is derived by a stimulus available in the environment (Pavlov, 1927, Skinner, 1954), where it can be strengthened by reinforcements and positive consequences (e.g. a praise), and can be weakened by negative consequences or punishments (Skinner, 1968, Atkinson et al., 1983, Taylor and Hamdy, 2013).

Learning in behaviourism is described as a simple, linear process that follows a stimulus-response model (Braungart and Braungart, 2007, Thurlings et al., 2013). However, the focus here is entirely on observable changes in behaviour in response

to a stimulus, and while doing so, this theory ignores the learner's mind and views it as a "black box", since what happens inside the mind cannot be observed nor can it be detected or scientifically proven (Mödritscher, 2006, Braungart and Braungart, 2007, Alzaghoul, 2012). Thus the driving force for learning in behaviourism as argued by Skinner is mostly on the role of the stimulus that is present within the learning environment as part of a cause-and-effect relationship that can be observed (Skinner, 1974, Hartley, 1998). Observed behavioural changes represent a proof that learning has actually taken place and that the learner has learnt something. Behaviourists also perceive learning to be reinforced by frequently repeating and practising what has been learnt in different situations (Hartley, 1998, Hutchinson, 2007). The proposed learning model of behaviourism is summarised in Figure *1-12*.

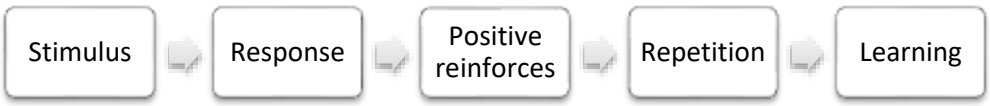

Figure 1-12 Proposed learning model of behaviourism. Adapted from (Ertmer and Newby, 1993, Hartley, 1998, Braungart and Braungart, 2007, Hutchinson, 2007, Taylor and Hamdy, 2013)

The learning environment in behaviourism is controlled by educators to help direct changing behaviours of learners to meet the specific goals of learning, which thus makes behaviourism a teacher-centred approach of learning (Torre et al., 2006).

Behaviourism was criticised for being mainly focused on learning aspects that are observable while disregarding the cognitive processes that are happening in the learner's mind, such as thinking, information processing, reflection, and understanding. The theory has also been criticised for ignoring the role of social aspects of learning (Wenger, 1998), and not providing a clear method to standardising learning outcomes (Taylor and Hamdy, 2013).

1.7.2.2 Cognitivism

Cognitivism became prominent and replaced behaviourism during the 1960s (Hutchinson, 2007, David, 2018). Unlike behaviourism, this theory focused more on the internal mental processes taking place within the learner's mind to help understand how people learn (Newell and Simon, 1972, Shuell, 1986, Braungart and Braungart, 2007, Alzaghoul, 2012, Taylor and Hamdy, 2013). The learner in cognitivism is viewed as an information processor (like a computer), where information is analysed in the mind to eventually achieve specific learning outcomes (Alzaghoul, 2012, David, 2018). While learning, several intellectual processes were described to happen in the learner's mind, such as information perception, interpretation and processing, information reorganisation and assigning meanings to new knowledge (i.e. learning outcomes) (Bruner, 1966, Bandura, 2001, Hunt et al., 2004). Thus, similar to behaviourism, learning and understanding in cognitivism seems to follow a linear relationship from information perception until achieving learning outcomes. The proposed learning model of cognitivism is summarised in Figure *1-13*.

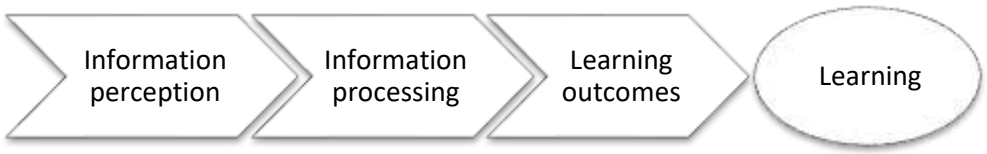

Figure 1-13 Learning model for cognitivism. Adapted from Bandura 2001, Hunt, Ellis and Ellis 2004

Several factors may influence learning in cognitivism including the learning environment (Alzaghoul, 2012), learner's past experience and existing knowledge (Ausubel et al., 1978, Braungart and Braungart, 2007, Kolb and Kolb, 2012), learner's expectations and social influences, and learner's understanding of their own learning (Braungart and Braungart, 2007). Unlike behaviourism, learners in cognitivism must participate actively in their own learning, educators in this theory only act as facilitators throughout the learning process (Mukhalalati, 2016).

Moreover, reward for cognitivism is not regarded as a tool to facilitate learning, rather, the disequilibrium that exists between the learner's goals and expectations is the driving force for them to learn and change (Braungart and Braungart, 2007).

Cognitivism focusses more on the internal mental information processing with little attention on the external environment (Torre et al., 2006), it was therefore criticised for doing so without considering the wider social context. Cognitivism assumes that learning only takes place within a classroom setting without considering the role of the external environment in promoting learning, such as in workplace and practice settings (Handley et al., 2006).

1.7.2.3 Experiential learning model

Experiential learning theory was designed by David Kolb in which he believed that *"learning is the process whereby knowledge is created through the transformation of experience"* (Kolb, 1984a, p. 38). Kolb gave more attention to the learning environment and that social interaction will help learners gain new knowledge and experience. The educator's role in this theory is to organise opportunities for learners to help them learn (Abdulwahed, 2010, Taylor and Hamdy, 2013).

Four stages of learning were presented by Kolb in his learning model (Kolb, 1984b), these components are summarised in Figure *1-14*.

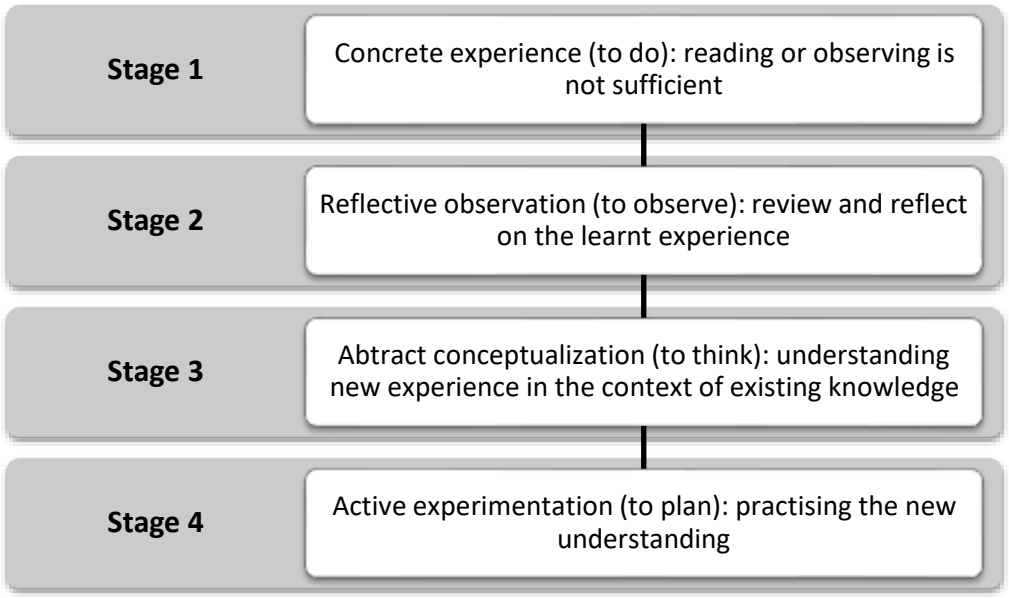

Figure 1-14 Kolb's experiential learning model. Adapted from Kolb et al. (2001, p. 229)

According to Kolb's theory, reflections (stage 2) on a learner's experience (stage 1) is translated into new concepts (stage 3) that will guide the learner in their active experimentation (stage 4) for their next experience (David, 2018).

Although Kolb provided a useful model that gave a view over how learning happens from an experiential point of view, the four stages proposed here do not explain learning in its entirety as learning in reality is usually more complex and fragmented (Yardley et al., 2012).

1.7.3 Reflective model

The reflective model was designed by Donald Schön, in which he argued that 'messy, indeterminate' problems faced in real life practice might not be resolved by a formal theory encountered during professional preparation (Kaufman, 2003).

Schön focused in this model on action and change that is based on reflection (Schön, 1983, Schön, 1987). When faced by unexpected events, professionals tend to reflect using either a 'reflection in action' or a 'reflection on action'. 'Reflection in

action' is an immediate reflex, in which learning is based on current and prior experiences that are creatively used to resolve unfamiliar events. Whereas 'reflection on action' takes place later. It includes thinking of what had happened, what might have caused/contributed to the event, whether prior actions to the event were appropriate, and what influence this event may have on future practice (Kaufman, 2003). Several activities were thus recommended by Schön in his theory to help learners self-reflect, including reflective portfolios about their own practice (Schön, 1984, Slotnick, 1996), and debriefing with peers/learners. Opportunities for enhanced learning can also be facilitated by the presence of supervision and feedback from mentors (Shapiro and Talbot, 1991, Slotnick, 1996, Kaufman, 2003), and thus reflection and feedback is then used by learners to autonomously develop their skills and knowledge (Taylor and Hamdy, 2013).

1.7.4 Constructivism

Constructivism was so called since learners construct their own learning from prior knowledge and experience they have, as well as from interacting with others (e.g. peers, educators) (Kang et al., 2010). Learners are therefore actively engaged in their own learning, where they build new knowledge on the basis of what they already have, with educators facilitating their learning (Paris and Byrnes, 1989, Jonassen, 1991, Hung, 2001, Kaufman, 2003, Alzaghoul, 2012, Mukhalalati, 2016). Constructivism thus combines cognitivism and social theories in playing a role in constructing an individual's learning while paying attention to the learning environment, where learning exceeds the classroom to learning at worksites (also known as informal learning) (Lave and Wenger, 1991).

In constructivism, learners will receive feedback from multiple sources (e.g. peers, educators), thus feedback and learning is continuous and will guide learners to start a new stage of learning. Therefore, and unlike other theories, the relationship between learning and learning outcomes in constructivism is non-linear, rather, it is cyclical (Thurlings et al., 2013).

1.7.5 Social learning theories

Social learning theories include a group of theories that were developed by Vygotsky and Bandura (Vygotsky, 1980, Bandura, 1986).

1.7.5.1 Social Development Theory

Social development theory was proposed by Vygotsky in which he focused more on the sociocultural interactions between people who share experiences within which they act and interact (Crawford, 1996). Vygotsky based this theory on three main themes:

1. Social interaction: here, Vygotsky suggested that social interaction plays a role in the learning process, even preceding development (Vygotsky, 1978b).

2- The More Knowledgeable Other (MKO): this refers to any individual who has a better understanding with respect to a certain task as compared to the learner. The MKO could be a teacher, a peer, an older or younger person, or even a computer (McLeod, 2007, David, 2018). Vygotsky perceived that interacting with individuals with higher knowledge/skills would be of more benefit than working alone (Vygotsky, 1978a).

3- The Zone of Proximal Development (ZPD): this refers to the distance between the learner's ability to perform a certain task when supervised or guided by others to his/her ability to do the same task independently without supervision. Vygotsky perceives learning to occur within this zone (David, 2018), where learners use feedback in the next stage to develop and achieve outcomes (Vygotsky, 1978c). Thus, learning according to this theory follows a linear pathway, similar to behaviourism and cognitivism. (Thurlings et al., 2013). Figure *1-15* illustrates proposed learning in social developmental theory.

Figure 1-15 Proposed learning model of social developmental theory. Adapted from Thurlings et al. (2013) MKO: More Knowledgeable Other. ZPD: Zone of Proximal Development

1.7.5.2 Bandura Social learning theory:

This is another social theory that was devised by Bandura and Walters (Bandura and Walters, 1977, Bandura, 2001). Learning here is highly facilitated by social interaction, however, unlike constructivism, learners do not need to have prior experiences to learn, as they can learn by observing other people known to be role models in what they do, on how they act and behave. Role modelling is one of the major concepts of this theory (Braungart and Braungart, 2007, Mukhalalati, 2016). The theory thus combines between behaviourists' principles in the aspect of observing role models while integrating some principles of cognitivism, however, it is highly based on observing role models at the initial stage of learning (Braungart and Braungart, 2007).

Bandura's theory describes learning to be influenced by many factors including the environment, learners' behaviour and personal characteristics, and the learning activity (Braungart and Braungart, 2007). Educators here are responsible for providing a supportive learning environment to help learners achieve their intended outcomes of learning (Torre et al., 2006, Taylor and Hamdy, 2013, Arab et al., 2015).

1.8 Feedback as a learning tool

Feedback is an essential component and a normal consequence of learning and teaching (Ramsden, 2003, Zhang and Zheng, 2018). It is central to supporting the ongoing development of learners and without it, learning cannot happen (Costello

and Crane, 2013, Carless, 2016). Feedback is described as the information provided to a learner following a certain task that will enable a comparison between the actual performance and the desired one (Ramaprasad, 1983, Mory, 2004).

Feedback is a strategy that is considered to have a high influence on learning and teaching (Hattie, 2012). The importance of feedback to the learning process is acknowledged internationally by different countries including the United States (Black and Wiliam, 1998), Sweden (Shute, 2008), New Zealand (Hattie and Timperley, 2007), the Netherlands (Voerman et al., 2012), the United Kingdom (Hounsell et al., 2008) and Germany (Brand et al., 2007). It is also acknowledged in various educational and learning settings (Jamtvedt et al., 2006, Veloski et al., 2006, Hattie and Timperley, 2007, Archer, 2010). Feedback plays a role in scaffolding the learning of individuals (Alton-Lee, 2003), and without it, learners would find difficulty identifying how to change their behaviour and develop (Henderson et al., 2018). Additionally, feedback was indicated to be among the top five factors if not the most powerful one in influencing the educational achievement of learners (Orrell, 2006, Hattie and Timperley, 2007, Orsmond and Merry, 2011).

Literature mentioned several benefits of feedback to learners, including contributing to their quality of experience and facilitating their development (Higgins et al., 2001, Duncan, 2007, Lizzio and Wilson, 2008). Feedback also provides learners with a tool to re-examine their performance, strengths and weaknesses (Costello and Crane, 2013), and encourages them to reflect, think, and plan for improvement (Connor 1993). Thus, it enhances the development of learners' cognitive, technical, reflective, self-assessment and professional skills (Nicol, 2007, Archer, 2010) while promoting continuous learning (Gibbs and Simpson, 2005). Feedback not only promotes knowledge acquisition, but also stimulates and motivates learners to make the necessary corrective actions (Narciss and Huth, 2004, Narciss, 2013, Espasa and Meneses, 2010, Wang et al., 2019). It gives opportunities for learners to understand their current performance in comparison to the desired target, by highlighting discrepancies and gaps and thus acts as a motivator for learners to change their behaviour appropriately and as desired (Shute, 2008).

For feedback to be effective, learners need to use it and respond to it appropriately, thus successfully closing the feedback loop (Hattie and Timperley, 2007, Hounsell et al., 2008, Boud and Molloy, 2013, Carless, 2016). Several factors were reported to influence the effectiveness of feedback, including the individual characteristics of learners, their motives, skills and prior knowledge, feedback content, specificity, frequency, and time of providing it (Nolen, 1996). Effective feedback has been described as feedback that is specific, goal-oriented, time appropriate (i.e. given immediately or as soon as possible following the task, when it is still fresh in learners' minds), can be used for improvement, constructive, accurate, and given regularly (Ramsden, 2003, Mory, 2004, Scheeler et al., 2004, Simonson et al., 2006, Danielson, 2007, Thurlings et al., 2013, McFadzien, 2015).

Hattie and Timperley (2007) described feedback directed to the task and the way it was executed to be more effective than feedback that only conveys praise to the learner (e.g. "well done") since the latter does not provide enough learning information on how to further improve.

Feedback could be collected from anyone within the circle of the learner, including educators, peers (i.e. learners commenting on each other's work), friends, family, and even the learner himself. It could be given in a written format or verbally communicated to the learner (Costello and Crane, 2013), and it could be formative, summative or a combination of these methods and resources. Formative feedback is more influential in creating opportunities to enhance performance, whereas summative feedback provides learners with grades about a task they performed without further information, and is thus considered of little usefulness (Wiliam, 2011, Wiliam, 2013).

Hattie and Timperley (2007) argue that effective feedback should help learners in answering three questions: "where am I going?" (reflects goal setting - feed up), "how am I going?" (reflects progress - feedback); and "where to next?" (reflects next plan - feed-forward). Answering these questions would help in reducing the gap and improve performance.

1.8.1 Feedback and learning theories

As described earlier, learning theories use different mechanisms to achieve specific learning outcomes. With respect to feedback, its role in facilitating the learning process might be more evident in some learning theories than others. The way feedback is handled by learners within the different learning theories varies (Thurlings et al., 2013), however, an overlap between some theories might exist. For example, feedback in teacher-centred theories (e.g. behaviourism) is controlled by educators. They could use it to encourage or discourage the behaviour change of learners by manipulating the stimuli within the environment. Learners under such circumstances would not probably be able to develop a wide range of skills (such as cognitive abilities) as the whole process is not under their control and is conducted within an adjusted environment. Whereas for learner-centred theories (e.g. cognitivism, andragogy, constructivism), given feedback would help learners develop various and deeper skills (e.g. cognitive abilities, reflection skills, and information analysis and processing).

In constructivism, the starting point for learning is learners' prior knowledge and experience. Here, learning is a continuous process where learners receive feedback from multiple sources. Learners must possess an active role in the feedback process. This means that within a series of tasks, learners could use feedback from one task to inform their development in the next one. Thus, learners become actively engaged as they continuously use prior feedback in the next stage of learning (Thurlings et al., 2013).

The role of feedback seems to be minimal for some learning theories such as Bandura's theory, which is more focused on observing role models. Simply observing others while performing a task correctly does not guarantee learning (Braungart et al., 2008), especially if no feedback is being provided to guide the learning process.

Another difference between learning theories is related to the nature of feedback, whether it is positive or negative. For feedback to be effective, behaviourists indicate it should always be positive. Whereas for other learning theories (e.g.

cognitivism), effective feedback could be either positive or negative (Baker and Bricker, 2010). Moreover, effective feedback should be given immediately to learners as indicated by behaviourism, or it could be either immediate or delayed with other theories, as long as it is given at a suitable time with respect to the learning experience (e.g. constructivism, cognitivism) (Thurlings et al., 2013).

1.8.2 How adults learn: multi-theories model

Learning is an active process that is influenced by many factors including learners' prior experience and knowledge and the environment within which learning is taking place. The learning environment in turn is also influenced by factors such as culture, society, type of stimulus, role models, feedback, and opportunities for the new information to be processed and applied. Individuals vary in their learning capabilities, some may need guidance and cooperation to facilitate their learning, and some may learn independently (Braungart and Braungart, 2007).

Each of the learning theories discussed above has its own strengths and limitations, and each provides a different perspective regarding the learning process, some theories have common aspects though, and theories seem to be incomplete without each other. Therefore, it is difficult to say that one learning theory is better than the other since learning cannot be approached by a single theory. No single learning theory provides an overarching approach that fits learning and education in all settings and environments. Rather, their principles and guidelines could be mixed to suit a given learning situation and to be tailored to the needs of individual learners and environments. Combining learning theories will provide a holistic view to various strategies, principles and options to facilitate learning and to help learners achieve the best value of their learning (Braungart and Braungart, 2007).

As learning is a complex process, it is clear that no single learning theory is capable of explaining all learning processes of different individuals. Taylor and Hamdy (2013) proposed a multi-theories model that encapsulated the different learning theories previously described to explain how adults learn. The model is composed of five phases; it starts with a dissonance phase, in which the learner's existing

knowledge is challenged either internally by his/her own thinking, or externally by a teacher or a patient, reflecting that knowledge is incomplete. This phase will help learners to identify their own learning outcomes. However, this is influenced by many factors including the learner's motivation, nature of the task, preferred learning style, and available resources (Taylor and Hamdy, 2013).

The learner then moves into the second phase of the model, i.e. the refinement phase in which activities such as completing tasks, research, reflection, discussion with others will help him/her in refining the new knowledge into concepts. The organisation phase follows where the learner 'reflects in action' the new knowledge and organises all information (new and existing) into a scheme that makes sense to him/her (Taylor and Hamdy, 2013). Following next, the learner will go through the feedback phase, where the new knowledge will be tested, and in light of the received feedback, the formed learning scheme will either be reinforced or reconsidered. The model finally ends with the consolidation phase, in which the learner will reflect on the whole process (reflection on action), and what has been learnt, and thus ends with the development of skills, knowledge, and attitudes (Taylor and Hamdy, 2013). The multi-theories model is summarised in Figure *1-16*.

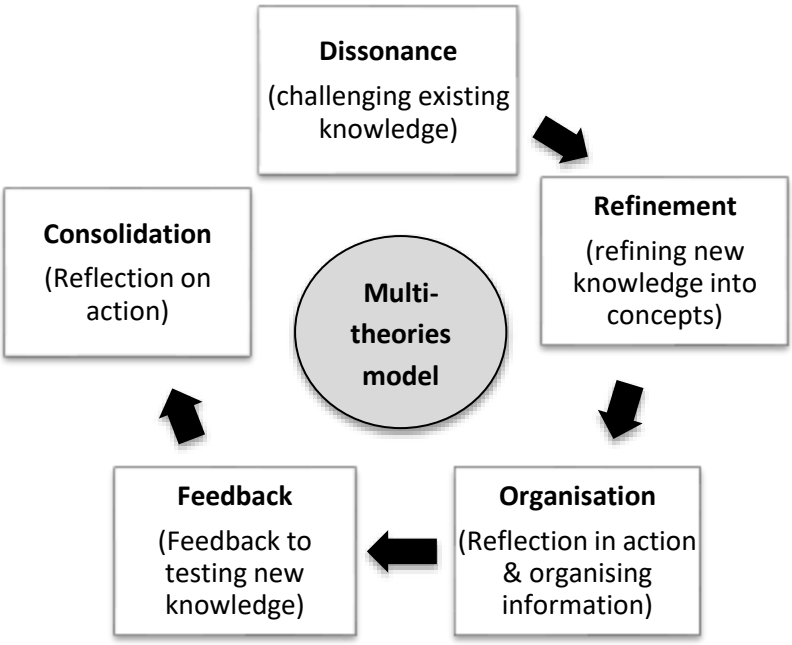

Figure 1-16 Multi-theories model. Adapted from Taylor and Hamdy (2013, p. e1566)

1.9 Feedback and healthcare professionals

As discussed above, it is clear that feedback plays an important role in enhancing the learning of individuals. With respect to the healthcare system, a logical question would be "which of the mentioned learning theories can be best used in explaining the change of healthcare professionals' skills following receiving feedback?" The answer would be, theoretically, each learning theory has something useful to offer to facilitate the learning process of healthcare professionals, however, in real world practice this is not quite as simple, especially that most theories reflect scientific knowledge more than verbalised practice (Saugstad, 2002). The healthcare system is striving to provide care of high quality to patients, and healthcare professionals are requested to expend efforts to maintain their continuous professional development which is facilitated by using single or multiple learning theories (Ferguson and Day, 2005).

Attention should also be given to responding to feedback after learning has occurred. Learning without taking appropriate action(s) is not helpful in terms of professional development and enhancing quality improvement. Several factors may

influence how an individual responds to a given feedback. A Patient Feedback Response Framework (PFRF) that has been developed by Sheard et al. (2017) explains the process of responding to patient feedback. According to this framework, and depending on received feedback, requested changes, availability of resources to facilitate changes, and organisational support, responding to patient feedback has been described to occur/not occur in three stages: normative legitimacy, structural legitimacy, and organisational readiness. Normative legitimacy refers to whether feedback is valued and whether there is an intention to respond to it and do some action. Structural legitimacy refers to the ownership of the problem highlighted and the autonomy to respond to feedback, and organisational readiness refers to whether the organisation or management provides the support to facilitate responding to feedback (Sheard et al., 2017, Moore, 2018). These three stages are explained in Figure *1-17*.

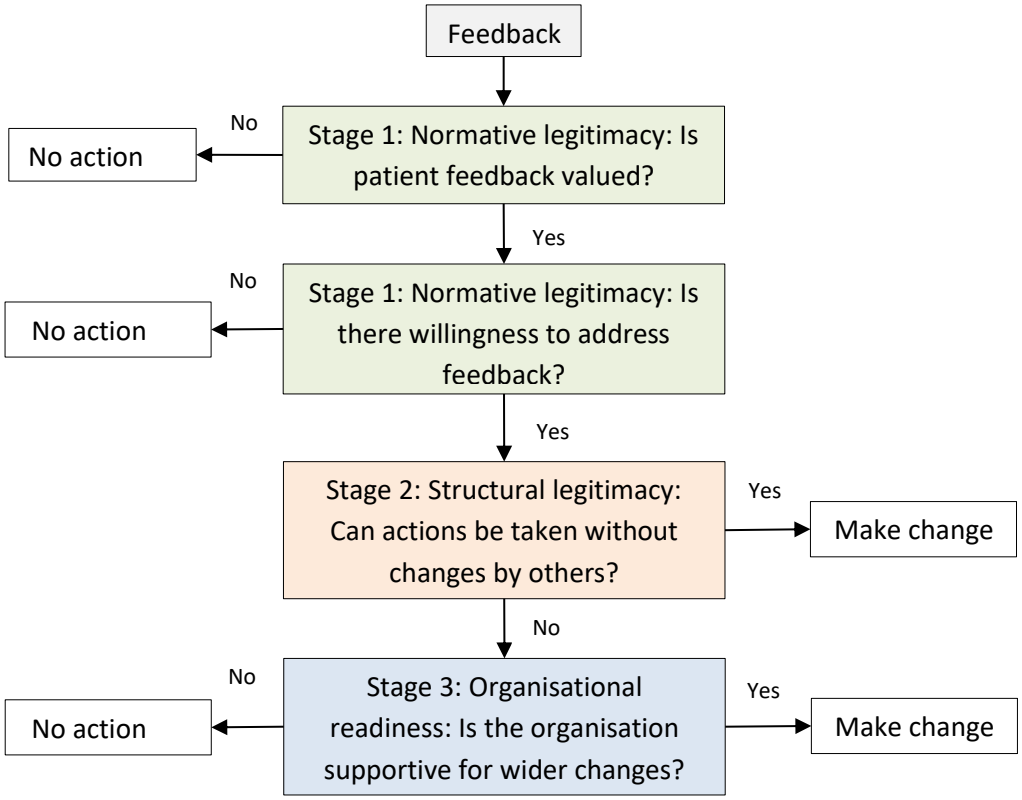

Figure 1-17 Flowchart of Patient Feedback Response Framework. Adapted from (Sheard et al., 2017, Moore, 2018)

Thus, it is important to pay attention to all factors that influence learning from received feedback and consequently responding to it appropriately.

Patients as customers of the healthcare system are well suited to provide feedback on services delivered to them including how their consultations were carried out. Such feedback could help professionals identify weak and strong areas of their consultation to continuously improve to meet patients' expectations and satisfaction.

As explained previously, consultations have changed across the years to enhance person-centred care with increased patient involvement and engagement. Feedback given by patients could be used as a tool to help professionals identify how they performed and where to go next in their performance. Ende stated that *"without feedback, mistakes go uncorrected, good performance is not reinforced, and clinical competence is achieved empirically or not at all"* (Ende, 1983, p. 778)

With the changes in the healthcare system to make it more person-centred, this was associated with various changes to the roles and responsibilities of the different healthcare professionals including pharmacists. The following section summarises changing roles of pharmacy professionals.

1.10 Changing roles of pharmacy professionals

The roles and responsibilities of healthcare professionals including pharmacists have changed over the years with the development of consultation models and person-centred care. The pharmacy profession has changed dramatically and has been reshaped over recent decades (Holland and Nimmo, 1999, Bond, 2006, Van Mil and Fernandez-Llimos, 2013), moving away from its traditional image where pharmacists were confined to the dispensary, to the new realms of person-centred care (Wiedenmayer et al., 2006). In the UK, the importance of possessing good consultation skills and following a person-centred approach has been increasingly acknowledged by the NHS (NHS Choices, 2013, Ahmed et al., 2014, NHS Constitution,

2015, Ham et al., 2016) and by different pharmacy professional bodies, such as the General Pharmaceutical Council (GPhC), and the Royal Pharmaceutical Society (RPS) (Royal Pharmaceutical Society, 2014, General Pharmaceutical Council, 2017).

Since the creation of the NHS in 1948, community pharmacists were starting to move away from the dispensary, where they used to spend most of their time in manufacturing drug products (Anderson, 2002, Anderson, 2007) to the front of the pharmacy to interact more directly with patients. Moreover, the community pharmacy contract that was introduced in 2005 included several services that were not undertaken or thought as being delegated to pharmacists before (Department of Health, 2004, Department of Health, 2005, Wilcock, 2010, Pharmaceutical Services Negotiating Committee, 2018). Recently, pharmacists' skills and knowledge have also been targeted by the NHS England to be used in further improving patient care by enhancing a higher contribution from pharmacists to undertaking clinical roles at local NHS sites (Murray, 2016) such as medicine optimisation, enhancing safer prescribing, and supporting healthy lifestyles and disease prevention (Campbell et al., 2018, Royal Pharmaceutical Society England, 2014). Thus playing a role in enhancing care provided to the public while relieving pressures on GPs, patients' waiting times, and hospital admissions (Murray, 2016).

Changes have also influenced the roles of hospital pharmacists, which included introducing 'ward pharmacy' during the 1960s, which was later formalised by the Nuffield Report as 'clinical pharmacy' during the 1980s (Committee of Inquiry, 1986, Clucas, 1986, Child and Cooke, 2003, Hudson et al., 2007), embedding of specialist roles of pharmacists during the 1990s, introducing 'supplementary prescribing for pharmacists' in 2003 and later 'independent prescribing' in 2006 (Cooper et al., 2008, Baqir et al., 2012, Barnett and McDowell, 2012), and introducing 'consultant pharmacists' during the 2000s (Malson, 2015). Moreover, hospital pharmacists are currently recommended to spend more time focusing on their clinical roles rather than back-office services, as this could help the NHS in providing cost effective services (Winter and Adcock, 2016).

In order for pharmacists to cope with the continuous changes in their profession that drive them closer to patients, various learning opportunities were provided to

help them possess sufficient knowledge and needed consultation skills. For example, the Centre for Pharmacy Postgraduate Education (CPPE) has developed a set of consultation skills standards for pharmacy practice with learning materials as part of pharmacy continuous professional development (CPD) (Centre for Pharmacy Postgraduate Education & NHS Health Education England, 2014). More recently, a national consultation training program was launched in England in 2014 to help pharmacists improve their consultations (Jee et al., 2016). However, despite the provided learning and training opportunities, paying attention to feedback given by patients can provide pharmacists with an overview of their consultations and thus help guide them through their professional development.

1.11 Discussion

The literature has described various models used across the years relating to healthcare professional-patient consultations. Recent models paid more attention to patients' needs and preferences, thus embraced the developing concept of person-centred care that was shown to enhance several positive outcomes of therapy.

Researchers and practitioners strived to identify the core skills of consultations that are deemed important from patients' perspectives. Moreover, various methods for assessing consultation skills of healthcare professionals were also described in literature, including collecting patient feedback, in order to facilitate teaching and education of students pertaining to various health related disciplines (e.g. medicine, nursing and pharmacy) and to help in enhancing their consultation performance.

With respect to pharmacy practice, history shows numerous changes in the profession of pharmacy in its different sectors, all of which to bring pharmacists closer to patients, and to other healthcare professionals. To help pharmacists conduct effective patient consultations, they need tools to support that.

Patient feedback received increased attention across the years and it represents a learning opportunity to help healthcare professionals (including pharmacists) identify and explore their consultations and improve it accordingly. Literature has indicated that all learning activities are underpinned by learning theories (Aliakbari et al., 2015, Zittleman and Sadker, 2015). As described before, various learning theories were presented over the past century by different psychologists to provide an understanding of how people learn (Shulman and Quinlan, 1996). However, there is no single theory that explains the learning process in its entirety for all adults and in all settings (Hubbard, 2003), and when used alone, each theory has its own limitations.

With respect to the adult learning theory, although it provided several assumptions that helped in understanding what motivates adults to learn, the influence of culture and society is ignored by this theory (Merriam, 2001), as well as the role of collaborative learning (Taylor and Hamdy, 2013). Learning in behaviourism was also

criticised for many reasons. Learners here are relatively passive and easily manipulated since the learning process is controlled by educators who determine which behaviours learners need to change and how to change it. Behaviourism also highlights the role of reward and incentives in reinforcing behaviour change, thus promoting materialistic values (Braungart et al., 2008). Additionally, behaviour change is dependent on conditioning the environment to serve this purpose. However, alterations in the environment could result in weakening the changed behaviour. Moreover, this theory is highly limited by disregarding the learner's mind and considering it as a "black box". The whole focus is on external behavioural changes that can be measured objectively. However, it is illogical to separate the mind from learning, since learning cannot happen in isolation of the mind (Stewart, 2012).

When compared to behaviourism, learning in cognitivism is more holistic. It takes into account observable behaviour changes in addition to the role of the mind (Stewart, 2012). Cognitivists argued that learning does not happen only by observing, rather, by analysing and interpreting the learning process. However, the theory was criticised since it seemed to be more suitable for a classroom setting, through the use of a mixture of verbal and written instructions or demonstrations (Abdulwahed, 2010), therefore, it underestimates learning that happens in practice (Noble et al., 2011, Handley et al., 2006).

Social learning theory was also criticised for overemphasising the role of social interactions on learning while disregarding the genetic factors of learners as determinants of their behaviour (Bouchard et al., 1990). Learning here simply happens by observing and imitating the behaviour of others (Stewart, 2012). This is insufficient to ensure that learning took place, especially if the process is not associated with mental understanding (Stewart, 2012). The differences between learners in terms of their learning abilities and mental or emotional states are ignored by this theory too (Sammons, 2015).

As for constructivism, it indicates that learners can construct knowledge in their minds, which thus stimulates them to be active. However, it has been criticised for

lacking a structure for learning activities. It does not also provide a distinction between learners with different experiences. Learning is not a simple process, and basing learning entirely on the mind to explore the different learning activities in various environments can be detrimental to learners themselves (Stewart, 2012). Kolb's model was also limited by ignoring the social aspects of learners as it focuses more on knowledge development (Taylor and Hamdy, 2013). It was further criticised for being underdeveloped, oversimplified and for lacking scientific evidence (Stewart, 2012). The reflective theory was criticised as well by its inability to clarify processes involved in reflection (Schön, 2017), and for not providing a clear distinction between reflection in action and reflection on action.

Each of these learning theories thus describes certain aspects of the learning process. However, when combined, they provide learning strategies with varying viewpoints that eventually complement each other. Merriam (2001, p. 3) described this as having "*a mosaic of theories, modules, sets of principles and expectations that, combined, compose the knowledge base of adult learning*". This can be reflected by using the multi-learning theories model devised by Taylor and Hamdy (2013) which could provide a more holistic overview and a deeper understanding of how adults learn when exposed to a learning experience, including receiving feedback on their performance.

The overarching aim of this PhD was to explore the use of patient feedback in hospital pharmacy consultations. As described above, consultations are developing and changing alongside the roles of pharmacists. As underpinned by learning theories, thesis authors believe that patient feedback can be helpful in enhancing consultations skills of pharmacy professionals, especially if resources to facilitate that are available and support is provided. However, by reviewing literature, feedback in pharmacy has not been thoroughly studied. Thus, to achieve the aim of this PhD, three studies were designed and conducted. The first study included conducting a systematic review to identify and describe questionnaires that are designed to collect feedback from patients with respect to consultation skills of their healthcare professionals. Following the systematic review, a number of questionnaires were identified, one of which was more promising to be taken

forward to be used for assessing pharmacy consultations. This questionnaire was then pre-tested in the second study with a group of patients in the new setting of pharmacy consultations. The study was intended to explore the thinking processes of patients as they completed the questionnaire following their pharmacist's consultation. The final study of this PhD was designed to explore the feasibility of collecting patient feedback on consultation skills of their pharmacists, in addition to exploring the experiences of patients and pharmacists included in the study. Studies were conducted at one hospital setting.

The thesis is divided into five different chapters; this chapter (Chapter One) has shown an overview of the different types of consultation models, core consultation skills, the development of the person-centred care concept, and an overview of the different methods for assessing consultations skills of professionals. Moreover, the chapter also provided a brief summary about learning theories and factors that may influence responding to feedback. Changes affecting the profession of pharmacy in the UK has also been summarised. The following three chapters provide a description of the studies conducted as part of this PhD. Each of these chapters has its own introduction, aims and objectives, method, results, discussion, and conclusion. Chapter Two covers the systematic review, whereas Chapter Three covers a think-aloud cognitive interviewing study. Chapter Four describes a feasibility study to collecting patient feedback on consultation skills of hospital pharmacists. The final chapter of this thesis is an overall discussion of all studies conducted in this PhD, their main conclusions and implications for future research. The thesis research question, aim and objectives are summarised below in box 1.

Research question
Are we able to collect patient feedback on consultation skills of hospital pharmacists?
Aim
Explore the use of patient feedback in hospital pharmacy consultations
Objectives
1. To identify and describe patient feedback questionnaires that are designed to assess consultation skills of healthcare professionals, and that have been used for developing and enhancing those skills at the professional's individual level 2. To explore the thinking process of patients while completing ISQ with reference to consultations conducted by pharmacists in a secondary care setting 3. To examine the feasibility of collecting patient feedback on consultation skills of hospital pharmacists using the ISQ

Box 1 Thesis research question, and overall aim and objectives
ISQ: Interpersonal Skills Questionnaire

2 Chapter 2: Patient feedback questionnaires to enhance consultation skills of healthcare professionals: a systematic review

Publication developed from this chapter:

Al-Jabr, H., Twigg, M. J., Scott, S., Desborough, J. A. Patient feedback questionnaires to enhance consultation skills of healthcare professionals: a systematic review (2018), Patient Education and Counselling, 101, (9), 1538-1548. https://doi.org/10.1016/j.pec.2018.03.016

2.1 Introduction

There are numerous ways in which healthcare professionals' consultations can be assessed, these include self-assessment (Kim et al., 2002, Symons et al., 2009), assessment by assessors (Howells et al., 2010), peers (Ramsey et al., 1993, Norcini, 2003, Campbell et al., 2008), parents of paediatric patients (Street and Richard, 1992, Espinel et al., 2014), and by real (not simulated) patients (Greco et al., 1998, Greco et al., 2001a, Espinel et al., 2014, Stausmire et al., 2015). Sometimes a combination of these methods can be used to provide a more holistic evaluation (Wood et al., 2004, Kamangar et al., 2016, Vinod and Lonergan, 2013). However, amongst all of the above mentioned methods, collecting feedback from patients is probably most suitable in assessing consultation skills of healthcare professionals (Baker, 1990). Patients, as customers of the healthcare system, are capable of providing reliable data that can give insights over things not usually measured by other conventional methods (Labarere et al., 2001, Bredart et al., 2005), as well as providing more attention over shortcomings that might not be recognised by healthcare professionals (Zarei, 2015).

Patient feedback can be collected by various means including the use of surveys/questionnaires and/or through conducting interviews (Cleary, 1999, Wensing et al., 2003), both of which ask patients to give feedback on various aspects of healthcare including those related to consultation behaviour and competencies of their healthcare professionals (Wensing and Elwyn, 2003, Overeem et al., 2007). Patients have shown greater preference towards giving their feedback rather than having their consultations video or audio taped (Bain and Mackay, 1995). Furthermore, feedback questionnaires have the advantage of being a cost effective method that can be used to drive quality improvement (Cleary, 1999). They are extensively used in the UK, the US and Europe (Handfield-Jones and Kocha, 1999, Luxford et al., 2010). However, the full benefit of patient feedback on consultations can only be realised if it is used to support the individual's professional development. Providing healthcare professionals with patient feedback with reference to their individual performances can help them in identifying their strengths and weaknesses (Delbanco, 1992, Tasa et al., 1996,

Marshall et al., 2000) which they can then use to enhance their professional development.

Using feedback collected from patients as a tool to enhance consultation behaviour of individual healthcare professionals is not thoroughly studied. Initial searches identified two systematic reviews that investigated this domain (Evans et al., 2007, Reinders et al., 2011). Several feedback questionnaires were identified by both of these reviews, although both of these reviews used different search strategies and inclusion/exclusion criteria, they were both focused on assessing consultation skills of physicians only, without considering other healthcare professionals such as pharmacists or nurses. Therefore, this systematic review was conducted to identify patient feedback questionnaires that have been used to assess consultation skills of a wider range of healthcare professionals during their normal routine practice, and where feedback results were being used to enhance those skills at the individual level of the healthcare professional.

2.2 Aims and objectives

2.2.1 Aims

To identify and describe patient feedback questionnaires that are designed to assess consultation skills of healthcare professionals, and that have been used for developing and enhancing those skills at the professional's individual level.

2.2.2 Objectives

To describe identified studies according to the following:

I. Name of the questionnaire.
II. Healthcare professionals being assessed (e.g. physician, nurse, pharmacist).
III. Setting where assessment took place.
IV. Questionnaire administration method(s) (individual in charge of administering questionnaires to patients, concealment method(s) used, and patient recruitment).
V. Methods used to report patient feedback results to professionals.

VI. Follow-up to patient feedback and its resultant impact.

2.3 Method

2.3.1 Literature search strategy

A systematic search was conducted to identify relevant published studies that focus on patient feedback questionnaires which are used to assess and enhance the development of consultation skills of healthcare professionals. A protocol was developed and registered on the international database of prospectively registered systematic reviews (PROSPERO) on 23rd January 2017. The review registration number is CRD42017055365. The protocol was developed by the thesis author Hiyam Al-Jabr (HA) under the guidance and assistance of the supervisory team James Desborough (JD) and Michael Twigg (MT). A copy of the study's protocol is provided in appendix 1-A.

A scoping search using Medline and Embase databases on Ovid® was initially carried out to help with identifying and finalising the relevant search terms to be used. The following electronic databases were searched on 26th January 2017:

- MEDLINE (Ovid)®
- EMBASE (Ovid)®
- AMED (via Ebsco)
- Web of Science
- SCOPUS
- CINAHL
- PsycInfo

The search strategy included using Boolean operators such as "AND" and "OR" for combining the different search terms, in addition to using truncations (*****) and wild cards (?). The following search terms were used: "patient satisfaction", "health?care professionals", "general practitioner", doctor, physician, nurse*, pharmac*, feedback, questionnaire*, assessment, instrument, "evaluation tool", survey, "performance appraisal", "resident evaluation", "performance feedback",

"interpersonal skills", "communication skills", "consultation skills", "professional competence", competence, consult*, and communication. A draft of the search strategy for MEDLINE and EMBASE is provided in appendix 1-B, and it was adapted appropriately while searching the other databases. Search results were limited by two filters: English language and publication type: journal.

Additionally, reference lists of all studies included for final analysis and those of related systematic reviews identified by this search were also inspected to identify further studies with relevance to this review. A grey literature search, using the Open Grey website (www.opengrey.eu) was also conducted using the same search terms and adapted search strategy to identify additional, unpublished studies that might be useful for this review. Authors of studies were contacted by email where necessary to enquire about missing data.

2.3.2 Software to manage references

Search results of the various databases were exported into the reference manager Endnote 7.2.1, where duplicates were identified, recorded and removed. However, a different method via Microsoft Excel was used to export the results from the search engine SCOPUS due to limitations on the number of references that can be transferred.

2.3.3 Inclusion and exclusion criteria

2.3.3.1 Inclusion criteria

Studies that included a patient feedback questionnaire/survey that met the following criteria were considered eligible for inclusion:

1) Patient feedback questionnaires requiring self-completion by real (not simulated/standardised) patients ≥ 18 years old,
2) Assesses consultation skills of a healthcare professional (not undergraduate students),
3) Assesses face-to-face, direct patient-healthcare professional interaction, where feedback is collected from patients post-consultation,
4) Feedback results have been used for individual professional development.

2.3.3.2 Exclusion criteria

Studies were excluded from this review when they met any of the following criteria:

1) Patient feedback collected using qualitative methods such as interviews or group discussions,
2) Feedback collected from paediatric patients, simulated/standardised patients, or from a third party other than the patient (e.g. parents, family members, peers, colleagues, or staff),
3) Patient feedback questionnaires that assess consultation skills of undergraduate students,
4) Feedback questionnaires that are not self-completed by patients,
5) Patient feedback questionnaires that assess general patient's experience or satisfaction with the healthcare service with lack of specificity to consultation skills,
6) Feedback given at the organisational level of a healthcare practice and not at the individual level of healthcare professionals,
7) Patient feedback that is not used in enhancing consultation skills of individual healthcare professionals,
8) Feedback collected from several parties including the patient (i.e. multisource feedback), where patient input and feedback effect is not distinguished from others.

2.3.4 Types of studies

For this systematic review, journal articles (including experimental and observational studies) were considered eligible for inclusion. Other study designs including qualitative studies and reviews (systematic and literature reviews) were excluded.

2.3.5 Language

Only studies written in the English language were included in this review.

2.3.6 Types of participants

The target population considered for this review was adult patients (≥ 18 years) of both genders. No restrictions were given to patient medical condition, healthcare professional being assessed or to healthcare setting.

2.3.7 Types of interventions

Studies included were those that used quantitative patient feedback tools (questionnaires/surveys) to collect patient views on consultation skills of healthcare professionals, and where patients' views collected were used towards enhancing these skills. Meanwhile, studies that targeted enhancing consultation skills of healthcare professionals using methods other than questionnaires/surveys, such as training programs or educational teaching sessions were not included.

2.3.8 Screening and selection

Search results were checked for eligibility in relation to the research question, the whole process of results screening was carried out in three stages as described below:

- Title screening: initial screening of titles against the inclusion criteria to identify potential papers for abstract retrieval.
- Abstract screening: screening of abstracts to identify papers for full text retrieval.
- Full text assessment: assessment of full papers for inclusion.

All titles were independently screened by two reviewers; the thesis author (HA) and the primary supervisor (JD), to check their eligibility against the inclusion criteria. The findings were then compared and discrepancies were resolved by discussion. For the abstract screening stage, a specific tool was designed to guide the screening and selection of potential papers, a copy of this tool is provided in appendix 1-C. Screening was carried out by two independent reviewers (HA and one of the supervisors: JD or MT). Any arising disagreements were resolved by discussion between the two reviewers, and when necessary by referral to the third reviewer. This same approach was also implemented for assessing full texts of potentially

eligible studies using the same screening tool. Inter-rater agreement was measured using Cohen's kappa coefficient for every stage of screening.

2.3.9 Data extraction

A data extraction template was specifically designed using Microsoft Excel to extract data from eligible studies (appendix 1-D). Template design was guided by the Cochrane Effective Practice and Organisation of Care (EPOC) Review Group data collection checklist to extract the following data from each eligible study where possible:

- General characteristics of the study: author(s); publication year; study objective, design, setting, country, ethical approval and conclusions.
- Participants' characteristics: patients' sample size, age, gender, and response rate, healthcare professionals' sample size and exact profession;
- Characteristics of patient feedback questionnaire: name of questionnaire; domains of care covered by the questionnaire; questionnaire's psychometric properties (i.e. validation and reliability); answer scale; questionnaire administration method, feedback results reporting methods, study follow-up and findings.

The data extraction form was piloted using a representative sample of studies. Data from each eligible study was independently extracted by HA, and then it was independently checked by a second reviewer (JD) to verify accuracy and completeness of all data extracted. Disagreements were resolved by discussion and consensus, or by consulting a third reviewer (MT) where necessary.

2.3.10 Quality assessment

Quality assessment of included studies was carried out independently by two authors (HA and Sion Scott (SS)) with disagreements resolved through discussion. The assessment tool used was the National Institute of Health (NIH) Quality Assessment Tool for Observational Cohort and Cross Sectional Studies (National Institutes of Health, 2014). The assessment tool is composed of 14 criteria that are answered by either "Yes", "No", "Not Applicable (NA)", or "Not Reported (NR)". It

assesses for the potential risk of selection-, information-, or measurement bias, or confounding by covering several aspects of a study methodology including how representative the study population was, sample sizes, sample recruitment, response rates, outcome measurement, measurements of independent and dependent variables, blindness of outcome assessors, loss to follow-up, and adjustments of confounding variables. Inherent to its design, cross-sectional studies automatically score NA on criteria six, seven, 10 and 13. Additionally, studies would also score NA to criteria eight as per the tool's instruction. Depending on the number of criteria met, a similar approach described by a previous study (Woolford et al., 2017) was used in this review with respect to quality categorisation where included studies were categorized of "good" quality when meeting 10-14 criteria, "fair" quality when meeting 5-9 criteria, or "poor" quality when meeting 0-4 criteria. The higher the rating of a study, the lower the risk of bias (National Institutes of Health, 2014).

2.3.11 Dealing with missing data

Where data was missing from a study, linked publications were checked before contacting the corresponding author. When no response was received, studies with missing data that were deemed essential to this systematic review (i.e. questionnaire not provided) were excluded.

2.3.12 Outcomes measures

No specific outcome measures were investigated by this systematic review.

2.3.13 Data analysis

The data was collated in a qualitative manner and narrative, descriptive analysis was carried out.

2.3.14 Reporting

A PRISMA flow chart, which is a preferred method for reporting results of systematic reviews (Moher et al., 2009) was selected to report the findings of this systematic review, and to summarise the results obtained throughout the full process of studies' screening. The chart shows the numbers of studies identified in

each stage as well as the number of duplicates recognised and removed. Reasons for exclusion are also provided alongside the PRISMA chart, specifically for studies excluded at both the abstract and the full text screening stages.

2.4 Results

The systematic search identified 16,312 citations, of which nine studies met all of the inclusion criteria. The bibliographies of these studies and the bibliographies of relevant systematic reviews (Evans et al., 2007, Cheraghi-Sohi and Bower, 2008, Reinders et al., 2011) that were identified by the search were independently checked by HA, and an additional seven studies met the inclusion criteria. All of the additional studies were confirmed for eligibility by a second independent reviewer (JD), therefore a total of 16 studies were included in this review.

The results of inter-rater agreement between reviewers were as follows:

- Title screening stage: the calculated Cohen's Kappa coefficient [95%CI] =0.33 [0.27-0.38] which indicated fair agreement among the two reviewers.
- Abstract screening stage: the calculated Cohen's Kappa coefficient [95%CI] =0.64 [0.49-0.79] which indicated substantial agreement among the two reviewers.
- Full text assessment: the calculated Cohen's Kappa coefficient [95%CI] =0.62 [0.34-0.92] which indicated substantial agreement among the two reviewers (Viera and Garrett, 2005).

Figure *2-1* illustrates the process of study selection in a PRISMA flow chart (Moher et al., 2009).

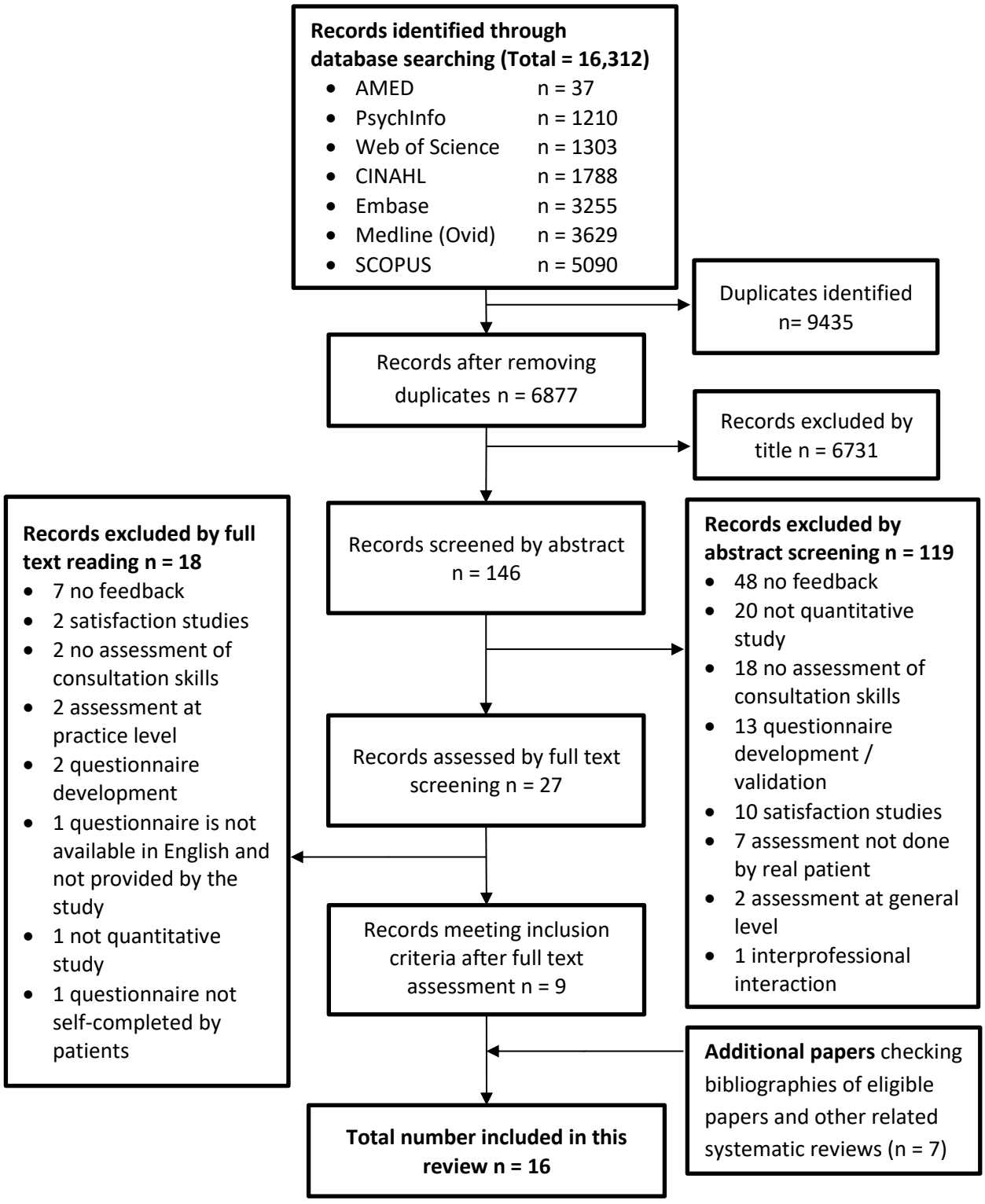

Figure 2-1 Prisma chart

2.5 General characteristics of included studies

The general characteristics of all included studies are summarised in Table *2-1*. Of the sixteen studies that were included in this review, thirteen (81%) were cross sectional, in which data were collected from a representative sample of the population at a specific point of time (Greco et al., 1995, Jenkins and Thomas, 1996, Hall et al., 1999, Greco et al., 2001b, Greco and Pocklington, 2001, Lipner et al., 2002, Sargeant et al., 2003, Wood et al., 2004, Al-Shawi et al., 2005, Mackillop et al., 2006, Reinders et al., 2008, Violato et al., 2009, Vinod and Lonergan, 2013). As for the remaining three studies, they were a randomized controlled longitudinal trial (Greco et al., 2001a), a quasi-experimental study (Cope et al., 1986), and an uncontrolled before and after study (Violato et al., 2008).

The included studies were carried out in five different countries. Five studies were based in the UK (Jenkins and Thomas, 1996, Greco et al., 2001b, Greco and Pocklington, 2001, Al-Shawi et al., 2005, Mackillop et al., 2006), four in Canada (Hall et al., 1999, Sargeant et al., 2003, Violato et al., 2008, Violato et al., 2009), three in the US (Cope et al., 1986, Lipner et al., 2002, Wood et al., 2004), three in Australia (Greco et al., 1995, Greco et al., 2001a, Vinod and Lonergan, 2013), and one in the Netherlands (Reinders et al., 2008). Twelve studies (75%) were published after the year 2000 (range 2001-2013) (Greco et al., 2001b, Greco and Pocklington, 2001, Greco et al., 2001a, Lipner et al., 2002, Sargeant et al., 2003, Wood et al., 2004, Al-Shawi et al., 2005, Mackillop et al., 2006, Reinders et al., 2008, Violato et al., 2008, Violato et al., 2009, Vinod and Lonergan, 2013). With regard to healthcare settings where studies were carried out, nine studies (56%) took place in a primary care setting (Greco et al., 1995, Jenkins and Thomas, 1996, Greco and Pocklington, 2001, Greco et al., 2001a, Sargeant et al., 2003, Mackillop et al., 2006, Reinders et al., 2008, Violato et al., 2008, Violato et al., 2009), five studies (31%) were based in secondary care setting (Cope et al., 1986, Greco et al., 2001b, Lipner et al., 2002, Wood et al., 2004, Al-Shawi et al., 2005), one (6%) in both primary and secondary care settings (Hall et al., 1999), and one other study was conducted in a tertiary care setting (Vinod and Lonergan, 2013).

2.6 Objectives and scope of studies

Table *2-1* provides a summary of the objectives of all studies included in this review. The general theme of all included studies was concerned with using patient feedback as a tool to improving consultation skills and enhancing professional development. Of all included studies, two were feasibility studies regarding the use of patient feedback and its impact (Greco and Pocklington, 2001, Vinod and Lonergan, 2013). Ratings collected from patients in two other studies were used in designing programs, one of which was directed for GP trainees (Reinders et al., 2008), whereas the other one was a program designed to assess the performance of licensed physicians every five years (Hall et al., 1999), which was found to be tested by another study identified by this review (Violato et al., 2008). Questionnaire development was the objective of two other studies (Mackillop et al., 2006, Violato et al., 2009), and in a different one, the frequency of giving patient feedback was measured versus its impact on enhancing the interpersonal competence of the GP registrar. In this study, registrars were randomly assigned to three models of patient feedback, a control group and two intervention groups, the intensity of receiving patient feedback was different among the three groups. Findings showed that increasing the intensity of providing healthcare professionals with patient feedback resulted in sustained improvement in interpersonal skills (Greco et al., 2001a).

Table 2-1 General characteristics of included studies

Study (Year) Country	Objective	Study design	Study setting	Ethical approval
Cope et al. (1986) US	To use patients' perceptions of their physicians' behaviours as a source for feedback to residents, focussing on their strengths and weaknesses and using this information as a stimulus to improve their interpersonal skills.	Quasi-experimental with control group	Secondary care	Not stated
Greco et al. (1995) Australia	To report on the findings of an exploratory study which investigated the feasibility of incorporating patient feedback into the educational experience of trainees within the RACGP.	Cross-sectional questionnaire study	Primary care	Not stated
Jenkins and Thomas (1996) UK	To provide reliable and valid qualitative and quantitative feedback to a group of general practitioner registrars who wished to explore the skills required in the more patient-centred consultation.	Cross-sectional questionnaire study	Primary care	Not stated
Hall et al. (1999) Canada	To describe the purpose, development and pilot studies of a program that will regularly assess the performance of all licensed physicians in Alberta.	Cross-sectional questionnaire study	Primary and secondary care	Yes
Greco et al. (2001b) UK	To provide doctors and nurses, with systematic patient perceptions of their interpersonal skills, and to evaluate the process in terms of its impact on professional development and ongoing training.	Cross-sectional questionnaire study/Pilot study	Secondary care	Not stated
Greco and Pocklington (2001) UK	To examine the feasibility of introducing the concept of patient feedback into the vocational training scheme within Exeter.	Cross-sectional questionnaire study	Primary care	Not stated

RACGP: The Royal Australian College of General Practitioners Training Program. PAR: Physician Achievement Review. GP: General Practitioner. DISQ: Doctors' Interpersonal Skills Questionnaire. GPTs: General Practice Trainees. MSF: Multisource Feedback

Table 2-1 (Continued)

Study (Year) Country	Objective	Study design	Study setting	Ethical approval
Greco et al. (2001a) Australia	To examine the impacts and implications of different models of systematic patient feedback on the development of GP registrars' interpersonal skills as they progressed through a GP vocational training program.	Randomized, controlled, longitudinal study	Primary care	Not stated
Lipner et al. (2002) US	To assess the value of patient and peer assessment module.	Cross-sectional questionnaire study	Secondary care	Not stated
Sargeant et al. (2003) Canada	To describe responses of family physicians, their medical colleagues, and co-worker raters to a multisource feedback assessment process.	Cross-sectional questionnaire study/Pilot study	Primary care	Not stated
Wood et al. (2004) US	To develop and test the reliability, validity, and feasibility of a 360-degree evaluation to measure radiology resident competence in professionalism and interpersonal / communication skills.	Cross-sectional questionnaire study	Secondary care	study was given an exemption
Al-Shawi et al. (2005) UK	To assess the surgeons' communication skills with patients in the orthopaedic department of the authors' district general hospital.	Cross-sectional questionnaire study	Secondary care	Not stated
Mackillop et al. (2006) UK	To develop a feasible questionnaire that concentrates solely on the doctor's performance during one consultation.	Cross-sectional questionnaire study	Primary care	Not stated
Reinders et al. (2008) The Netherlands	To develop an attractive and effective patient feedback training programme for GPTs.	Cross-sectional questionnaire study	Primary care	Not stated

RACGP: The Royal Australian College of General Practitioners Training Program. PAR: Physician Achievement Review. GP: General Practitioner. DISQ: Doctors' Interpersonal Skills Questionnaire. GPTs: General Practice Trainees. MSF: Multisource Feedback

Table 2-1 (Continued)

Study / Year / Country	Objective	Study design	Study setting	Ethical approval
Violato et al. (2008) Canada	To examine the evidence for the validity of MSF instruments for general practice, investigate changes in performance for doctors who participated twice, five years apart, and determine the association between change in performance and initial assessment and socio-demographic characteristics.	Uncontrolled before and after study	Primary care	Yes
Violato et al. (2009) Canada	To develop and psychometrically evaluate a questionnaire-based MSF system for quality improvement for occupational therapists.	Cross-sectional questionnaire study	Primary care	Not stated
Vinod and Lonergan (2013) Australia	To test the feasibility of implementing MSF for consultant radiation oncologists.	Cross-sectional questionnaire study	Tertiary care	Yes

RACGP: The Royal Australian College of General Practitioners Training Program. PAR: Physician Achievement Review. GP: General Practitioner. DISQ: Doctors' Interpersonal Skills Questionnaire. GPTs: General Practice Trainees. MSF: Multisource Feedback

2.7 Description of participants

Table *2-2* illustrates the characteristics of participants in studies included in this review. With respect to healthcare professionals, physicians of different specialities were mostly assessed by patients in the included studies. However, patients in one study assessed occupational therapists (Violato et al., 2009), and in another study they assessed nurses (Greco et al., 2001b).

Regarding patient participants, patient sample size was reported by all studies except one (Mackillop et al., 2006), and the number of patients participating in each study ranged from 55 (Vinod and Lonergan, 2013) to 28,156 (Greco et al., 2001a). Only two studies included new patients in the assessment process following their encounter with the healthcare professional (Cope et al., 1986, Violato et al., 2008), whereas five other studies described recruiting a mixture of old and new patients (Greco et al., 1995, Greco and Pocklington, 2001, Greco et al., 2001a, Al-Shawi et al., 2005, Reinders et al., 2008). The average age of participants was only reported by six studies and ranged from 37.5 to 59 years, with 67% being females lower than 60 years old (Cope et al., 1986, Greco et al., 1995, Greco et al., 2001b, Greco and Pocklington, 2001, Greco et al., 2001a, Lipner et al., 2002).

All of the included studies in this review specified the minimum number of patients needed to assess each healthcare professional, and the number ranged from six (Cope et al., 1986) to 50 patients (Jenkins and Thomas, 1996, Greco et al., 2001a, Greco and Pocklington, 2001, Greco et al., 2001b), with an average of 28 patients per healthcare professional. Justifications for these minimum numbers were only given by four studies, and they were based on providing reliable results (Greco et al., 2001a, Mackillop et al., 2006), selecting a patient sample size that is sufficient for the learning experience without being a burden (Reinders et al., 2008), and overcoming the effects of a bad day that may affect the patient or the healthcare professional (Al-Shawi et al., 2005).

Eight studies used a consecutive sampling approach to recruit patients, where consecutive patients were asked to participate until the needed number was achieved (Cope et al., 1986, Greco et al., 1995, Jenkins and Thomas, 1996, Greco et

al., 2001b, Greco and Pocklington, 2001, Greco et al., 2001a, Mackillop et al., 2006, Reinders et al., 2008). Patients in one of these studies were recruited at two different times in order to get a more representative sample (Reinders et al., 2008). Other methods that were described in recruiting patients included random selection (Lipner et al., 2002, Sargeant et al., 2003); systematic sampling, in which patients were selected based on a specific day and time of the week (e.g. Monday morning) and their order of presentation (every second patient) (Hall et al., 1999); and convenience sampling approach where the selection of patients to participate in the study was left to the healthcare professional's choice, some chose patients according to disease and patient characteristics, whereas others chose patients who had problems during treatment (Vinod and Lonergan, 2013). The approach used in the remaining four studies was not clearly described (Wood et al., 2004, Al-Shawi et al., 2005, Violato et al., 2008, Violato et al., 2009).

The response rate from patients was reported by six studies (Cope et al., 1986, Greco et al., 1995, Jenkins and Thomas, 1996, Hall et al., 1999, Violato et al., 2009, Vinod and Lonergan, 2013). The calculated average response rate was 83%, with the highest response rate was 89% (Greco et al., 1995, Hall et al., 1999) and the lowest was 73% (Cope et al., 1986). One additional study reported the mean response rate per doctor at two different times (Violato et al., 2008)

Table 2-2 Characteristics of study participants

Study	Healthcare professional sample size	Patients' sample size Average age (years) Gender %	Patient recruitment method	PPP (Justification)	Patients' response rate
Cope et al. (1986)	68 residents	424 patients; mean age 53; 67% females	Consecutive sampling	6-7 (No)	73%
Greco et al. (1995)	33 GP trainees	295 patients; average age 39; 65% females	Consecutive sampling	10 (No)	89%
Jenkins and Thomas (1996)	10 GP registrars	426 patients	Consecutive sampling	50 (No)	85%
Hall et al. (1999)	308 physicians [1]	6,825 patients	Systematic sampling	25 (No)	89%
Greco et al. (2001b)	39 (21 consultants, 10 registrars, and 8 senior nurses)	1,416 patients; mean age 57; 59% females	Consecutive sampling	40-50 (No)	No data
Greco and Pocklington (2001)	13 pairs of GP registrars and trainees	973 patients; mean age 45.4; 66% females	Consecutive sampling	50 (No)	No data
Greco et al. (2001a)	210 GP registrars	28,156 patients; mean age 37.5; 70% females	Consecutive sampling	50 (Yes)	No data
Lipner et al. (2002)	356 physicians	8,900 patients; average age 59; 57% females	Random selection	25 (Yes)	No data

[1]Fidler et al. (1999). GP: General Practice. PPP: Patients Per Practitioner

Table 2-2 (Continued)

Study	Healthcare professional sample size	Patients' sample size Average age (years) Gender %	Patient recruitment method	PPP (Justification)	Patients' response rate
Sargeant et al. (2003)	142 family physician	3,550 patients	Random selection	25 (No)	No data
Wood et al. (2004)	7 radiology residents	57 patients	No data	12-14 (No)	No data
Al-Shawi et al. (2005)	10 surgeons	402 patients	No data	35-40 (Yes)	No data
Mackillop et al. (2006)	No data	No data	Consecutive sampling	30 (Yes)	No data
Reinders et al. (2008)	48 GP trainees	878 patients	Consecutive sampling	30 (Yes)	No data
Violato et al. (2008)	250 family doctors or GPs	6,250 patients	No data	25 (No)	Mean response rate per doctor: - 24.09 (time 1) - 24.39 (time 2)
Violato et al. (2009)	238 occupational therapists	2,881 patients	No data	15 (No)	81%
Vinod and Lonergan (2013)	7 radiation oncologists	55 patients	Convenience sampling	10 (No)	79%

[1]Fidler et al. (1999). GP: General Practice. PPP: Patients Per Practitioner

2.8 Description of questionnaires

Table *2-3* provides a summary of the general characteristics of questionnaires identified by this review. Of the 16 studies included in this systematic review, 12 different patient feedback questionnaires were identified, and they were developed across several years. The following section describes these 12 questionnaires in further details.

2.8.1 Patient Satisfaction Questionnaire (PSQ)

A 14-item patient feedback questionnaire that was partly adapted by the Rand health insurance study. Besides reviewing literature, PSQ's items were chosen in accordance with the objectives of an ambulatory care training program (Somers, 1977, Ware et al., 1977, Carroll and Monroe, 1979, Adamson and Gullion, 1984). The PSQ has been reported to have a good internal consistency (Cronbach's α between 0.81-0.92), and most of its items were reported to have been validated (criterion validity), with a significant correlation found between patients' ratings of videotaped doctor-patient encounters to ratings given by medical faculty members regarding the quality of interpersonal interactions in these videotapes (Cope et al., 1986). The items were also shown to predict care seeking behaviour of patients (criterion predictive validity) (Ware and Davis, 1983). A subsequent study that used this questionnaire showed a significant correlation between evaluations given by patients to those given by nurses ($r = 0.33$, $P<0.01$), and by supervising faculty ($r = 0.40$, $P<0.01$) (Linn et al., 1986). This questionnaire provides a quantitative assessment of patients' satisfaction with residents during a specific medical encounter, it asks patients to reflect their level of agreement using a 5-point Likert scale with respect to two main categories: the "art of care" and the "technical quality of care" categories. Unlike other questionnaires, the PSQ does not provide a space for patients to write any comments they may have (Cope et al., 1986).

2.8.2 Consultation Satisfaction Questionnaire (CSQ)

Originally designed in 1990 by Richard Baker, CSQ is an 18-items questionnaire that was developed to assess patients' satisfaction with doctor consultations. Several steps were undertaken in the design of this questionnaire, including reviewing literature for the available questionnaires on patient satisfaction, and collecting the views of GPs and patients regarding the important aspects of a consultation. A list of potential questionnaire statements was generated from this preliminary work, however, statements that only applied to different practices were included (Baker, 1990). The questionnaire asks patients to rate their level of agreement with its different items using a 5-point Likert scale. The items included in the questionnaire cover four areas including general satisfaction, professional care, depth of relationship, and perceived time. The questionnaire has high reported internal consistency (Cronbach's $\alpha = 0.91$), and its development supports its content and construct validity. The content validity of the questionnaire was supported by including patients' opinions in its design, as well as the similarity found between the important factors identified by this questionnaire to the factors identified by other studies. With respect to general satisfaction, the Spearman correlation coefficients were 0.64 for professional care and 0.50 for both depth of relationship and perceived time, which thus support the construct validity of the questionnaire (Baker, 1990). The construct validity of the CSQ was also supported by another study (Baker and Whitfield, 1992). Similar to the PSQ, this questionnaire also does not provide any extra space for patients to write any comments they may have.

2.8.3 Patient-Doctor Satisfaction Questionnaire (PDSQ)

The PDSQ was developed by Rashid et al. (1989). It is a unidimensional questionnaire (i.e. assesses only one aspect of care service) and is composed of 13-items. The method of developing this questionnaire was not clearly described, however, patients seemed to have been involved in its development. The 13 items of the questionnaire are closed ended questions that are answered by a binary answer scale (Yes/No), and it does not dedicate any space for patients' comments

(Rashid et al., 1989). No data is available regarding questionnaire's validity or reliability.

2.8.4 The Medical Interview Satisfaction Scale (MISS)

This questionnaire is composed of 26-items (hence called MISS-26) and it was developed by Wolf et al. (1978). Questionnaire's items were initially generated from three sources; including patients' interviews, literature review, and observations of patients' consultations. The resultant items were then shown to a group of patients in three phase field trials to further refine the questionnaire and to give it its final shape (Wolf et al., 1978). MISS was designed to measure patients' satisfaction with a particular consultation using items that covers cognitive, affective, and behavioural aspects of patient satisfaction. The questionnaire is reliable (Cronbach's $\alpha = 0.93$), with interscale correlations as follow: cognitive and affective, 0.75; cognitive and behavioural, 0.62; affective and behavioural, 0.76 (Wolf et al., 1978), however, it lacks evidence of validity (Meakin and Weinman, 2002). MISS-26 uses a 5-point rating Likert scale with response options of "strongly agree" to "strongly disagree" (Wolf et al., 1978). Other versions of MISS were developed including MISS-29 (Kinnersley et al., 1996) and MISS-21 (Meakin and Weinman, 2002), both use a 7-point Likert scale. In all versions of MISS, patients only rate their level of agreement with the various statements available. No qualitative element is provided with this questionnaire.

2.8.5 North Worcestershire Vocational Training Scheme Patient Satisfaction Questionnaire (NWVTS-PSQ)

In 1996, the NWVTS-PSQ was developed according to eight criteria that were agreed upon by a group of researchers. The criteria were derived from a previously published list that described what patients want from their doctors, which reflected the important aspects of a person centred consultation (Jenkins and Thomas, 1996). It is a unidimensional questionnaire that is composed of 11-items with a 5-

point Likert scale. The questionnaire has an acceptable reliability (Cronbach's α = 0.84), and has evidence for content validity, however, no data available regarding other types of validity (Jenkins and Thomas, 1996). Similar to previously mentioned questionnaires, no qualitative item is provided by this questionnaire as well.

2.8.6 The Physician Achievement Review (PAR)

PAR is a group of questionnaires that were initially established in 1995, refined in 1996 and 1997 by physicians and patients (Violato et al., 1997, Hall et al., 1999), and finally launched in 1999 by the college of physicians and surgeons of Alberta (Hall et al., 1999, Lewkonia et al., 2013). PAR is a multisource feedback questionnaire that collects feedback from different sources including colleagues, co-workers and patients. The number of items composing the whole questionnaire ranged between 106-119 (Hall et al., 1999, Fidler et al., 1999, Sargeant et al., 2003), however, patient's questionnaire accounts for 40 items only, covering seven different attributes including: humanistic aspects, phone communication, technical communication, personal communication, office staff, physical office, and appointments (Hall et al., 1999). The questionnaire has high internal consistency with Cronbach's α = 0.95 for patients' questionnaire (Hall et al., 1999, Violato et al., 2008), it was reported to have construct validity (Violato et al., 1997, Violato et al., 2008), and as being reviewed for content validity (Sargeant et al., 2003). The answer scale utilised by this questionnaire is a 5-point Likert scale, however, the used response options were variable among the studies included in this review, including "among the worst" to "among the best", or "strongly disagree" to "strongly agree", and one study included "unable to assess" response option.

2.8.7 The Doctor's Interpersonal Skills Questionnaire (DISQ)

DISQ was developed to provide GP practitioners and registrars with feedback on their consultation skills. It was designed by a study that used three other patient feedback questionnaires, namely CSQ, PDSQ, and MISS. Additionally, focus group

discussions with patients and GPs also played an important role in informing its development (Greco et al., 1995, Greco et al., 2000). It is a unidimensional questionnaire that is composed of 12-items answered by a 5-point Likert scale (poor to excellent), it takes almost 2.5 minutes to complete and it also allows patients to write their suggestions on how the healthcare professional can improve his/her consultation skills (Greco et al., 1999, Greco and Pocklington, 2001, Greco et al., 2001b, Al-Shawi et al., 2005). The items of this questionnaire focus on assessing different skills utilised by the healthcare professional during patient's consultation, including professional's warmth of greeting, listening skills, clarity of explanations, ability to reassure the patient, ability to elicit patient's fears and concerns, time given in consultation, respect shown to patient, and considering personal context of a patient.

The questionnaire is reliable with high internal consistency (Cronbach's alpha = 0.96), and highly significant test-retest measures (r = 0.75) (Greco et al., 2000). Various tests were conducted to evaluate the questionnaire's validity, and results showed significant correlation between patient ratings of interpersonal skills and the overall satisfaction (construct validity; r = 0.79), significant correlation between DISQ and another patient feedback questionnaire (The Falvo-Smith Interaction Scale) (criterion validity; r = 0.77), moderate yet significant correlation between patients' ratings of DISQ to expert GP ratings (concurrent validity; r = 0.48), in addition to content validity, where findings regarding areas to include in the questionnaire that were identified by the focus groups discussions conducted with patients and GPs were consistent with the areas identified by other research (Greco et al., 1999). DISQ was originally designed for doctors, however, it was also used to assess consultation skills of nurses, and the questionnaire was called Nurses Interpersonal Skills Questionnaire (NISQ), in which the word "doctor" was replaced by "nurse" (Greco et al., 2001b).

2.8.8 Patient Assessment

This questionnaire is part of the American Board of Internal Medicine (ABIM) program for Continuous Professional Development (CPD). The questionnaire was developed (alongside another questionnaires for peers) by research that was conducted over an extended period of time. Patients and physicians were used in its design, where they provided information regarding aspects of consultations that are considered important to patients (Delbanco, 1992, Weaver et al., 1993, Lipner et al., 2002). The patient questionnaire used is composed of 10-items that use a 5-point Likert answer scale, and it takes around eight minutes to complete, however, no qualitative element is provided by this questionnaire. The items of the questionnaire cover three aspects including communication skills, humanistic qualities and professionalism. The questionnaire has a generalizability coefficient of 0.67 (Lipner et al., 2002), however, no data were identified regarding its validation.

2.8.9 The 360-degree Evaluation Questionnaire

The 360-degree is a multisource feedback questionnaire that collects feedback from different people who are within the circle of interaction with the resident physician (Joshi et al., 2004). Questionnaire development was not clearly described, however, the final items that were included in the questionnaire were derived from literature review and were agreed upon by a group of investigators, including physicians, imaging specialists and medical educators (Accreditation Council for Graduate Medical Education Outcome Project, 2002a, Accreditation Council for Graduate Medical Education Outcome Project, 2002b). It is composed of several questionnaires including a patient assessment questionnaire that is composed of 10-items and uses a 5-point Likert answer scale. The questionnaire also has a qualitative element, where patients can write extra comments. In a study, the internal consistency reliability for patients' ratings was estimated to be 0.86, and the questionnaire was also tested for concurrent validity by comparing its results to those obtained from using a global rating form traditionally used to evaluate the

several competencies (including professionalism and consultation skills) of radiology residents (Wood et al., 2004).

2.8.10 The Federation of Royal Colleges of Physicians Patient Survey (PPS)

This patient questionnaire was developed in 2006 by members of the Patient and Carer Network (PCN), which is composed of patients, carers and members of the general public. The design of this questionnaire was composed of initially asking participants to identify important aspects with reference to consultations, and then, in focused group discussions, they were asked to formulate questions covering the chosen aspects. The conducted work resulted in the creation of the first draft of the questionnaire which was sent to different members of the PCN group who provided comments that further modified the questionnaire. Additionally, a survey that was published by the GMC was also considered in the design of this questionnaire. The GMC survey has identified qualities of doctors that were perceived to be important by patients. Various qualities were identified including communication skills (General Medical Council, 2006). Both focus groups and the GMC survey have resulted in designing the Federation of Royal Colleges of Physicians Patient Survey, which is composed of 11-items, provides a space for patients to write their comments, and uses a 4-point Likert scale. Areas covered by the questionnaire include the way of delivering care to the patient, effectiveness of consultation, and overall satisfaction. No publications were identified concerning the validity and reliability of this questionnaire (Mackillop et al., 2006).

2.8.11 Patient Feedback Checklist (PFC)

This patient feedback questionnaire was based on the modified patient perception of patient centredness (PPPC) questionnaire that was developed by Stewart et al. (2003). It is a unidimensional questionnaire composed of 14-items and uses a 4-point Likert answer scale. The first nine questions were derived from Stewart's PPPC questionnaire, whereas the remaining questions were formulated from

opinions collected from patients, doctors and experts who participated in an earlier exploratory study (Reinders et al., 2008). This questionnaire does not provide space for patients' comments, and no data were identified regarding its reliability and validation.

2.8.12 Multisource Feedback (MSF)

Similar to 360-degree, MSF is another questionnaire that collects feedback from various people who interact with the healthcare professional (e.g. resident). Its development was guided by a list of competencies considered to be essential for occupational therapists, besides the views of experts (Violato and Saberton, 2006). MSF is a validated (construct and content validity) and reliable (Cronbach's α = 0.93) questionnaire that is composed of 14-items answered using a 5-point Likert scale. The competencies assessed by the questionnaire include professionalism, communication, management of practice environment, and utilization of practice process (Violato et al., 2009).

Two questionnaires were mostly reported to be used by the included studies, namely DISQ (Greco and Pocklington, 2001, Greco et al., 2001b, Greco et al., 2001a, Al-Shawi et al., 2005), and PAR (Hall et al., 1999, Sargeant et al., 2003, Violato et al., 2008, Vinod and Lonergan, 2013). A 5-point Likert scale was the standard answer scale used by all studies except three, where a binary scale (Greco et al., 1995) or a 4-point Likert scale (Mackillop et al., 2006, Reinders et al., 2008) were used instead. The number of items composing the different questionnaires was variable, with the minimum number of items used was 10, encountered with the patient checklist part of the 360-degree questionnaire (Wood et al., 2004) and the patient assessment questionnaire (Lipner et al., 2002), whereas the maximum number was 40, encountered with patient questionnaire of PAR (Hall et al., 1999, Sargeant et al., 2003, Violato et al., 2008, Vinod and Lonergan, 2013).

Providing a qualitative element where patients can write extra comments or suggestions regrading consultation skills of their healthcare professionals was only encountered with three questionnaires including the DISQ (Greco and Pocklington,

2001, Greco et al., 2001b, Greco et al., 2001a, Al-Shawi et al., 2005), 360-degree evaluation (Wood et al., 2004), and PPS (Mackillop et al., 2006). All included questionnaires also showed variations in terms of dimensions they assess, with six questionnaires being unidimensional (PDSQ, North Worcestershire Vocational Training Scheme-PSQ, DISQ, 360-degree Evaluation Questionnaire, PPS, and PFC), whereas the remaining questionnaires were multidimensional (i.e. assess more than one aspect of care service) (PAR, CSQ, MISS, patient assessment, PSQ, and MSF). The areas of competencies covered by the included questionnaires were also variable. Unidimensional questionnaires used questions that covered general consultation skills employed during patient-professional encounter besides asking a global question about patient satisfaction (Greco et al., 1995, Jenkins and Thomas, 1996, Greco et al., 2001b, Wood et al., 2004, Mackillop et al., 2006, Reinders et al., 2008). Whereas for multidimensional questionnaires, areas covered ranged between two (Cope et al., 1986) to seven areas (Hall et al., 1999), with clear overlap between these areas among the different questionnaires. Two of the multidimensional questionnaires were not only assessing consultation skills, but they also included questions assessing practice environment, utilization and appointment (Hall et al., 1999, Violato et al., 2009).

With regard to questionnaire's psychometric properties, seven questionnaires showed evidence for at least one type of validity, including PSQ (Cope et al., 1986), CSQ (Baker, 1990, Baker and Whitfield, 1992), PAR (Sargeant et al., 2003, Violato et al., 2008, Violato et al., 1997), DISQ (Greco et al., 1999), 360-degree evaluation questionnaire (Wood et al., 2004), PFC (Reinders et al., 2008), and MSF (Violato et al., 2009). Assessing internal consistency was the most commonly used method for testing questionnaire's reliability. However, no data was found regarding validity of MISS-26 (Greco et al., 1995), and no data was found regarding both reliability and validity of both PDSQ (Rashid et al., 1989), and PPS (Mackillop et al., 2006). Of all questionnaires, DISQ was the only questionnaire that was tested for the different types of validity, as well as for reliability with high internal consistency (>0.96) (Greco et al., 1999).

Table 2-3 General characteristics of patient feedback questionnaires.

Study	Questionnaire name and number of items	Answer scale	Space for free text	Validity	Reliability
Cope et al. (1986)	PSQ: 14 items	5-point Likert scale from "strongly agree" to "strongly disagree"	No	Criterion predictive validity	Cronbach's α between 0.81-0.92)
Greco et al. (1995)	CSQ : 18 items	CSQ: 5-point Likert scale "strongly agree" to "strongly disagree"[1]	CSQ : No	Content [1] and construct [2] validity	Cronbach's α = 0.91)[1]
	PDSQ : 13 items	Patient-doctor satisfaction questionnaire: Binary scale (Yes/No)[3]	PDSQ: No[3]	No	No
	MISS : 26 items	MISS: 5-point Likert scale "strongly agree" to "strongly disagree"[4]	MISS : No[4]	No	Cronbach's α = 0.93 [4]
Jenkins and Thomas (1996)	NWVTS-PSQ: 11 items	5-point Likert scale "1 = strongly disagree, to 5 = strongly agree)	No	No	Cronbach's α = 0.84
Hall et al. (1999)	PAR: 40 items*	5-point Likert scale "1 = among the worst, to 5 = among the best"	No	Content [5] and construct validity [6,7]	Cronbach's α for patients' questionnaire = 0.95
Greco et al. (2001b)	DISQ/NISQ: 12 items	5-point Likert scale "1=poor, 5=excellent"	Yes	All types of validity [8]	Cronbach's α = 0.96[7]
Greco and Pocklington (2001)	DISQ: 12 items	5-point Likert scale "1=poor, 5=excellent"	Yes	All types of validity [8]	Cronbach's α = 0.96[8]
Greco et al. (2001a)	DISQ: 12 items	5-point Likert scale "1=poor, 5=excellent"	Yes	All types of validity[8]	Cronbach's α = 0.96[8]

[1]Baker (1990), [2](Baker and Whitfield, 1992), [3] Rashid et al. (1989), [4](Wolf et al., 1978), [5](Sargeant et al., 2003), [6](Violato et al., 1997), [7](Violato et al., 2008) [8]Greco et al. (1999), [9]Hall et al. (1999). * PAR questionnaire is described of having 44 items by Hall et al. (1999), however we confirmed from other references (Fidler et al., 1999, Sargeant et al., 2003, Violato et al., 2008, Vinod and Lonergan, 2013) that it is composed of 40-items

Table 2-3 (Continued)

Study	Questionnaire name and number of items	Answer scale	Space for free text	Validity	Reliability
Lipner et al. (2002)	Patient assessment (ABIM/CPD): 10 items	5-point Likert scale "1=poor, 5=excellent"	No	No	Generalizability coefficient = 0.67
Sargeant et al. (2003)	PAR: 40 items	5-point Likert scales, with an additional "unable to assess" option	No	Content [5] and construct validity [6,7]	Cronbach's α > 0.90[9]
Wood et al. (2004)	360-degree: 10 items	5-point Likert scale "1 = strongly disagree, to 5 = strongly agree)	Yes	Concurrent validity	Cronbach's α = 0.86
Al-Shawi et al. (2005)	DISQ: 12 items	5-point Likert scale "1=poor, 5=excellent"	Yes	All types of validity[8]	Cronbach's α = 0.96[8]
Mackillop et al. (2006)	PPS: 11 items	4-point Likert rating scale "strongly agree to strongly disagree"	Yes	No	No
Reinders et al. (2008)	PFC: 14 items	4-point Likert scale: completely; mostly; a little; not at all	No	Content and face validity	No
Violato et al. (2008)	PAR: 40 items	5-point Likert scale "1 = strongly disagree, to 5 = strongly agree)	No	Content [5] and construct validity [6,7]	Cronbach's α > 0.90[9]
Violato et al. (2009)	MSF: 14 items	5-point response scale (1 = strongly disagree; 5 = strongly agree) with an option of "not applicable"	No	Content and construct validity	Cronbach's α = 0.93
Vinod and Lonergan (2013)	MSF/PAR: 40 items	5-point Likert scale "1 = strongly disagree, to 5 = strongly agree)	No	Content [5] and construct validity [6,7]	Cronbach's α > 0.90[9]

[1]Baker (1990), [2](Baker and Whitfield, 1992), [3] Rashid et al. (1989), [4](Wolf et al., 1978), [5](Sargeant et al., 2003), [6](Violato et al., 1997), [7](Violato et al., 2008) [8]Greco et al. (1999), [9]Hall et al. (1999). * PAR questionnaire is described of having 44 items by Hall et al. (1999), however we confirmed from other references (Fidler et al., 1999, Sargeant et al., 2003, Violato et al., 2008, Vinod and Lonergan, 2013) that it is composed of 40-items

2.9 Mechanics of patient feedback process

2.9.1 Patient feedback questionnaire distribution and collection

A summary of questionnaire administration and feedback reporting is illustrated in Table *2-4*. Different methods were used by the studies included in this review regarding the distribution of patient feedback questionnaires. In seven studies, questionnaires were given to patients by a third party, which varied between using other staff (Hall et al., 1999, Greco et al., 2001b, Greco and Pocklington, 2001, Wood et al., 2004, Violato et al., 2008); a research assistant (Cope et al., 1986); or an independent person (Mackillop et al., 2006). In five studies, questionnaires were delivered to patients by the healthcare professional themselves (Jenkins and Thomas, 1996, Greco et al., 2001a, Sargeant et al., 2003, Reinders et al., 2008, Violato et al., 2009). In two other studies, patients were initially identified by the healthcare professional, one of which described mailing questionnaires to identified patients (Vinod and Lonergan, 2013), whereas questionnaires in the second study were administered through a touch-tone telephone system that patients used to complete the questionnaire by using a coded number that identified the healthcare professional to be assessed. (Lipner et al., 2002), As for the remaining two studies, the method of questionnaire administration was not clearly described (Greco et al., 1995, Al-Shawi et al., 2005).

With respect to blindness of healthcare professionals to feedback process, they were not blinded in some studies, especially when they were involved in administering the questionnaires directly to their patients. Only one study stated that professionals were blinded (Al-Shawi et al., 2005), however, it did not describe the method utilised in distributing patient feedback questionnaires.

As for questionnaire collection, several methods were described. In five studies, patients sent back completed questionnaires to an organisation that was responsible for data analysis (Hall et al., 1999, Greco et al., 2001b, Greco and Pocklington, 2001, Sargeant et al., 2003, Vinod and Lonergan, 2013). Patients most likely used mail services in returning these questionnaires, however, only two of these studies explicitly described returning them by using prepaid envelopes (Hall

et al., 1999, Vinod and Lonergan, 2013). Questionnaires in four other studies were collected by a third, independent person (Cope et al., 1986, Al-Shawi et al., 2005, Mackillop et al., 2006, Reinders et al., 2008). However, patients in one of these studies were given the choice of sending questionnaires by freepost if they were not collected immediately following the medical encounter (Mackillop et al., 2006), and in another study, patients were contacted by the research assistant to complete missing questionnaire information by phone (Cope et al., 1986). Additionally, questionnaire collection in one study was electronic (Lipner et al., 2002), where questionnaires were completed using a touch-tone telephone system, and they were submitted once completed. The used telephone system monitored completed questionnaires, and feedback reports were sent to each healthcare professional. Questionnaire collection methods were not described by the remaining studies (Greco et al., 1995, Jenkins and Thomas, 1996, Greco et al., 2001a, Wood et al., 2004, Violato et al., 2008, Violato et al., 2009).

2.9.2 Patient feedback reporting methods

Individualised reports were used in all studies except one (Mackillop et al., 2006) to report feedback results to healthcare professionals. In these reports, professionals were able to see their individual scores that were calculated from their own data, and in some studies for the purpose of comparison, professionals were also given anonymised results of their colleagues (Cope et al., 1986, Greco et al., 1995, Jenkins and Thomas, 1996, Hall et al., 1999, Greco et al., 2001b, Greco and Pocklington, 2001, Greco et al., 2001a, Lipner et al., 2002, Sargeant et al., 2003, Wood et al., 2004, Al-Shawi et al., 2005, Violato et al., 2008, Violato et al., 2009, Vinod and Lonergan, 2013). Various indices were described to be used in these reports such as using the mean and standard deviation (SD), percentiles, interpersonal skills index (ISI; an overall measure of a professional's interpersonal skills that is expressed as a percentage of the theoretical best score), and criterion reference performance (Cope et al., 1986, Hall et al., 1999, Jenkins and Thomas, 1996, Greco et al., 2001b, Greco et al., 2001a, Al-Shawi et al., 2005, Violato et al., 2008, Violato et al., 2009, Vinod and Lonergan, 2013). Individualised reports were followed by conducting

separate interviews with healthcare professionals to further discuss the results (Cope et al., 1986, Al-Shawi et al., 2005). In Mackillop et al. (2006) study, the results of patient feedback were given to healthcare professionals within an appraisal meeting, where the average score for each question was presented and then compared to a national average (average score for all doctor on the database), besides showing the number of patients answering each question.

With respect to patient anonymity, it was protected in all but one study (Reinders et al., 2008). In this particular study, although patients were not asked to write their names, they were asked to provide their date of birth, which could be traced to individualised patients, however, collecting such data was described to be necessary for the aims of the study.

Table 2-4 Mechanics of patient feedback process

Study	Person(s) in charge of questionnaire administration	Questionnaire collection	Anonymity of patient feedback	Blindness of healthcare professional	Feedback reporting method
Cope et al. (1986)	Research assistant	Returned directly to receptionist before going home or complete missing data by phone	Yes	No data	Individualised report and private meetings with program director
Greco et al. (1995)	No data	No data	Yes	No data	Individualised report [1]
Jenkins and Thomas (1996)	Physician	No data	No data	No	Individualised reports
Hall et al. (1999)	Office staff	Completed questionnaires were returned to data processing canters in prepaid envelope	Yes	No	Individualised reports
Greco et al. (2001b)	Ward managers (setting 1) Audit department (setting 2)	Completed questionnaires were returned to a private organisation.	Yes	No data	Individual reports
Greco and Pocklington (2001)	Reception staff	Questionnaires were collected by an independent private research organisation	Yes	No data	Individualised reports
Greco et al. (2001a)	Physician	No data	No data	No	Written summary of patient questionnaires[1]
Lipner et al. (2002)	Patients used a touch-tone telephone to complete the questionnaire using a coded number, patients were identified by the physician diplomate	Diplomates may monitor their completion rates through the phone system.	Yes	No	Aggregated performance feedback report

[1](Reinders et al., 2011)

Table 2-4 (Continued)

Study	Person(s) in charge of questionnaire administration	Questionnaire collection	Anonymity of patient feedback	Blindness of healthcare professional	Feedback reporting method
Sargeant et al. (2003)	Physician	Data were collected and analysed by the Customer Information Services	Yes	No	Individualised reports
Wood et al. (2004)	Patients were asked to volunteer in the study by a breast imaging technologist	No data	Yes	No data	Individualised reports
Al-Shawi et al. (2005)	No data	Questionnaires were collected by the staff from the clinical audit department	Yes	Yes	Individualised written reports and individual interviews
Mackillop et al. (2006)	Independent person	Returned immediately to the designated person after seeing the doctor, or send it back by freepost	Yes	No data	Results were formally fed back at an appraisal meeting
Reinders et al. (2008)	GP trainee	Patients handed over the questionnaire in an envelope to a teaching staff	No	No	Individualised reports
Violato et al. (2008)	Office personnel	No data	Yes	No data	Individualised reports
Violato et al. (2009)	Occupational therapist	No data	Yes	No	Individualised reports
Vinod and Lonergan (2013)	Questionnaires were mailed from the department to patients identified by radiation oncologists	Questionnaires were returned using a self-addressed stamped return envelope to an independent research unit	Yes	No	Individualised reports

2.9.3 Follow-up and impact of patient feedback

Table *2-5* describes the follow-up and impact of patient feedback reported by the included studies. A follow-up to patient feedback was conducted by all of the included studies except two (Jenkins and Thomas, 1996, Mackillop et al., 2006). Follow-up was mostly focused on identifying the views of participating professionals in the feedback process and on detecting whether changes were commenced or planned to their individual practices consequent to receiving patient feedback reports. Various methods were described by the included studies, ranging from asking healthcare professionals to complete evaluation questionnaires (Lipner et al., 2002, Violato et al., 2008, Violato et al., 2009, Vinod and Lonergan, 2013), join focus group discussions or individual interviews (Wood et al., 2004, Al-Shawi et al., 2005), or repeating the patient feedback assessment process again at later time (Cope et al., 1986, Violato et al., 2008). A combination of these methods was also described, including completing reflective reports on interpersonal skills, or evaluation forms concerning feedback process in addition to participating in group discussions with other professionals who were involved in the assessment process (Hall et al., 1999, Greco et al., 2001b, Greco and Pocklington, 2001, Reinders et al., 2008). In one study (Sargeant et al., 2003), professionals were asked to complete questionnaires to identify their planned actions, and they were also asked to discuss the results of their feedback scores by phone with another professional. Another study described conducting teleconferences, focus groups, and telephone interviews with participants, including healthcare professionals and patients to explore their perceptions and identify better ways for enhancing the feedback process (Greco et al., 1995). One last study involved assessing professionals frequently at regular intervals, and they were also asked to complete questionnaires reflecting their perceptions about the process (Greco et al., 2001a).

The time line of conducting follow-up with respect to the original study was not clearly described by all studies, however, it was variable by those that did. Some studies asked professionals for their views shortly following the receipt of their feedback reports (Greco et al., 1995, Greco et al., 2001b, Greco and Pocklington, 2001, Lipner et al., 2002, Sargeant et al., 2003, Wood et al., 2004, Reinders et al.,

2008), whereas others took more time, from several weeks (Al-Shawi et al., 2005), to months or years later (Cope et al., 1986, Hall et al., 1999, Greco et al., 2001a, Violato et al., 2008, Violato et al., 2009, Vinod and Lonergan, 2013).

A follow-up study was identified by the search (Fidler et al., 1999) to one of the included studies (Hall et al., 1999). In this follow-up study, which took place three months following the original one, participating physicians were asked using a follow-up questionnaire to identify changes they have made or intend to make in their performance following the receipt of their patient feedback reports. A change was contemplated by 83% of respondents, and was initiated by 66%. Respondents were mostly physicians who had lower scores on their patient feedback questionnaires in the earlier study. Most identified changes were related to supporting patients and to enhancing communication with them. A similar approach was described by another study (Violato et al., 2009), where four months following the feedback process, professionals were also asked to complete an evaluation questionnaire that asked about their perceptions of the feedback process; factors facilitating patient questionnaire distribution, and any changes in their performance. Positive responses were expressed by 65% of professionals regarding feedback questionnaire and process, and the formative assessment reports.

Follow-up in three other studies was conducted after a long time following the original study, and it involved reassessment of healthcare professionals using the same feedback questionnaires with new sets of patients. In the first study (Cope et al., 1986), following the receipt of patient feedback reports, healthcare professionals with the lowest patient satisfaction scores were randomly assigned into feedback and non-feedback groups. Healthcare professionals of the feedback group received private interviews, in which their individual feedback scores and the aggregated scores of the whole group were further discussed, alongside providing them with advice on enhancing their performance. Six months following the first round of patient feedback, the same patient questionnaire was given to a new set of patients to assess healthcare professionals of both groups. The scores of the second round of patient feedback were improved in both groups, however,

improvements were more statistically significant for those pertaining to the feedback group.

Healthcare professionals in the second study (Greco et al., 2001a) were randomly assigned in three groups where they were exposed to various frequencies of reassessments over 15 months period with/without receiving supplementary feedback from practice supervisors. Professionals in the control group were assessed twice, with the second assessment taking place 15 months following their initial feedback. Assessments were conducted five times (every 3-6 months) for both the second and third groups of professionals, however, the third group had an additional supplementary feedback from general practice supervisors. Study findings showed a higher improvement in consultation skills of practitioners in the second and third groups compared to the control group, with sustained improvement achieved when reassessment is conducted at regular intervals.

Healthcare professionals in the third study were also assessed twice, however, the second assessment and follow-up was conducted five years following the initial study (Violato et al., 2008). New set of patients was used in each round of assessment, and the aim of the study was to detect changes in professionals' consultation performance, in addition to testing the questionnaire's validity. Results showed evidence for the construct validity of the questionnaire and its stability over time, and this was confirmed by the confirmatory factor analysis (CFA) that supported factor structures previously derived at time-1 to fit the data derived at time-2. Upward changes in professionals' performance were also demonstrated.

The follow-up conducted by the different studies demonstrated a generally positive influence of patient feedback experience by almost all of the included studies. Some studies illustrated that changes to individual practices of healthcare professionals have started following the receipt of patient feedback reports (Cope et al., 1986, Hall et al., 1999, Al-Shawi et al., 2005), and the intention to develop strategies of interaction with patients was also reflected by other healthcare professionals in other studies (Lipner et al., 2002, Sargeant et al., 2003, Vinod and Lonergan, 2013). Collecting feedback from patients was considered to be a learning experience that will help in professional development (Greco et al., 1995, Jenkins

and Thomas, 1996), and some healthcare professionals were involved in additional development training such as workshops (Greco and Pocklington, 2001) and counselling and support (Violato et al., 2008) to further improve their individual professional and interactive skills.

The whole experience of patient feedback was generally welcomed by all healthcare professionals in the included studies. However, in one study (Reinders et al., 2008), despite being initially enthusiastic, some practitioners expressed difficulties in fitting a patient feedback programme into their practices. In another study (Violato et al., 2008), the results showed that changes in performance of healthcare professionals were detected, however, the effect size is likely to be small to moderate.

Table 2-5 Follow-up and impact of patient feedback

Study	Follow-up	Impact of patient feedback
Cope et al. (1986)	Repeat questionnaire after detailed feedback	A significant increase seen in the scores of the residents of the feedback group (changes to individual practice)
Greco et al. (1995)	Focus group discussions, teleconferences and telephone interviews	Patient feedback had the potential to affect their behaviour towards patients
Jenkins and Thomas (1996)	No data	No data
Hall et al. (1999)	Focus group discussions and completing questionnaires	Changes in practice were planned or initiated by number of physicians, especially to communication with patients
Greco et al. (2001b)	Completing “Report on Interpersonal Skills” and taking part in group meetings	Patient feedback process helped healthcare professionals in identifying their strengths and areas needing improvement
Greco and Pocklington (2001)	Completing “Report on Interpersonal Skills”	Patient feedback process helped healthcare professionals in identifying their strengths and areas needing improvement, physicians also attended a three-hour workshop to further develop their communication skills
Greco et al. (2001a)	Frequent reassessment and completing follow-up questionnaires	Patient feedback increased the registrars' confidence and helped in identifying areas needing improvement for future interactions with patients
Lipner et al. (2002)	Completing a “Quality Improvement Plan”	Intentions to change communication strategies with patients and to continue seeking feedback from patients and peers
Sargeant et al. (2003)	Program evaluation	Changes are planned especially those addressing communication with patients
Wood et al. (2004)	An individual "personal quality improvement" interviews	Patient feedback increased awareness of healthcare professionals of how to interact and communicate more effectively with patients
Al-Shawi et al. (2005)	Focus group discussion	Patient comments had strong influences on making significant changes to healthcare professionals’ consultation technique

Table 2-5 (Continued)

Study	Follow-up	Impact of patient feedback
Mackillop et al. (2006)	No data	No data
Reinders et al. (2008)	Group interviews and completion of an evaluation form	Patient feedback has a great potential for improving communication skills
Violato et al. (2008)	Reassessment using the same questionnaire	Upward changes in performance
Violato et al. (2009)	Evaluation questionnaire	Positive expressions by participants regarding MSF instruments and process
Vinod and Lonergan (2013)	Completing a survey to assess acceptance of MSF	Changing aspects of practice were planned

2.9.4 Quality assessment

Table *2-6* provides a summary of quality assessment of included studies. Some studies included in this review were rated as "poor" (n=7) (score range 3-4) (Greco et al., 1995, Jenkins and Thomas, 1996, Hall et al., 1999, Greco et al., 2001b, Sargeant et al., 2003, Mackillop et al., 2006, Reinders et al., 2008), and some were rated as "fair" (n=7) (score range 5-9) (Greco and Pocklington, 2001, Lipner et al., 2002, Wood et al., 2004, Al-Shawi et al., 2005, Violato et al., 2008, Violato et al., 2009, Vinod and Lonergan, 2013). Only two studies had an overall rating of "good" (score range 11-12) (Cope et al., 1986, Greco et al., 2001a). Several limitations were encountered including firstly sample sizes. Most studies did not provide justification for the chosen sample size (n=13). However, most of these studies were of cross-sectional observational design (Greco et al., 1995, Jenkins and Thomas, 1996, Hall et al., 1999, Greco et al., 2001b, Greco and Pocklington, 2001, Vinod and Lonergan, 2013, Sargeant et al., 2003, Wood et al., 2004, Al-Shawi et al., 2005, Reinders et al., 2008, Violato et al., 2009), where a lack of sample size calculation does not represent a "fatal flaw" since such studies are exploratory in nature (National Institutes of Health, 2014). Secondly, the results of many studies were not adjusted for confounders (Greco et al., 1995, Jenkins and Thomas, 1996, Hall et al., 1999, Greco et al., 2001b, Greco and Pocklington, 2001, Lipner et al., 2002, Wood et al., 2004, Al-Shawi et al., 2005, Mackillop et al., 2006, Reinders et al., 2008, Violato et al., 2009, Vinod and Lonergan, 2013). Thirdly, some studies did not provide sufficient description of exposure measures (Greco et al., 1995, Jenkins and Thomas, 1996, Hall et al., 1999, Sargeant et al., 2003, Mackillop et al., 2006, Reinders et al., 2008), thus creating a difficulty in identifying the presence of an association between exposure and outcome. Additionally, outcome measures were not clearly defined in three studies (Greco et al., 1995, Hall et al., 1999, Sargeant et al., 2003), which thus may affect the validity of obtained results. Some degree of selection bias were demonstrated by some studies (Greco et al., 2001b, Reinders et al., 2008, Vinod and Lonergan, 2013) as two methods were used in recruiting patients for the study with lack of clear exclusion criteria. Finally, some items of the assessment tool were not reported across the included studies.

Table 2-6 Methodological quality assessment

Study	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
Cope et al. (1986)	Yes	Yes	Yes	Yes	No	Yes	Yes	NA	Yes	Yes	Yes	Yes	Yes	Yes	12/14
Greco et al. (1995)	Yes	Yes	Yes	Yes	No	NA	NA	NA	No	NA	No	NA	NA	No	4/14
Jenkins and Thomas (1996)	No	No	Yes	Yes	No	NA	NA	NA	No	NA	Yes	NA	NA	No	3/14
Hall et al. (1999)	Yes	Yes	Yes	Yes	No	NA	NA	NA	No	NA	No	NA	NA	No	4/14
Greco et al. (2001)	Yes	Yes	NR	No	NR	NA	NA	NA	Yes	NA	Yes	NA	NA	No	4/14
Greco and Pocklington (2001)	Yes	Yes	NR	Yes	No	NA	NA	NA	Yes	NA	Yes	NA	NA	No	5/14
Greco et al. (2001)	Yes	Yes	NR	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	NR	No	Yes	11/14
Lipner et al. (2002)	Yes	Yes	NR	NR	Yes	NA	NA	NA	Yes	NA	Yes	NA	NA	No	5/14
Sargeant et al. (2003)	Yes	Yes	NR	NR	No	NA	NA	NA	No	NA	No	NA	NA	Yes	3/14

Options Yes/No/CD (cannot determine)/NA (not applicable)/NR (not reported). Tool's criteria: 1. Was the research question or objective in this paper clearly stated?, 2. Was the study population clearly specified and defined?, 3. Was the participation rate of eligible persons at least 50%?, 4. Were all the subjects selected or recruited from the same or similar populations (including the same time period)? Were inclusion and exclusion criteria for being in the study prespecified and applied uniformly to all participants?, 5. Was a sample size justification, power description, or variance and effect estimates provided?, 6. For the analyses in this paper, were the exposure(s) of interest measured prior to the outcome(s) being measured?, 7. Was the timeframe sufficient so that one could reasonably expect to see an association between exposure and outcome if it existed?, 8. For exposures that can vary in amount or level, did the study examine different levels of the exposure as related to the outcome (e.g., categories of exposure, or exposure measured as continuous variable)?, 9. Were the exposure measures (independent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?, 10. Was the exposure(s) assessed more than once over time?, 11. Were the outcome measures (dependent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?, 12. Were the outcome assessors blinded to the exposure status of participants?, 13. Was loss to follow-up after baseline 20% or less?, 14. Were key potential confounding variables measured and adjusted statistically for their impact on the relationship between exposure(s) and outcome(s)?

Table 2-6 (Continued)

Study	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
Wood et al. (2004)	Yes	Yes	NR	Yes	No	NA	NA	NA	Yes	NA	Yes	NA	NA	No	5/14
Al-Shawi et al. (2005)	Yes	Yes	NR	Yes	No	NA	NA	NA	Yes	NA	Yes	NA	NA	No	5/14
Mackillop et al. (2006)	Yes	No	NR	Yes	Yes	NA	NA	NA	No	NA	Yes	NA	NA	No	4/14
Reinders et al. (2008)	Yes	Yes	NR	No	No	NA	NA	NA	No	NA	Yes	NA	NA	No	3/14
Violato et al. (2008)	Yes	Yes	No	Yes	No	Yes	Yes	NA	Yes	Yes	Yes	NR	NR	Yes	9/14
Violato et al. (2009)	Yes	Yes	Yes	NR	No	NA	NA	NA	Yes	NA	Yes	NA	NA	No	5/14
Vinod and Lonergan (2013)	Yes	Yes	Yes	No	No	NA	NA	NA	Yes	NA	Yes	NA	NA	No	5/14

Options Yes/No/CD (cannot determine)/NA (not applicable)/NR (not reported). Tool's criteria: 1. Was the research question or objective in this paper clearly stated?, 2. Was the study population clearly specified and defined?, 3. Was the participation rate of eligible persons at least 50%?, 4. Were all the subjects selected or recruited from the same or similar populations (including the same time period)? Were inclusion and exclusion criteria for being in the study prespecified and applied uniformly to all participants?, 5. Was a sample size justification, power description, or variance and effect estimates provided?, 6. For the analyses in this paper, were the exposure(s) of interest measured prior to the outcome(s) being measured?, 7. Was the timeframe sufficient so that one could reasonably expect to see an association between exposure and outcome if it existed?, 8. For exposures that can vary in amount or level, did the study examine different levels of the exposure as related to the outcome (e.g., categories of exposure, or exposure measured as continuous variable)?, 9. Were the exposure measures (independent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?, 10. Was the exposure(s) assessed more than once over time?, 11. Were the outcome measures (dependent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?, 12. Were the outcome assessors blinded to the exposure status of participants?, 13. Was loss to follow-up after baseline 20% or less?, 14. Were key potential confounding variables measured and adjusted statistically for their impact on the relationship between exposure(s) and outcome(s)?

2.10 Discussion

2.10.1 Summary of main results

To the authors' best knowledge, this is the first systematic review that identified relevant studies relating to patient feedback on consultations of different healthcare professionals in any setting. From the conducted search, 16 studies were identified describing 12 different patient feedback questionnaires. The majority of identified studies were similar in terms of their design, setting, methods of recruitment, and methods of reporting feedback to healthcare professionals. Most of the included questionnaires were reliable (especially in terms of their internal consistency), and were tested for at least one type of validity, however, only one questionnaire was tested for all types of validity; i.e. the DISQ (Greco et al., 1999).

The majority of the included studies were cross sectional, and most studies were concerned with identifying whether patient feedback could enhance healthcare professionals to make changes in their performance and to develop their consultation skills. Studies suggested that feedback collected from patients had a positive effect on healthcare professionals improving their consultation skills, however, results presented from these cross sectional studies were based on the comments and views given by the different healthcare professionals who were involved in the assessment process, and there were no valid measures used by these studies to detect the extent of performance improvement consequent to patient feedback. Only two studies included control groups, with extra support provided to professionals in the intervention group of one study (Cope et al., 1986) and increased frequency of patient feedback collection process in the other study (Greco et al., 2001a). Results of both studies showed improvement in consultation skills in intervention group over the control group.

With respect to methodological quality, it ranged for most studies from poor to fair, with only two studies rating as good. This not surprising as most of included studies were of cross-sectional design which has partly contributed to the final lower rating. Additionally, some degrees of bias were identified in these studies, therefore the results should be interpreted with caution.

2.10.2 Participants

This review has identified that most of the conducted studies were mainly targeting physicians to be assessed by patients, especially in primary care settings. Only two studies involved other professionals including nurses, and occupational therapists. Historically, physicians were the main healthcare professionals who were involved in consulting and prescribing medications to patients, whereas other healthcare professionals were less likely to be engaged in such activities, and thus the number of patient consultations they conducted was minimal. However, towards the end of the previous century, a shift started to enhance the role of other healthcare professionals in direct patient care, and since the millennium, in the UK, several healthcare professionals were legally allowed to prescribe medications to patients, including supplementary prescribing for allied healthcare professionals such as physiotherapists and radiotherapists (Cooper et al., 2008), and independent prescribing for nurses and pharmacists (Tonna et al., 2007, Cooper et al., 2008, Department of Health, 2008a). With this move of expanding roles, different healthcare professionals were becoming more involved in conducting patient consultations, thus, collecting feedback from their patients will help in their development.

With respect to patients participating in the included studies, despite the majority of studies not reporting full information regarding patients involved, patients' sample from the studies which did were mostly females under 60 years of age. It is unclear whether a patients' gender may have influenced their participation in completing questionnaires. The evidence in this regard is inconsistent, as female participation in responding to questionnaires has been found to be higher than males in some studies (Campbell et al., 2001, Korkeila et al., 2001, Oremus and Wolfson, 2004, Campbell et al., 2008, Potiriadis et al., 2008, Campbell et al., 2010, Roland et al., 2013), and lower in other studies (Meredith and Wood, 1996, Christensen et al., 1999, Kwak and Radler, 2002). Therefore, there is no robust evidence in the literature that supports the increased participation of females in completing questionnaires with respect to males, as there seem to be lack of studies that explicitly measure gender differences with respect to completing

questionnaires, especially paper ones. Increased female participation could be attributed to differences between genders in utilizing healthcare services. Females were found to use healthcare services and visiting primary care clinics more than males (Bertakis et al., 2000, Kaur et al., 2007, Vaidya et al., 2012), and they have higher consultation rates (Rogers et al., 1999, Rowlands and Moser, 2002, Hippisley-Cox and Vinogradova, 2009), especially at the adult age states (McCormick et al., 1995, Royal College of General Practitioners, 1999, Hippisley-Cox and Vinogradova, 2009), which could be due to variations between genders in symptom reporting (Ladwig et al., 2000, Mechanic, 1978, Oksuzyan et al., 2008), and to differences in reproductive biology (Waldron, 1983, van Wijk et al., 1992).

Patient recruitment was also described by the included studies, and the most commonly used method was consecutive sampling of patients until the required sample size was achieved. Such sampling approach was described as being easy to apply (Greco et al., 2001a, Mackillop et al., 2006) and associated with reduced selection bias (Maxwell and Satake, 2006, Daniel, 2011). As for the number of patients recruited, there is an argument regarding the minimum number of patients needed to assess each healthcare professional. A range of at least 25 to 50 patients was suggested by different studies. Some studies that were rejected at the abstract screening stage of this systematic review (Hays et al., 2003, Campbell et al., 2008, Roland et al., 2013) have used a minimum number of 25, 22, and 30 respectively, and their justification was to achieve a reliability value of 0.7 and an acceptable internal consistency. However, a minimum number of 25 patients per healthcare professional was indicated to be sufficient to provide reliable data of a professional's performance, especially when using DISQ (Campbell et al., 2010).

2.10.3 Questionnaires

Twelve different patient feedback questionnaires were identified from the studies included in this review. These questionnaires were designed across the past four decades (late 1970s to late 2000s), with the latest questionnaire developed eight

years ago; i.e. the patient questionnaire, which was used as part of the MSF (Violato et al., 2009).

Various methods were described by most of the included studies regarding questionnaire development. Items generated for the different questionnaires were obtained from different sources, including collecting views from healthcare professionals and patients, alongside reviewing literature for identifying other related questionnaires as well as for identifying consultation skills of importance to patients, some studies used a mixture of these sources. Using more than one method in questionnaire design is recommended, as this helps to capture the necessary items that will meet the questionnaire's objectives (Passmore et al., 2002, Burns and Grove, 2005). Patients were involved in the design of most of the included questionnaires, however, their involvement was not clear for others (PSQ and MSF). Including patients in the design of a questionnaire has many advantages. Patients' views can direct the attention to areas not covered or not recognised by other methods of assessment (Labarere et al., 2001, Bredart et al., 2005, Zarei, 2015), thus, helping to improve the quality of professional-patient interaction. Moreover, patients' involvement will also play a role in supporting the questionnaire's validity, especially its content validity (Baker, 1990, Greco et al., 1999, Greco et al., 2000, Kitchenham and Pfleeger, 2002a).

Only three questionnaires provided space for patients' comments. Providing such space was found to be generally welcomed by many patients (Rattray and Jones, 2007, Land et al., 2013). Comments collected from patients could help in informing the development of healthcare professionals' performance. Also, patients' comments could notify questionnaire designers for poorly constructed items or the need to add new items to the questionnaire (Rattray and Jones, 2007).

The number of items reported by the different questionnaires included in this review ranged from 10 to 40 items. It is noticeable that increasing the number of items in a questionnaire tends to make it lengthy and less likely to be completed (Fox, 1993). Guidelines for questionnaire design indicate that data needed to answer research questions can be collected using no more than 25 items (Passmore

et al., 2002). Most of the questionnaires in this review were constructed less than 25 items (n=10/12), which might thus have influenced obtained response rates.

Two types of answer scales were described by the different questionnaires, a binary scale (Yes/No) answers, and a Likert scale, with a predominance of the later. Responding to questionnaire items by selecting either yes or no response options may not provide enough information to help in assessing the level of an individual's performance. Such questions will only be interpreted in the presence or absence of a particular skill, and due to the lack of wider answer options, the participant is forced to select an answer. Furthermore, some people tend to choose the "yes" answer irrespective of question's content, a behaviour that is usually called "acquiescence", which could be due to the desire of the respondent to be polite by providing more satisfying responses (Krosnick and Presser, 2010). In contrast, a Likert scale uses fixed format of answers that are usually intended to measure respondents' attitudes, opinions or their level of agreement (Bowling, 1997, Burns and Grove, 2005). Although there is no ideal number for Likert scale answer options, it is recommended to have a number of answer options between five to nine (Malhotra, 2006). A 5-point Likert scale was used by most of the included questionnaires in this review, in which respondents were given an option to provide a neutral response or "unable to assess". Despite the controversy regarding the use of a neutral response option, removing such option will force respondents to select an answer they may not want (Kitchenham and Pfleeger, 2002b, Burns and Grove, 2005). Thus, it is recommended to have a neutral response in a questionnaire in order to give more varied answers for respondents to select. Additionally, 5-point Likert scale was found to be easier for use by patients (Baker, 1990, Grover and Vriens, 2006, Nicole, 2011), as many respondents found difficulty handling a questionnaire with many response options (Malhotra, 2006). It was also found to be associated with a greater response variability when compared to other scales, such as 6-point Likert scale (Ware and Hays, 1988, Greco et al., 2000). Therefore, a 5-point Likert scale was described to be the preferred answer scale to be used in a questionnaire (Passmore et al., 2002, Edwards, 2010).

With respect to psychometric properties, no publications were found regarding the validation of most of the questionnaires included in this review, or even the reliability of some of them. Validity and reliability are considered important qualities of a questionnaire that help in increasing the confidence in its results (Burton and Mazerolle, 2011). Thus, without validity and reliability, results cannot be trusted. However, of the 12 identified questionnaires, DISQ had more evidence for its reliability and validity. The included questionnaires also show variability in different aspects, and again, DISQ has more advantages. DISQ meets most of the requirements that are favourable in a questionnaire, i.e. it provides a space for patients to write their comments, and it does not need long time to complete, both of which are considered appealing factors to encourage patients to complete questionnaires (Edwards et al., 2002, Land et al., 2013). Moreover, DISQ uses the preferred 5-point Likert scale.

DISQ was developed using various sources. Three different questionnaires (CSQ, PDSQ, and MISS-26), together with physicians' and patients' views to inform its design. Questionnaires involved in DISQ design were also previously designed using different approaches that helped in reflecting what is perceived important from patients' perspectives in relation to consultation skills of healthcare professionals, thus, this made DISQ to be a more comprehensive questionnaire. Furthermore, DISQ was used for doctors and nurses, and this makes it a promising questionnaire to be taken forward and used with other healthcare professionals.

2.10.4 Questionnaire administration

Three methods were described by the included studies regarding questionnaire administration; administering questionnaires indirectly by a third person, directly by the healthcare professional himself, or through using mail or electronic services, with the first two methods being the most commonly described. Healthcare professionals' involvement in questionnaire administration made them unblinded to patient feedback process, this lack of blindness might have encouraged them to behave differently since they knew beforehand that they will be assessed by their

patients following the encounter. This is known as the Hawthorne effect, where an individual behaves differently once knowing that he/she is being observed (Indrayan, 2014). Additionally, lack of blindness might have influenced the feedback given by patients, encouraging them to provide more favourable responses that could please their healthcare professionals. Patients' responses also seem to be influenced by the mode of questionnaire administration (Cook, 2010). In a separate study, patients were found to provide more favourable and optimistic responses when questionnaires were given to them by the interviewer rather than by self-administration mode (Grootendorst et al., 1997). It is hence recommended for healthcare professionals to be blinded in order to avoid biased performances and thus biased evaluations (Pocock, 2013). It is also recommended for questionnaires to be given by a third person, as this will help in eliminating the unconscious influence of professional-patient relationship and thus avoids giving more candid feedback by patients (Cook, 2010).

Patient anonymity was reported to be protected by the majority of the included studies. This is highly important, as this will make patients feel more comfortable when filling out questionnaires, especially when assessing healthcare professional whom patients may encounter later, or, when patients wish to disclose sensitive information in the comment section of a questionnaire without the fear as being identified (Reinders et al., 2008, Land et al., 2013). The difficulty of giving negative feedback to healthcare professionals was expressed by few patients who participated in an exploratory study, especially when using questionnaires that were not anonymous (Reinders et al., 2008). In another study, patients with human immunodeficiency virus were not willing to disclose sensitive information if their anonymity was not guaranteed (Land et al., 2013). Therefore, it is advised for questionnaires to be anonymous, in order to collect more honest responses from patients, and thus reducing response or social desirability bias (Colton and Covert, 2007, Mitchell and Jolley, 2012).

As for collection method, questionnaires were mostly collected by an independent individual, whether it was an organisation or a different staff. Questionnaires were collected either immediately following the encounter, or they were sent back by

patients to a designated address by mail. In one study (Cope et al., 1986), when data were missing, patients were contacted by a researcher to ask for data completion. Data collected by this way could probably be influenced by recall bias, since they were not collected immediately following the encounter, as well as response bias, since they were collected by a third party. However, a majority of patients in this particular study have completed their questionnaires prior to leaving the clinic.

Of all the reported methods in questionnaire collection, it is highly advised to encourage patients to complete questionnaires immediately following the encounter for two reasons, firstly; patient's recollection of details related to the consultation is still fresh than days or weeks later, thus reducing the effects of recall bias. Secondly; some evidence suggests that taking questionnaires home can discourage patients from completing them, besides reduced quality of collected data (such as not answering all questions) (Streiner and Norman, 2003, Land et al., 2013). However, it is not always possible to collect questionnaires from patients before they leave the healthcare facility, under such conditions, patients must be given other appealing options that can encourage questionnaire return. The use of stamped return envelopes was found to encourage patients more to returning questionnaires, and ultimately to increase response rates (Edwards et al., 2002, Streiner et al., 2014).

2.10.5 Response rate

Patients' response rate was reported by some studies, with two studies having response rates above the calculated average. It is not totally clear why response rate was higher with these studies in particular, especially that they share lots of similarities with the other studies, however, some unidentified factors might have influenced patients in these studies, playing a role in increasing their response rates. Knowing that questionnaires were given to patients directly by the healthcare professional or a member staff in his office could have played a role in increasing the response rate, especially that most patients recruited were not

reported as being new patients, and this was encountered by a number of studies (Jenkins and Thomas, 1996, Hall et al., 1999, Greco et al., 2001a, Lipner et al., 2002, Sargeant et al., 2003, Reinders et al., 2008, Violato et al., 2009, Vinod and Lonergan, 2013). This may have influenced patients' participation in completing questionnaires and may also have influenced them to give more biased responses.

Another factor that might have affected response rate was the way patients were recruited for the study. In the majority of the included studies, a face-to-face approach was used in recruiting patients. The face-to-face approach was reported of providing higher response rates to satisfaction questionnaires than those obtained by using other means of recruitment, such as using mail (Sitzia and Wood, 1998). Additionally, patients' interest in the subject of the questionnaire could also be responsible for the high response rate encountered with some studies (Edwards et al., 2002), especially that the different studies in this review were aiming to enhance consultation skills of professionals as guided by patients' views, and this may have given patients the sense of contribution in healthcare reforms.

The characteristics of the used questionnaire might also have influenced patients' response rates. It is recommended to use questionnaires with the least number of necessary items, since long questionnaires with lots of items are less likely to be completed (Fox, 1993, Dillman, 2000) and thus may drive low response rates. However, the link between the number of a questionnaire's items and response rate was not clearly established by the different questionnaires included in this review, since response rates were not reported by all studies, and one study reported aggregated response rate from using three different questionnaires constructed of different number of items (Greco et al., 1995). Moreover, the highest response rate (98%) was reported by a study that used a 40-items questionnaire, whereas the lowest response rate (73%) was associated with using a 14-items questionnaire. Both of these studies showed similarities in aspects related to questionnaire administration and patient anonymity, but they differed in their questionnaire collection where the first study used prepaid envelopes whereas questionnaires in the second one were collected from patients before going home and missing data were obtained by phoning the patient. However, even this

difference in questionnaire collection does not explain their reported response rates. This strongly indicates that other factors may have encouraged patients to respond more to one questionnaire than the other. Nonetheless, the response rate that was reported by the different studies was above 70%, and this is considered adequate to enhance generalisation of study results to the general population (Passmore et al., 2002).

2.10.6 Format of patient feedback report

The included studies also discussed the format of reporting feedback results to healthcare professionals, where individualised reports were mostly described. Most reports included individual scores of the healthcare professional and, for the purpose of comparison, it also included the anonymised scores of their colleagues. Data were presented in these reports used not only numbers (e.g. mean and SD), but also graphical formats and tables. This way of reporting allows each professional to compare his/her performance to others, thus identifying areas of strengths and weaknesses, and creating a motivation to develop consultation performance.

Using combined methods for data presentation is encouraged. The addition of qualitative information and using pictorial feedback was found helpful for professionals to better understand their feedback scores, especially when benchmarks for best practice were also provided (Gysels et al., 2004). The whole process of patient feedback should be promoted as a learning and developing experience, with comments written in a constructive way to encourage performance development rather than blaming professionals for poor scores (Carter et al., 2004, Gysels et al., 2004). This is aligned with the principals of the different learning theories discussed before such as behaviourism, adult learning theory and Bandura's social learning theory. According to these theories, learning can be enhanced by handling the received feedback in a supportive way, within a motivating environment that aims to strengthen areas needing development by using positive consequences (Skinner, 1968, Atkinson et al., 1983, Taylor and

Hamdy, 2013). However, as discussed before, learning cannot be attributed to a single theory, and multiple factors come into play to facilitate learning (multi theories model). By reading the feedback reports and making comparisons with provided benchmarks, professionals most likely have analysed these data mentally (cognitivism) and then reflected on their own practice (reflective model) to help them identify what need to be done and thus consequently construct (constructivism) a plan to improve their performance. The learnt skill(s) can then be reinforced by incorporating it in daily practice (behaviourism, experiential learning theory).

2.10.7 Follow-up to patient feedback reports

Follow-up to receiving patient feedback reports was conducted by most of the studies included in this review with two major aims. The first one was to collect the views of healthcare professionals about the whole feedback process and whether they perceive it to be positive or not, and the second was to identify skills needing development, and whether changes were commenced or planned. Follow-ups were conducted either immediately, or weeks to years later. Healthcare professionals' views about the process were generally positive and most professionals welcomed receiving feedback from their patients, however, most of the studies did not measure the impact of patient feedback reports on consultation skills development. Only three studies described repeating the whole process of patient feedback for same healthcare professionals after a period of time using new sets of patients at each time, with two of these studies included control groups. Studies showed positive results, and healthcare professionals were seemed to be motivated by their low scores and by the follow-up processes to better change their performance. Thus, these low scores were a stimulus for professionals to change their performance, which aligns with cognitivism, where a driving force is important to motivate change. Additionally, these low scores have directed professionals to construct a plan to improve, which is also supported by constructivism. However, in one study, although there was improvements in interpersonal skills of professionals, the effect size of improvement was described as being small to

moderate, and this was attributed to the large gap in time (five years) between the first and second patient feedback (Violato et al., 2008). In Cope et al. (1986) study, patient feedback was repeated once six months later, whereas it was repeated several times (range every 3-6 months) for the intervention groups in Greco et al. (2001a) study, and results of both of these studies also showed similar levels of improvements of professionals' consultation skills. The findings of these three studies showed an improvement in consultation skills of healthcare professionals, with similar levels of improvements achieved when reassessment was repeated once five years later to when it was repeated several times regularly over a shorter period of time (months). Thus, similar results of improved scores of consultation skills of healthcare professionals could be achieved by repeating the assessment process months or years following the initial one, however, this requires multiple points of reassessment to be conducted at regular intervals for the purpose of reinforcing skills development. As advocated by the many theories, learning can be reinforced by continuous practice of the new learnt skill(s), and by continuous follow-up, this could help in identifying whether improvement has been achieved or further support is needed.

2.10.8 Agreements and disagreements with other reviews

The general conclusion driven from the included studies indicates a positive experience of using patient feedback in enhancing consultation skills of healthcare professionals. The findings of this systematic review demonstrate that some evidence exists regarding the usefulness of patient feedback, however, further studies are needed to exactly measure the significance that patient feedback has on consultation skills development, and this is consistent with the findings of two other systematic reviews (Cheraghi-Sohi and Bower, 2008, Reinders et al., 2011). Only two studies in this systematic review have investigated the influence of patient feedback and made comparisons between intervention and control groups (Cope et al., 1986, Greco et al., 2001a), one of which was a randomised, longitudinal study (Greco et al., 2001a). Whereas the design for the remaining studies was cross sectional, reflecting an overall view of participating healthcare

professionals regarding patient feedback experience without actually measuring the significance of performance difference as a result of the feedback process.

However, in contrast to Evans et al. (2007) systematic review, where healthcare professionals were found to show some resistance towards seeking feedback from patients, in this review, healthcare professionals in the majority of the included studies have generally positive reflections regarding receiving feedback from their patients, and patients were regarded by some to be the most appropriate group of raters to assess their practice (Sargeant et al., 2003). Healthcare professionals of different specialities highly valued this experience and some have the desire to continue seeking feedback from their patients (Greco et al., 2001b, Lipner et al., 2002, Vinod and Lonergan, 2013).

2.10.9 Strengths and weaknesses of the review

A number of elements exist that strengthen the confidence with the findings of this systematic review. This review followed the standard approach to systematic reviews outlined by the Cochrane Database of Systematic Reviews (CDSR) (Cochrane Library). The results of this review were based on searching for the best available evidence by using a comprehensive search methodology, with a combination of complementary key words that were used to systematically search all related databases. The inclusion criteria employed in this review has helped in selecting the related studies from the vast number of articles that were initially identified. The search was also widened to cover the bibliographies of all included studies and related systematic reviews, in addition to searching grey literature, so that all potentially eligible, published and unpublished studies could be identified. Moreover, and unlike other systematic reviews (Evans et al., 2007, Cheraghi-Sohi and Bower, 2008, Reinders et al., 2011), no restriction on the year of publication was made by this review, in order to run an extensive search to capture all possible evidence regarding patient feedback across the years. However, some limitations were encountered with this review. Several data were missing from the included studies, and attempts were made to contact the corresponding authors to enquire

about these data, yet, they were unsuccessful, and this did not allow proper comparisons to be made, and even led to rejecting some studies (Falvo, 1980, Violato et al., 1997, Violato et al., 2003). Additionally, the search strategy employed in this review was limited to the English language, leading to possibly rejecting some useful questionnaires that were not written in English.

2.11 Conclusions

The review identified gaps in literature regarding the use patient feedback questionnaires for a wider range of healthcare professionals and in different healthcare settings. Most included studies had a poor to fair methodological quality which hinders making firm conclusions. The evidence that is shown so far indicates that it is feasible to use patient feedback, however, the impact it has on consultation skills development is still not clear as it has not been thoroughly examined, thus, more higher quality studies with clearly defined methods are needed in order to identify its real impact in improving consultation skills of different practitioners. Additionally, most of the identified questionnaires lacked validation and/or reliability, thus hindering the confidence in their results. The recommendations that we provide in this review can guide future studies in examining patient feedback as a tool for consultation skills development.

2.12 Implications for research

As most of the identified studies in this review were observational, there is a need for higher quality studies that include randomization to be conducted in the future. Future studies must include randomly assigning participants, including patients and healthcare professionals into different groups with different feedback approaches, such as method of patient recruitment, mode of questionnaire administration and/or collection, or the intensity of feedback collection, and to measure the effects of these different approaches on consultation skills development by allowing comparisons between the different groups. Several factors affecting

patient feedback could also be investigated in future studies, including characteristics of patients involved in doing the assessment (such as gender and age).

With respect to healthcare professionals, there is clearly a gap in literature regarding the use of patient feedback to enhance consultation skills for professionals other than physicians, and there is a need for studies to be conducted to assess consultation skills of a different group of healthcare professionals. Attention must also be directed towards secondary care settings, since studies included were mostly conducted in primary care.

Most of the identified questionnaires by this review lacked validation and/or reliability, thus hindering the confidence in their results. It is recommended to use valid and reliable questionnaires in collecting feedback from patients, and DISQ represents a useful tool. It is the only questionnaire amongst the others that was tested for reliability and different types of validity. It was used with doctors and nurses, and it could also be tried with other professionals using at least 25 patients per healthcare professional. The findings of this review supports collecting feedback from patients over an extended time period (more than one day), while protecting patient anonymity and keeping healthcare professionals blinded during feedback collection. Patients should also be recruited by a third, independent person, preferably using face-to-face approach and not by sending emails, as direct contact was shown to increase the response rate. Patients should be encouraged to complete questionnaires immediately following the consultation, though, if not possible, providing patients with stamped envelopes may encourage them to send back the completed questionnaire.

The format used in reporting patient feedback results to healthcare professionals needs to be considered. It is important for results to be delivered in a way that enhances professionals' understanding of their scores, by using a combination of quantitative, qualitative and graphical methods of data presentation. This will enable professionals to identify which skill(s) is (are) in need of further improvement. It is preferable for individualised reports to also allow comparisons

between the results of the healthcare professional to the results of his/her peers, while protecting the anonymity of other participants.

Finally, the efficacy of patient feedback should be additionally measured and further enforced by conducting follow-ups. Qualitative studies could be carried out following the distribution of results, and professionals should be highly encouraged to attend the follow-up sessions (whether private or group interviews), where they can receive further explanations regarding their results and advice on how to better develop their performance. Reassessment follow-up studies are also recommended to be carried out following the initial one with multiple points of reassessment conducted at regular intervals to identify any improvements in individual performances of professionals.

To summarise, based on this systematic review, the following represent a set of recommendations that summarise ideal methods for collecting patient feedback:

- Keep healthcare professionals blinded as much as possible to the collection of feedback from patients while always protecting patient anonymity to reduce selection bias, response bias and Hawthorne effect.
- Collecting feedback from at least 25 patients per professional to obtain reliable feedback results.
- Collecting feedback over more than one day to reduce workload on professionals and overcome effects of a stressful day for both professionals and patients.
- Administering feedback questionnaires to patients by a third, independent person to reduce response bias.
- Collecting questionnaires from patients immediately following the consultation to reduce recall bias.
- Providing patients with prepaid envelopes when they cannot give feedback immediately to encourage questionnaire return.
- Results of patient feedback must be provided to each professional as a written report, explaining results using quantitative, qualitative, and graphical methods of data presentation, and preferably with benchmarks

provided to facilitate identifying strengths and weaknesses of consultation performance.

- A follow-up to patient feedback should be conducted at regular intervals in order to identify and measure any changes in consultation skills and how significant changes are.

2.13 Implications for thesis

The results of this systematic review supports the presence of gaps in literature regarding the use of patient feedback in assessing consultation skills of pharmacy professionals, which thus represents a developing opportunity that is still untapped. This systematic review supports using DISQ with pharmacy professionals, as it sounds promising for all the reasons mentioned earlier. DISQ was found to be owned by a private organisation called the Client Focused Evaluations Programme (CFEP), which converted it into a generic questionnaire called the Interpersonal Skills Questionnaire (ISQ) that was used in assessing consultation skills of clinicians including pharmacists by merely replacing the word “doctor” in DISQ with “clinician” or “pharmacist” in the ISQ. Following this systematic review, the next step was to take the ISQ forward and pre-test it with a group of patients to explore their thinking process as they answer its different items with reference to the consultation they have just had with a pharmacist, and consequently to identify the suitability of using it within the context of hospital pharmacy consultations. This is discussed in the next chapter.

3 Chapter 3: Exploring what patients think when answering the Interpersonal Skills Questionnaire (ISQ): a 'think-aloud' study

Publication developed from this chapter:

Al-Jabr, H., Twigg, M. J., Desborough, J. A. Exploring what patients think when answering the Interpersonal Skills Questionnaire (ISQ): a 'think-aloud' study (2018), Research in Social and Administrative Pharmacy, 15, (5): 619-622. https://doi.org/10.1016/j.sapharm.2018.07.005.

3.1 Introduction

In the previous chapter, DISQ has been identified to have more evidence in terms of its psychometric properties compared to the other identified questionnaires. It was developed in 1995, and has since been used in assessing consultation skills of doctors of different specialties to enhance their self-development. As indicated before, DISQ has been converted by its owners (the CFEP) into a generic questionnaire called the Interpersonal Skills Questionnaire (ISQ) (CFEP UK Surveys) to use it with a wider range of healthcare professionals other than doctors. DISQ however is composed of 12 questions, whereas the ISQ is composed of 13. An additional question (number 12) was added by the CFEP team in 2007 in response to the increased attention given by the NHS towards patient self-care/self-management of their different medical conditions which was introduced as a Quality and Outcomes Framework (QOF) indicator (Great Britain Department of Health, 2004, Kennedy et al., 2014). This added question was already used in the Patient Partnership in Care (PPiC) questionnaire and was tested well with focus groups (Powell et al., 2009). Thus the addition of this question was considered by CFEP to be appropriate to cover that aspect of patient care (C. Blackburn, personal communication, November 10th, 2017).

CFEP has been using the ISQ since then in assessing consultation skills of different professionals (C. Blackburn, personal communication, May 30th, 2017), however, no studies have been conducted and published in relation to its use with pharmacy professionals. Therefore, the aim of this study was to use think-aloud cognitive interviewing research methodology to test whether the ISQ is a suitable questionnaire to be used in assessing pharmacists' consultations in a secondary care setting. A protocol was developed by the thesis author (HA) and the supervisory team (JD, MT, and Robin Saadvandi (RS)). A copy of this protocol is provided in appendix 2-A.

3.2 Aims and Objectives

3.2.1 Aim

- To explore the thinking process of patients while completing ISQ with reference to consultations conducted by pharmacists in a secondary care setting.

3.2.2 Objectives

The objectives of the think-aloud cognitive interviews were:

- To assess patients' understanding of the ISQ items.
- To identify items of the questionnaire that were interpreted differently from their main intentions.
- To identify the potential difficulties that patients may encounter while interpreting and answering the ISQ.
- To identify patients' opinions of the ISQ as a tool to be used for assessing consultation skills of pharmacy professionals.

3.3 Methods

Ethical and research governance approvals were granted by the Health Research Authority (HRA) (copy is provided in appendix 2-B) before data collection commenced.

3.3.1 Study design

A qualitative exploratory design that employed think-aloud (TA) cognitive interviewing methodology was used in this study.

3.3.2 Cognitive Interviewing

Cognitive interviewing is a qualitative research methodology that was developed during the 1980s and it assesses how well questionnaire items meet their intended objectives (Beatty and Willis, 2007). It is a preferred method for pretesting questionnaires (García, 2011), whether new questionnaires or previously developed

ones that are intended to be used within new contexts. Between the different available methods for questionnaire pretesting, cognitive interviewing is considered more useful as it is designed to investigate the different phases of response an individual goes through when answering a questionnaire (Franklin and Walker, 2010). It is also considered a good option especially when uncertainties exist regarding the interpretation of the questionnaire's words by respondents or how they will arrive to an answer (Drennan, 2003). It is concerned with understanding the thinking process and strategies individuals use while answering a questionnaire in interpreting and reasoning their choices, and to also identify whether they interpret questionnaire items similarly and as intended by the designer(s) (Rickards et al., 2012). It also explores whether difficulties are encountered when answering a questionnaire (Willis, 2005, French et al., 2007, Currie et al., 2009, Darker and French, 2009, Holland et al., 2010, Kaklamanou et al., 2013), thus to refine it prior to its use in the actual data collection from a larger population (Gerber and Wellens, 1997, Conrad et al., 1999, Dillman, 2000, García, 2011). Cognitive interviewing provides an assessment of the questionnaire from the perspective of respondents, leading eventually to developing a questionnaire that is easy to understand and that meets its intended objectives.

Three methods are employed in cognitive interviewing, including TA, probing, and observation. In TA, individuals are encouraged to vocalize their thoughts while completing a questionnaire from the moment they read each question until assigning an answer (Ericsson and Simon, 1980, Ericsson and Simon, 1993, Ware and Gandek, 1998, Rebok et al., 2001, Drennan, 2003, Charters, 2003, Willis, 2005). Two types of probing were described in literature to be used with cognitive interviewing; concurrent, where participants are asked questions while they complete the questionnaire (Schechter et al., 1994, Young, 2005), and retrospective, where participants are allowed first to complete the questionnaire as they would do under normal conditions and then asked some questions by the researcher to provide more clarification on their thinking process (Ericsson and Simon, 1993, DeMaio et al., 1998). Retrospective probing is preferred since it avoids interrupting the natural flow of an individual's 'inner speech' while they complete a

certain task (such as completing a questionnaire) (Charters, 2003) and thus does not disturb the ongoing thinking process (Offredy and Meerabeau, 2005).

The cognitive process an individual uses when answering a questionnaire has been described thoroughly in literature by different researchers to be composed of four phases (Tourangeau, 1984, Tourangeau, 1987, Strack and Martin, 1987, Tourangeau and Rasinski, 1988, Conrad and Blair, 1996, DeMaio and Rothgeb, 1996, Sudman et al., 1996). These four phases have been moulded into a question-and-answer model which is frequently used in cognitive interviewing (Collins, 2003). The question-and-answer model is a non-linear process that includes continuous iteration and interaction between its different phases. A description of the model is presented in Figure *3-1*.

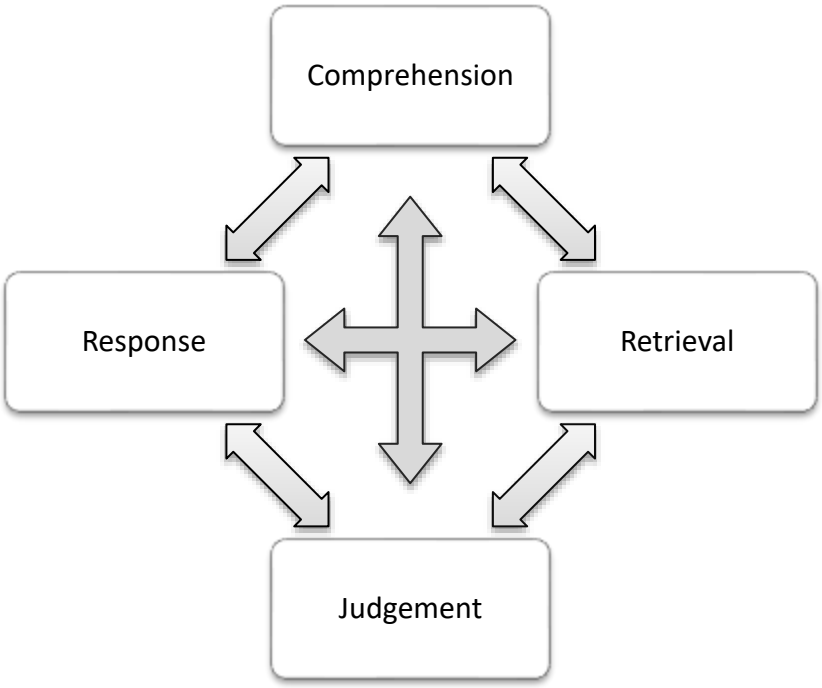

Figure 3-1 Question-and-answer model. Adapted from Collins (2003, p. 232)

Phase-1: Questionnaire interpretations and comprehension

This phase includes understanding items of the questionnaire, its wording and the information it seeks (Lehnert, 1978, Clark, 1985, Graesser et al., 1994). The aim is to ensure that respondents' understanding accords with the intentions of the questionnaire designer(s). Additionally, this phase helps in ensuring the consistency in respondents' understanding to questionnaire's items, otherwise comparison between their answers will not be valid (Schwarz and Oyserman, 2001, Collins, 2003, Willis, 2005).

Phase-2: Information retrieval from memory

Following comprehending a questionnaire's item, information relevant to it will be recalled from the respondent's memory (Schytt et al., 2009, Joffer et al., 2016). This phase helps in uncovering how easy it is for respondents to recall the needed information from their memory, and to identify the recall strategy they used (Schwarz and Oyserman, 2001, Collins, 2003, Willis, 2005).

Phase-3: Forming a judgment

Respondents at this phase combine retrieved information and transfer it into an appropriate answer (Joffer et al., 2016). Formulating an answer at this phase is based on the respondent's understanding to the question, its relevance to their situation, and on whether it asks for information they have, at the required details and depth (Schwarz and Oyserman, 2001, Collins, 2003, Willis, 2005).

Phase-4: Selecting a response

Respondents map the answer they arrived to in the previous phase into an appropriate choice within the pre-specified answer scale used by the questionnaire on hand (Schwarz and Oyserman, 2001, Collins, 2003, Willis, 2005, Schytt et al., 2009, Joffer et al., 2016).

The verbalizations expressed by respondents while completing a questionnaire is considered to be a reflection of how they process information in their minds, with respect to word recognition, language processing, understanding, problem solving, and memory retrieval (Czaja, 1998, Taylor, 2000, Schuwirth et al., 2001, Drennan,

2003). TA thus helps in uncovering these phases and therefore increases the researcher's understanding of how respondents make decisions when selecting a particular answer (Haberlandt, 1997), it also helps in identifying whether problems are encountered by respondents while completing a questionnaire and with which phases these problems are associated (Collins, 2003).

3.3.3 Inclusion and exclusion criteria

3.3.3.1 Inclusion criteria

The population of interest in this study were patients at a large teaching hospital in the East of England, UK, aged ≥ 18 years old, and who have just had a consultation with a pharmacist.

3.3.3.2 Exclusion criteria

The exclusion criteria included the following:

- Patients who were unable to read or write the English language.
- Patients who were deemed not suitable to participate in the study as reported by their pharmacists (e.g. patients with cognitive impairment).

3.3.4 Participant Recruitment

Convenience sampling was used in recruiting participants for the study. Potential participants were recruited from two clinics in the hospital: the orthopaedic clinic and the respiratory cystic fibrosis outpatient clinic. The orthopaedic clinic is a pre-assessment clinic that is run by a pharmacist (and a nurse) for patients who are scheduled for a surgery within the coming few weeks. Similarly, the respiratory cystic fibrosis clinic is run by a medical team that includes a pharmacist. In both clinics, pharmacist consultations are usually carried out on a one-to-one basis with outpatients. A member of the administrative staff in each of these clinics provides patients in advance with appointment letters before they attend the clinic.

All potential participants due to attend the clinic (at designated times) received an invitation letter (appendix 2-C) and a Participant Information Sheet (PIS) (appendix 2-D) together with their usual confirmation of appointment letter.

At the clinic, following consultation with a pharmacist, the pharmacist initially confirmed the receipt of the invitation letter and PIS by each potential participant and then asked whether they were interested in taking part in the study. If interest was expressed, the pharmacist notified the researcher who was in the clinic waiting area. The researcher then asked each participant to confirm that he/she has read and understood the information included in the PIS which was received earlier. Each participant was encouraged to enquire about the process, and whether he/she wished to continue. The participant was asked to give informed written consent and to provide some data, including age, gender, and name of clinic he/she was attending (appendix 2-E). Participants were assured that their responses would not be shown to their pharmacist, all collected data and comments would be anonymised, and that their names will not appear in any publication coming out from this study. Participants were also reminded that the interview session would be audio-recorded. Once the audio-recording was turned on, participant consent to participate in the study was confirmed again, verbally by the researcher.

3.3.5 Place of interview

Interviews were conducted by the main researcher (HA) who has a pharmacy background and has experience interacting with patients. The interviews were conducted on a one-to-one basis with each participant. They were conducted at the hospital's orthopaedic and cystic fibrosis clinics. Time dedicated to conducting the TA interviews was up to 30 minutes.

3.3.6 Questionnaire

Participants were provided with the ISQ to give their feedback while thinking aloud. A copy of the ISQ is provided in appendix 2-F. Permission to use the ISQ in this study was given by CFEP, a copy of the permission is provided in appendix 2-G.

3.3.7 Data Collection

During each cognitive interview session, the researcher guided participants through the TA procedure. The participant's voice was recorded during the session using an Olympus WS-550M digital voice recorder. The researcher observed each participant while completing the questionnaire, and took some field notes.

1. Prior to starting the TA process, participants practised a warm-up exercise. It is recommended for participants to receive such exercise before becoming engaged with the real TA task (Willis, 1994). The exercise aimed to familiarize participants with the think-aloud method, to clarify any misunderstandings they may have regarding what is required during this process, to reduce the 'cold start effect' they may have (Gibson, 1997) and to help them acclimate to the process of thinking aloud and voicing their thoughts (Karpen and Hagemeier, 2017), thus allowing the interviewer to confirm that they are actually capable of thinking aloud. The following warm-up exercise was previously suggested by Willis (1994, p. 7), and was used by several studies (Carbone et al., 2002, Wallen et al., 2002, Chang et al., 2003, Willis, 2005). The same exercise was also used in this study and it was provided to participants in a separate warm-up exercise sheet (appendix 2-H). The warm-up exercise included the following:

   "Try to visualize the place where you live, and think about how many windows there are in that place. As you count up the windows, tell me what you are seeing and thinking about."

   Following the warm-up exercise, questions raised by participants were clarified by the researcher. As recommended by Willis (2005), further training was conducted with some participants, especially those who were showing difficulty with acclimatisation to the process, once the participant showed understanding to the way the TA process should be performed, and felt comfortable to start, he/she was handed a sheet of paper that included the questionnaire (ISQ) with its corresponding response options.

2. To ensure consistency, the following instructions adapted from Gilhooly and Green (1996) and French et al. (2007) were read out verbatim by the researcher and were also provided with the questionnaire:

   "Think-aloud while completing the questionnaire. I would like you to tell me everything you are thinking as you read each question and decide how to answer it. Just act as if you are alone in the room speaking to yourself. Please pretend as if I am not here, so do not ask for my assistance. If you fall silent for a while, I will remind you to "keep talking". If you feel uncomfortable at any stage, please tell me you would like to stop. Finally, remember that it is the questionnaire, and not you, that is being tested. Do you have any questions before we start?"

   Any questions raised by participants at this stage were answered by the researcher. The researcher sat facing away from the participant, as recommended by Ericsson and Simon (1984), in order to keep social contact with the participant at minimum, and thus avoid interfering with his/her flow of thoughts (Fonteyn et al., 1993). As the participant began completing the questionnaire, he/she was not interrupted, unless falling silent for about 10-15 seconds, in which case he/she was reminded to 'keep talking'.

3. Once the participant completed the questionnaire, the researcher used verbal probes to help gain more insights into the thought process and reasoning made by the participant in generating answers to the questionnaire. An interview guide was used in all interviews, and it included probing questions, mostly those recommended by Willis (2005). Different probing questions were used accordingly to accommodate the needs of each interview. A copy of the topic guide is provided in appendix 2-I.

4. Upon completion of the interview, participant were thanked for taking part in the study and were asked for any additional feedback such as identifying whether the questionnaire's items covered all aspects they would expect from a pharmacy consultation. Participants were offered refreshments at the end of the interview.

3.3.7.1 Pre-study pilot testing

Prior to starting data collection, the researcher underwent a wider scope of training courses with respect to qualitative research methodology and questionnaire design, such as further qualitative research methods, use of Nvivo® software, and principles of designing a questionnaire. Moreover, the researcher conducted a small pilot testing using the questionnaire to identify the length of time needed to complete the cognitive task as well as to become familiarized with the process. The pilot testing was conducted with two students following a consultation with a pharmacist, and it was conducted as described in previous section. Both students took an average of 16.5 minutes to complete the task (range 13-20 minutes), and although it was the first time for them to be engaged in such activity, they did not find difficulty thinking aloud while answering the different items of the ISQ. This pilot testing of the ISQ helped the researcher to have more confidence in conducting the study with consistency and also in making the decision with the research team that up to 30 minutes is enough for conducting TA interviews.

3.3.8 Sample size

As cognitive interviewing belongs to qualitative research methods, there is no fixed number for the interviews to be conducted, however, the number is generally lower than that needed for quantitative studies, typically less than 20 interviews (DeMaio et al., 1998), with a typical size of 5-10 participants (Willis et al., 1991, Willis, 2005). Reaching data saturation, where no new adaptations to the questionnaire are recommended by interviews is usually used as an indication to stop the process (Straus and Corbin, 1990). For this study, a total sample size of 10 participants was anticipated to be recruited over multiple rounds of interviews to refine the questionnaire, with a maximum of 20 to be recruited in case several modifications were required to the questionnaire.

3.3.9 Data Analysis

Participants' answers to the questionnaire were not analysed, as the main aim of this study was to explore their understanding while answering the different items of the questionnaire rather than the ratings they gave to each item.

TA cognitive interview data could be analysed formally or informally. Formal analysis includes transcribing recorded interviews and analysing them, mostly by using thematic analysis to identify common themes. However, this approach was felt unnecessary for this study as problems could be identified in a straightforward manner by listening to the recordings and making notes, rather than by going through the time consuming thematic analysis process. Moreover, major difficulties encountered while completing a cognitive task could emerge using informal method of analysis (Willis, 2005, Murtagh et al., 2007), and refining a questionnaire was found by Willis to be suitably achieved by using qualitative written comments rather than verbatim transcription and coding (Willis, 2005). Therefore, an informal analysis approach was used to analyse cognitive interview data in this study, and verbatim transcription was only considered for interviews that requested further in-depth analysis. Moreover, with small sample sizes used in cognitive interviews, researcher's judgment is considered important in determining the implications of these interviews, whether to ignore the findings of a particular interview if deemed uncharacteristic, or to make modifications even if indicated by a single interview.

Following participant recruitment after each clinic, collected data were analysed. Revisions of the ISQ alongside with comparisons between the thinking strategies of the different participants were made by the research team at the end of each TA round in order to decide whether participants' comments reflected major problem(s) to the questionnaire that necessitate modifying it. Subsequent TA rounds were continued until saturation was achieved where nothing new emerged from the interviews and no new comments were given by participants.

3.4 Results

The study was conducted between October and November 2017. A total of eight interviews were conducted, and participants were of equal number of males and females. Fifty percent of participants were over 60 years old, and most participants were recruited from the orthopaedic clinic (62.5%). Additionally, most participants (65.5%) indicated that this was the first time for them to see the pharmacist who conducted their consultation and to whom they were assessing. Interviews lasted between 8-31 minutes (a mean of 14 minutes (7.2)). Table *3-1* summarises the characteristics of all participants taking part in the study.

Table 3-1 Characteristics of participants (n=8)

Participants	**No. (%)**
Gender	
- Female	4 (50%)
- Male	4 (50%)
Age	
- 18-24 years	1 (12.5%)
- 25-59 years	3 (37.5%)
- Over 60 years	4 (50%)
Clinic	
- Cystic Fibrosis (CF) clinic	3 (37.5%)
- Pre-assessment orthopaedic clinic	5 (62.5%)
First time to be counselled by this pharmacist	
- Yes	5 (62.5%)
- No	3 (37.5%)

Three rounds of TA cognitive interviewing were conducted over the course of this study. The first round consisted of four participants, whereas the second and third rounds consisted of two participants each. Meetings with the research team were held at the end of each round to discuss its findings and the need to make changes to the questionnaire prior to the next round. A general description of all participants and their TA sessions is provided in appendix 2-J. Table *3-2* shows the results of the ISQ review by participants in the first round.

Table 3-2 Findings of round one of the ISQ review

Review of each element of the ISQ items for participants in round one	
Questionnaire's instructions	No comments requiring action
Question 1 (Satisfaction)	No comments requiring action
Question 2 (Greeting)	No comments requiring action
Question 3 (Listening)	No comments requiring action
Question 4 (Explanations)	No comments requiring action
Question 5 (Reassurance)	No comments requiring action
Question 6 (Confidence)	No comments requiring action
Question 7 (Opportunity to express concerns/fears)	Hesitation was shown by participant-4 with respect to this question. The reason behind the hesitation was that participant-4 did not have any concerns or fears to express to the pharmacist. Participant-4 mentioned that the pharmacist did explain everything to him before he could show any concerns or fears; *"I don't have really any concerns, [pharmacist] understood all the …… the medication that I was taking and [pharmacist] explained to me anything that I needed to know before I could express any concerns or fears"*. Participant-4 also questioned expressing concerns or fears to pharmacists as he prefers to go to the doctor instead.
Question 8 (Respect)	No comments requiring action
Question 9 (Time)	No comments requiring action
Question 10 (Consideration of personal situations)	No comments requiring action
Question 11 (Concern for patient as a person)	This question was reread by one participant (participant-4), who also showed hesitation on answering it. Participant-4 reasoned rereading the question to help him further understand it; *"well, I think whenever you answer a questionnaire like this you can't just go to…. Sometimes it needs to register before you can answer it"*. As for his hesitation, participant-4 questioned the need for this question as all people should be respectful to each other, and in a

	hospital setting, people are working professionally thus they show respect to their patients without the need to make small talks or make friends; *"[pharmacist] was polite, [pharmacist] offered me a seat, [pharmacist] spoke to me kindly…….everything about [pharmacist] treating me as a person was fine but, ….. you should always respect people who ever they are……., but you don't always have to make small talk with people, you know, you're here to do a job, and I get that in my profession, you know, you're here… oh you don't make small talks or stuff like that I'm here to do a job, without being disrespectful, you're respectful to the people"*.
Question 12 (Help for self-care)	No comments requiring action
Question 13 (Recommendation)	No comments requiring action
Free text (suggestions to improve)	No comments requiring action

The findings of the first round of cognitive interviews and the comments given by participant-4 were conveyed to the research team. A brief discussion was undertaken regarding these comments, and as participant-4 has answered all items of the questionnaires during the TA session without expressing a clear problem, and even during the probing session his answers indicated a clear understanding of these questions, the team decided not to change the ISQ, especially that reasonable thinking process was expressed by the other participants with respect to these two questions in particular. Thus, the ISQ was not changed and the second round of cognitive interviewing was performed. The second round of cognitive interviewing was conducted with two new participants. The findings of the ISQ review in round two are presented in Table *3-3*.

Table 3-3 Findings of round two of the ISQ review

Review of each element of the ISQ items for all participants	
Questionnaire's instructions	No comments requiring action
Question 1 (Satisfaction)	No comments requiring action
Question 2 (Greeting)	No comments requiring action
Question 3 (Listening)	No comments requiring action
Question 4 (Explanations)	No comments requiring action
Question 5 (Reassurance)	No comments requiring action
Question 6 (Confidence)	No comments requiring action
Question 7 (Opportunity to express concerns/fears)	Participant-6 indicated that this question does not apply to her since she doesn't have any concerns or fears to convey to the pharmacist; *"I don't really got any concerns or fears, at the moment…….. not really concerned of or scared of"*. However, participant-6 gave an answer to this question (which was different to the answer selected for the previous one). Participant-6 indicated that the question could be useful to other patients, especially those who have concerns or fears. Participant-6 also reasoned that the hesitation to be caused by the nature of the test; i.e. to complete the ISQ while thinking aloud, and this was unnatural to her.
Question 8 (Respect)	No comments requiring action
Question 9 (Time)	No comments requiring action
Question 10 (Consideration of personal situations)	No comments requiring action
Question 11 (Concern for patient as a person)	Participant-6 answered this question during the TA session using a different answer option than the one used for the previous or later questions. Participant-6 referred to the lack of relationship with the pharmacist and that the relationship is merely professional; *"Out of all the people I see I've got a more personal relationship with every one so whereas with [pharmacist's name] I don't know…uh, it's just weird isn't it cause I don't have a …. I don't know, it's a professional*

	situation, so it's weird, his concerns for me as a person,….don't know… just weird". Participant-6 added that she did not meet with the pharmacist alone during the consultation, as the pharmacist was accompanied by a doctor at this visit, and that she was paying more attention to the doctor than to the pharmacist; *"because the doctor came in with [pharmacist] as well, I noticed more what [doctor] was doing rather than what [pharmacist's name] was doing".*
Question 12 (Help for self-care)	No comments requiring action
Question 13 (Recommendation)	No comments requiring action
Free text (suggestions to improve)	No comments requiring action

Following this second round of cognitive interviewing, the researcher summarised the findings of this round and combined it with the findings of round one in order to compare between the responses given all participants interviewed so far. TA interviews were stopped and a meeting was held with the research team to discuss the findings and to identify the implications of conducted interviews, especially interviews with participant-4 and participant-6, and then to decide whether the raised issues by these two interviews in particular call for modifying the ISQ or not. After listening to the audio-recordings of these two interviews, and comparing the thinking aloud approach used by the other participants with respect to questions seven and 11, the research team decided that there were no major problems indicated by participant-4 and participant-6 as they answered the whole questionnaire including these questions without expressing major difficulties in understanding what these questions were referring to and without seeing lack of relevance to pharmacy consultations. Moreover, participant-6 selected different answer options to the different items of the ISQ which reflects that she was thinking and assigning the most suitable answer option available that suited her condition. The team decided that the reasoning given by these participants during the probing session was not enough to change the questionnaire, and that participants did select an answer for these two questions. If they did have major problem(s) with any of these questions, they would have stated that more clearly

or even left the question unanswered, especially that they knew beforehand the aims of carrying out this project.

The research team however did discuss the addition of an extra “not applicable” answer option to the whole questionnaire or just to question seven, since participant-4 and participant-6 gave similar comments as they did not have any concerns or fears to share with the pharmacist. Nonetheless, the research team found that it was not necessary to do that since other participants did not struggle with this question and they did have some concerns which they discussed with the pharmacist. Additionally, participant-4 mentioned during the probing session that the pharmacist did discuss everything he needed to know before he could express any concerns or fears. Moreover, the addition of “not applicable” answer option may encourage other respondents to select it even if the question applies to their situation and they have an answer to it. Respondents may do so as means to escape giving an answer, this was encountered with adding answer options such as “Don’t know” or “No opinion” (Krosnick and Presser, 2010, Menold and Bogner, 2016) which were described as being used interchangeably with “not applicable” answer option (Ellis, 2015). The addition of this response option was agreed by the research team to be an obstacle to the overall aim of designing and using questionnaires such as the ISQ, which is to collect patient feedback to be used for enhancing pharmacists’ consultation skills.

Equally, the research team discussed the addition of “skip this question if does not apply” direction to the end of question number seven to give respondents a wider range of options that cover all their situations. However, for similar concerns, the team argued that the availability of this direction in the questionnaire even with one question could encourage respondents to skip other questions as well, thus, increasing questionnaire non-response and reducing the usefulness of the collected data. Therefore, the questionnaire would remain unchanged, and a decision was taken to resume the think-aloud interviews, and if no problems were indicated with the next 2-3 participants, then the study would be terminated.

Round three was the final round of cognitive interviewing that was conducted. It was carried out with another two new participants, and findings showed no

comments given by these participants to any item of the ISQ that required making an action, therefore, the research team decided to terminate the TA cognitive interviewing and to keep the ISQ unchanged.

Following the conduct of round three, the research team had another discussion regarding whether to continue conducting more TA interviews or to terminate the process. Since no major issues were raised by the last two interviews, the team decided to terminate the TA cognitive interviewing and to keep the ISQ unchanged.

All participants included in the study showed understanding of the different items of the ISQ without reflecting major difficulties. Participants' views about the value of the ISQ as a tool to assessing pharmacy consultations were not explored as this objective was not clearly described in the topic guide. However, participants' views about the ISQ in general is that it is a straight forward tool, easy to understand, and they don't anticipate other patients to have difficulty answering its items.

3.5 Discussion

3.5.1 Summary of main findings

This was the first study to use the TA research methodology in exploring the thinking process of patient participants while completing the ISQ following their consultation with a pharmacist. The gathered evidence by the included participants did not indicate major problems with the ISQ. All participants answered all items of the questionnaire without skipping or leaving any question unanswered. Most participants also expressed that the ISQ is a straight forward questionnaire that is devoid of jargon, easily understood, and fits within the context of pharmacy consultation. Participants did not find any difficulty answering any of the questionnaire items with reference to their pharmacy consultation and they do not expect other people to express any difficulty. Thus, the findings of this study indicate that the ISQ could be a potentially useful questionnaire to be used in assessing and enhancing the development of consultation skills of pharmacy professionals.

In this study, in spite of the training that was conducted prior to starting cognitive interviewing sessions, participants did show variations in terms of their ability to think aloud. Some participants provided thorough thinking process while answering the different items of the ISQ, and little probing was thus needed, whereas other participants answered some or most items quickly without expressing sufficient verbalised thinking, in which case, retrospective probing was used by the researcher to try uncover their thoughts. Answering questions without providing sufficient thinking process could be attributed to the limited short-term memory for some individuals to complete a task while talking at the same time, and for some individuals, for finding the situation unusual to hear their own voice while doing an activity (Stratman and Hamp-Lyons, 1994, Wilson, 1994), which was expressed by some participants in this study. Additionally, some thought processes are not verbalised into the working memory, such as automatic processes encountered with the recognition of familiar words that pass so quickly into the memory without leaving enough time to be verbalized (Ericsson and Simon, 1980, Davis and Bistodeau, 1993).

Two questions in particular of the ISQ; number seven and number 11 received similar comments by two participants; four and six. Question number seven of the ISQ asks about the opportunity given by the pharmacist for the patient to express his/her concerns or fears. Participants four and six both hesitated in answering this question and reasoned their hesitation to the lack of concerns or fears to express to the pharmacist. However, the reasoning given by these two participants was found by the research team of not being convincing enough to modify these questions, especially that concerns were shown by some other participants that were included in the study, and participant-4 did provide good reasoning during the TA session to justify the answer he selected.

As for question 11, which asked about providing a rating of the pharmacist's concern for the patient as a person. The same two participants referred that it is a professional relationship under which healthcare professionals (including pharmacists) perform their duties when interacting with people without disrespecting them, and that their relationship with the pharmacist is professional.

However, both participants assigned answers to the question with good reasoning, and other participants included in this study did not reflect any problem answering this question.

Issues raised by these two participants in particular (participants four and six) could have also been developed from the traditional image already established in their minds for pharmacists as healthcare professionals, as described in chapter one. Roles and responsibilities of pharmacists today are no longer confined to their old image of medication dispensing. Across the years, pharmacy practice has gone through different stages of development and pharmacists have expanded into various new roles and duties that were not part of their working agenda in the past (Department of Health, 2003, Wiedenmayer et al., 2006). For example, pharmacists in the UK currently have legal rights to prescribe medications to patients (Cooper et al., 2008). However, in spite of developments seen in pharmacy profession, there is still a lack of complete understanding and recognition from patients' side to the expanding roles pharmacists are currently taking (Chewning and Schommer, 1996, Schommer, 1997, Schommer, 2000). Some patients do not wish to use pharmacists for these new roles (Wilson, 2004), and some do not accept these new roles to be undertaken by pharmacists (Schommer et al., 2006, Worley et al., 2007). This was implicitly indicated by the comments given by participants four and six, indicating that a doctor would be a better option than a pharmacist to negotiate patient's concerns/fears (participant four), or giving more weight and attention to the doctor than the pharmacist (participant six).

3.5.2 Strengths and limitations

To the best of the authors' knowledge, this is the first study to use a TA research methodology to examine the use of the ISQ in relation to hospital pharmacy consultations. Interviews were conducted at one hospital, a place where the questionnaire is intended to be used to collect patient feedback. The same warm-up exercise was read to each participant prior to starting the TA, which reflects a consistency in the researcher's ability to interact with different participants. Data

for this study were derived from having participants being immersed in a real activity which could thus be more reliable than data collected from hypothetical situations. The study adds to the limited body of literature with respect to pharmacy consultation and patient feedback. It provides more insight regarding the thinking strategies used by the different participants while completing the ISQ following pharmacy consultation.

However, some limitations have been encountered with this study, one of which is the influence that the researcher's presence may have had on participants while completing the cognitive task. A 'Hawthorne effect' may have been imposed by the presence of the researcher which may have encouraged participants to read questions even more thoroughly than what they would normally do if no one was around (Drennan, 2003). Although several efforts were made to reduce this effect such as using retrospective probing and sitting out of sight of participants while completing the task, it is not clear what influence this might have had over the way participants answered the questionnaire. Additionally, it is not clear what influence the researcher herself may have had over the interpretation of the conducted interviews.

With respect to sample size, although the used sample size was small and may not fully represent the population, sample sizes recruited for qualitative cognitive interviewing studies could be as low as one (e.g. case study research) to 10 or more (Patton, 2002, Watanabe et al., 2009, Kaklamanou et al., 2013, Lee et al., 2016, Joffer et al., 2016). There is a debate over the ideal number of participants to be used in TA research to help identifying the presence of problems. Some problems might not be identified with using small sample sizes, and sometimes they will not be discovered even when using a sample size of 50 (Blair et al., 2006). This is probably influenced by the type of task participants will be engaged in doing, the duration of the TA process, and the expertise of interviewers (Hwang and Salvendy, 2010). Nonetheless, some researchers indicated that around 80% of major problems could be identified with the first 4-5 participants when using the TA cognitive interviewing methodology, and with less new information to be identified with subsequent participants (Virzi, 1992, Nielsen, 2000). Small numbers of

participants is usually capable of yielding rich data (Willis, 2005, Murtagh et al., 2007) that will serve the purpose(s) of TA research methods.

Another limitation to the study was recruiting participants only from a single hospital and from outpatient clinics. No inpatients were recruited for the study due to difficulties encountered with the logistics of conducting TA interviews with patients on the wards (with respect to booking a private room to conduct the interviews). It is not clear what impact inpatients might have added regarding the ISQ especially that the way how consultations are conducted on the wards is usually different from how they are conducted in outpatient clinics. In an outpatient setting, consultations are usually conducted on a one-to-one basis within a private area, whereas inpatient consultations are conducted on the wards, although they are usually conducted on a one-to-one basis, other patients and/or staff member could be around and hear the consultation.

One further limitation was the lack of explicit information from patients regarding their views about the ISQ as a tool to be used in assessing consultation skills of pharmacists. The ISQ was generally viewed by patients as a straightforward questionnaire that is easy to understand and they did not find difficulty in interpreting its questions with reference to pharmacy consultations. However, this point was taken into account to be further explored in the next feasibility study.

3.6 Conclusions

In this study, modification of the ISQ was found to be unnecessary as conducted cognitive interviews demonstrated a lack of major problems with its use in relation to hospital pharmacy consultations. The ISQ's items seem to have worked well with all participants, thus making it a potentially useful tool to be used for assessing pharmacy consultations. Future studies could take this tool forward to be used with a larger sample size to evaluate the effectiveness and impact of patient feedback collected to consultation skills of pharmacy professionals.

3.7 Implications for thesis

The results of this think-aloud study indicates that the ISQ could be a potentially suitable tool to use in assessing consultation skills of hospital pharmacists as no major problems were indicated by using it in in this new context. The next chapter describes the feasibility of using the ISQ in collecting feedback from patients following their consultation with a hospital pharmacist, and to identify the views of patients and pharmacists in the feedback process, and in the ISQ as an assessment tool for pharmacy consultations. The recommendations for collecting patient feedback using the ISQ were informed by the findings of the systematic review that was previously conducted (Al-Jabr et al., 2018).

4 Chapter 4: Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)

4.1 Introduction

The literature search and systematic review conducted (Al-Jabr et al., 2018) provides evidence that improvements in practitioners' consultation skills can be driven by patient feedback, such as increasing the explanations they give to patients regarding their treatment (Fidler et al., 1999), and increasing quality time spent during consultations (Greco and Pocklington, 2001). The tool identified by the systematic review and that was pre-tested with a group of patients using a think-aloud cognitive interviewing methodology (Al-Jabr et al., 2019) has indicated that the ISQ is a potentially useful tool to be used in assessing pharmacy consultations. Therefore, the aim of this study was to test the feasibility of using the ISQ in collecting patient feedback following hospital pharmacist consultations in a manner that aligned with the findings from the systematic review.

4.2 Aims and objectives

4.2.1 Aims

- To examine the feasibility of collecting patient feedback on consultation skills of hospital pharmacists using the ISQ.

4.2.2 Objectives

- To determine whether collecting patient feedback on consultation skills of hospital pharmacists is feasible.
- To summarise patient feedback provided to pharmacists.
- To explore the views of pharmacists about pharmacy consultations, the use of patient feedback in assessing consultation skills, and the ISQ as an assessment tool.
- To explore the different methods employed by pharmacists with respect to questionnaire administration.

- To assess the feasibility of providing pharmacists with individualised reports constructed from their patients' feedback.
- To examine the perceived impact that patient feedback reports could have on pharmacists.
- To identify methods that will help in enhancing the practicality of collecting patient feedback within pharmacy practice at the hospital.
- To explore the views of patients regarding their experience with giving feedback to pharmacy consultations.
- To identify what patients would like to happen as a result of their feedback.
- To identify factors that might encourage or discourage patients from giving their feedback.

4.3 Methods

4.3.1 Study design and location

This is a single-centre study that was conducted at a large teaching hospital in the East of England, UK. The study was conducted between July 2018 and January 2019. A study protocol was written (appendix 3-A) and it received ethical approval by the NHS Health Research Authority (approval letter provided in appendix 3-B). A mixed-methods approach was used in this feasibility study which was conducted in three phases, the first two phases ran simultaneously:

Phase-1: collecting patient feedback on pharmacists' consultations using the ISQ.

Phase-2: Interviewing a sample of patients who took part in phase-1 by telephone.

Phase-3: Interviewing pharmacists (phase-3-A), and the pharmacist's colleague/peer/line manager (phase-3-B) using face-to-face semi-structured interviews.

4.3.2 Participants

4.3.2.1 Pharmacists

The inclusion criteria for pharmacists in this study were those who have patient-facing roles and who conduct patient consultations. For the purpose of this study, pharmacy consultation was defined as any conversation taking place between the pharmacist and his/her patient that intends to discuss something, answer patient's enquiries, explain the use of new medical device or administration of medicine(s), provide patient with advice, reviewing patients list of medication or for any other reason that will eventually help both parties (pharmacist and patient) in designing a treatment plan that will derive the desired outcomes of therapy. This definition was used in guiding the selection of pharmacists for the study.

An email was circulated to all pharmacists at the hospital inviting them to participate in the study (appendix 3-C). The email was attached with a "Participant Information Sheet" (PIS) (appendix 3-D) and included a link to complete an online "Expression of Interest Form" (EIF) (hosted by Microsoft® Forms – University of East Anglia's official recommended forms platform in compliance with the new General Data Protection Regulation (GDPR)) (a sample of the EIF is provided in Appendix 3-E). Pharmacists who were interested in the study were asked to complete and submit the online EIF. A reminder email was sent after two weeks. Pharmacists who showed interest in the study were purposively sampled to obtain a sample with maximum diversity (considering their gender, years of qualification, and clinical area worked in at the hospital).

Pharmacists who agreed to participate were then invited to an information session to discuss the gold standard method for collecting feedback from patients as derived from the findings of the systematic review previously conducted (Al-Jabr et al., 2018) (see chapter 2). Time for the session was organised by completing an online form. A summary of the gold standard method is provided in appendix 3-F and was given to pharmacists at the session. Other options of questionnaire administration were also discussed with pharmacists since the gold standard method was derived from studies that were mostly conducted with doctors, and

challenges could be faced with respect to pharmacy consultations. The gold standard method is provided in Table *4-1*.

Table 4-1 Gold-standard method for questionnaire administration for the assessment of a practitioner's consultation skills

1. Questionnaire administration to patients is preferred to be conducted by a third person and not by the practitioner.
Rationale: the use of a third person for questionnaire administration may help in reducing the effects of selection bias that could be encountered when questionnaires are administered directly by the practitioner, thus keeping him/her (practitioner) blind to patient sample involved in the assessment and thus preventing them from behaving differently (i.e. reducing the "Hawthorn effect") (Pocock, 2013, Indrayan, 2014). Additionally, the administration of a questionnaire by a third person will help in collecting more honest and less socially desirable responses from patients by reducing the influence a practitioner may have over his/her patients in case as being directly involved in questionnaire administration (Cook, 2010).
2. Feedback collected from patients should be anonymous.
Rationale: anonymised feedback will encourage patients to give more honest, less socially desirable responses (Colton and Covert, 2007, Mitchell and Jolley, 2012), thus making feedback more useful to practitioners' self-development.
3. Feedback is preferred to be collected immediately following the practitioner-patient consultation.
Rationale: information collected nearer to the event of interest (e.g. consultation) helps in reducing recall bias since information is still fresh in patients' minds (Krosnick and Presser, 2010). The longer the duration between the event and information collection, the greater the chances of recall bias (Bailey et al., 2005).
4. Feedback to be collected from at least 25 patients per practitioner.
Rationale: to obtain valid and reliable feedback results (Campbell et al., 2010).
5. Collection of patient feedback over more than one day.
Rationale: to avoid the effects of a stressful day that could affect the patient and/or the practitioner (Al-Shawi et al., 2005) and selecting sample size that is sufficient for the learning experience without creating more work burden on the practitioner (Reinders et al., 2008).
6. Providing practitioners with an individualised report constructed from their patients' feedback.
Rationale: to help practitioners acknowledge their strengths and identify any weaknesses that needs further development (Al-Jabr et al., 2018).

At the end of the session, all pharmacists signed a study consent form (appendix 3-G) and an application form for the Client Focused Evaluations Program (CFEP) UK surveys that own the ISQ (appendix 3-H). For this study, the CFEP has generated ISQs specifically labelled with pharmacists' reference numbers (appendix 3-I).

Pharmacists received 40 copies of their ISQs, together with envelopes, invitation letters to phase-2 of the study, questionnaire administration forms (QAF), and marked boxes. A consent letter for using the ISQ is available in appendix 2-G, and a copy of the CFEP's ethical considerations is provided in appendix 3-J.

4.3.2.2 Patients

4.3.3 Inclusion criteria and exclusion criteria

4.3.3.1 Inclusion criteria

Patients meeting the following criteria were considered eligible for the study:

- Outpatients attending the hospital's clinics.
- Inpatients most likely to be discharged within the coming four days to their own homes (as predicted by their pharmacists).
- Patients ≥ 18 years old.
- Patients to be recruited within one hour of their consultation with a pharmacist.

4.3.3.2 Exclusion criteria

Patients were excluded from the study if they met any of the following criteria:

- Patients who cannot communicate using the English language (reading and writing).
- Patients reported by their pharmacists to be not suitable for inclusion (e.g. have cognitive impairment).

4.3.4 Sample size

With respect to the number of pharmacists, the research team decided to include a 10% sample of the pharmacists' population at the hospital where the study was

conducted. At the time of the study, there were 59 pharmacists working at the hospital, therefore, six pharmacists were recruited and included in the study.

As for patients participating in phase-1, to get a validated patient feedback report, feedback should be collected from at least 25 patients per pharmacist (Al-Jabr et al., 2018). According to the CFEP, to make sure that 25 responses are reached for each item of the ISQ (while covering for possible item non-response by some participants), at least 28 returned questionnaires are needed. The CFEP also indicated that their previous experience with collecting feedback from patients, a maximum of 40 questionnaires distributed is enough to get 28 completed ISQs while taking into account non-returned questionnaires, thus a sample size of 28-40 patients per pharmacist was targeted to generate validated reports (C. Blackburn, personal communication, December 22, 2017).

In the second phase (i.e. patients' interviews), up to three patients per pharmacist were targeted to be interviewed (maximum 18 patients). This was guided by reaching data saturation, when no new themes emerged from patients' interviews. As for phase-3-B, we anticipated to interview one colleague / peer / line manager per pharmacist, thus a maximum of six interviews to be conducted.

4.3.5 Feasibility measures

Several areas of feasibility were identified by Bowen et al. (2009), including demand, adaptation, acceptability, expansion, implementation, and practicality. However, three areas were considered to be more applicable in this study; i.e. acceptability (e.g. by study recipients), implementation (e.g. success of the process, factors affecting the implementation, and ease of implementation), and practicality (e.g. effects on target participants, and ability of participants to carry out the process). Thus, the process of patient feedback collection using the ISQ was considered to be feasible when meeting the following measures:

1. Acceptability:

- The acceptability of study participants (both pharmacists and patients) to using patient feedback in assessing consultations skills of pharmacists.
- The identification of the likely patient response rate to the study regarding the completion of the ISQ.

2. Implementation:

- The identification of applicable method(s) to questionnaire administration in the hospital setting.

3. Practicality:

- The usefulness of feedback reports to pharmacists.
- Pharmacists' intentions of using reports in enhancing their consultation skills.

4.3.6 Data Collection

4.3.6.1 Phase-1: Questionnaire administration and collection

Patient feedback was collected in the first phase of this study between July to October 2018. Various methods of questionnaire administration were identified (Burford et al., 2009), where questionnaires are administered either directly by the healthcare professional or indirectly by a third person (e.g. a nurse). Pharmacists participating in the study were encouraged to use a third person whenever possible, otherwise to recruit patients themselves. Pharmacists were asked to complete the QAF (appendix 3-K to keep a record of the method(s) they used, besides collecting other useful data to help in the analysis. To protect the pharmacist's anonymity, each pharmacist was given a reference number that was used in labelling all documents given to them for the study. All completed QAFs were requested to be placed in the same marked box that was also used for collecting the completed ISQs.

With respect to patient recruitment, eligible patients were initially approached either by the pharmacist or a third person immediately (within one hour) following their consultation with the pharmacist, when the encounter was still fresh in their minds, thus making the collected feedback more effective and useful (Department of Health, 2009). Patients were handed a copy of the ISQ to complete. At the same time, they were also invited to phase-2 (see section 4.3.7 for details). Each patient was instructed to complete the ISQ in reference to the consultation he/she has just had with the pharmacist, and to place it in the provided envelope and return it back (either by themselves or by the help of any of the staff) to the marked box located at an easily accessible site (e.g. at nursing station or reception desk). Patients with mobility difficulty were told to ask any of the staff to place their envelopes in the marked box on their behalf. Outpatients recruited from clinics were asked to complete the ISQ and return it before leaving the hospital setting.

4.3.6.1.1. Start and end points for phase-1

This phase started following the information session and once each pharmacist was provided with all needed documents for the study. The researcher went frequently to the hospital to collect the completed questionnaires and QAFs for each pharmacist. All collected documents were transferred to the University of East Anglia (UEA) and completed ISQs were placed into the envelopes addressed to CFEP. All envelopes were stored securely at UEA in a locked filing cabinet until the end of this phase.

Pharmacists were told to stop distributing questionnaires when either they had collected 28 completed ISQs, distributed all 40 copies of the ISQs to patients, or when a 100 patients were asked to participate in the study (while taking into account patients who declined to take part), or following three months from starting, whichever comes first. Once this phase was finished, all completed questionnaires were sent en-masse to the CFEP. Once written, feedback reports were sent to the researcher who circulated them to each pharmacist by email privately and confidentially. An aggregated report for all pharmacists participating in the study was also generated by the CFEP and was sent to the researcher.

Pharmacists were contacted to conduct phase-3-A of the study one month following the receipt of their patient feedback reports.

4.3.6.2 Phase-2: Semi structured interviews with patients

This phase included conducting semi-structured interviews with a sample of participants who were involved in phase-1. When the ISQs were administered to patients, they also received an invitation letter (appendix 3-L) attached with an "Interview Expression of Interest Form" (IEIF) (appendix 3-M). If interested in phase-2, participants were instructed to place their IEIF in the same envelope and to return it to the marked box.

The collected IEIF helped the researcher to identify participants who showed interest in phase-2 and it was coded with pharmacists' reference numbers to help target recruiting between one to three participants per pharmacist. Participants who did not continue with the study received a "Thank you – Regret letter" (by post) (appendix 3-N), whereas those who continued received a Participant Information Leaflet (PIL) (appendix 3-O) and a consent form 24-48hrs following the receipt of their IEIFs. For outpatients, these documents were sent to them by post. Outpatients were contacted by the researcher two days following posting these documents to arrange for the telephone interview. At the time of the interview, verbal consent was obtained over the phone for each statement of the consent form, and they were also reminded to sign the consent form and post it back to the researcher using the prepaid envelope following the interview. A copy of "outpatient consent form" is provided in appendix 3-P.

Inpatients were provided with the PIL and an "inpatient consent form" (appendix 3-Q) by the researcher. Inpatients were asked to sign the consent form and place it in the provided envelope that is addressed to be returned to the main pharmacy via the hospital's internal mail system. Signed consent forms enabled checking inpatients' discharge so that they would not be contacted again while they were still in the hospital. Inpatients who remained in the hospital four days following completing the ISQ were excluded from the study, since the duration of time

between completing the ISQ and conducting the interview was prolonged and it might influence their recall of the experience (recall bias). Otherwise, inpatients who continued with the study were then contacted 24hrs following their discharge to arrange for the interview.

Phase-2 included interviewing participants to explore their experience with completing the ISQ. An interview topic guide (appendix 3-R) was developed in accordance with the study aims, objectives and feasibility measures, along with reviewing literature and through consultations with the research team. Interviews were conducted over the phone at UEA, lasting up to 45 minutes, and were audio-recorded and transcribed verbatim. Participants received a £10 amazon voucher for their participation which was sent to them by post 24hrs following the interview.

4.3.6.3 Phase-3 A and B: interviews with pharmacists and colleagues

This phase included conducting semi-structured interviews with pharmacists at least one month following the receipt of their feedback reports. Interviews were conducted by the researcher at the hospital at a convenient time, and lasted up to one hour. Refreshments were provided during the interview. During the interview, pharmacists who mentioned discussing or planning to discuss their reports with someone else, i.e. a colleague (e.g. a nurse), a peer (other pharmacists), or a line manager, were asked to introduce the researcher to that person. Once introduced, the researcher sent an invitation email (appendix 3-S) attached with a participant information sheet (appendix 3-T) to invite them to a face-to-face semi-structured interview to explore their views about patient feedback and the feedback report. A follow-up email was sent after two weeks to non-respondents. The interview with a pharmacist's colleague/line manager was conducted at the hospital at a convenient time lasting up to 30 minutes.

Interview topic guides were developed in accordance with the study aims, objectives and feasibility measures, along with reviewing literature and through consultations with the research team. Copies of the topic guides are provided in appendices 3-U (for pharmacists) and 3-V for (for pharmacists' colleague/peer/line

managers). Interview consent forms (appendices 3-W and 3-X) were signed at the time of the interview. All interviews were audio-recorded and transcribed verbatim.

4.3.7 Data analysis

4.3.7.1 Quantitative data collection and analysis

The contract with CFEP to use the ISQ states that they have the sole right to analyse collected data and produce the individualised feedback reports. CFEP issued validated reports when ≥ 28 completed patient feedback questionnaires were returned, otherwise, an abbreviated form of the report was issued instead. Reports were written for each pharmacist, with mean score percentages and benchmarks provided. For this feasibility study, as there were no pharmacy specific benchmarks, benchmarks provided were related to other healthcare professionals; doctors working in secondary care, doctors working in primary care, and health and nurse professionals working in primary care. These benchmarks were based on data collected between January 2013 to December 2017. No mean score percentages or benchmarks were provided in the abbreviated reports as the reliability of scores and any conclusions drawn by comparisons against the benchmark data is reduced and could be misleading when fewer than the minimum number of patients have completed the questionnaire (L. Coleman, personal communication, November 28th, 2018). Mean scores presented in the reports were calculated for each item of the ISQ. Non-rated responses (Don't know/blank/spoilt) were not included in score calculations. An example of mean score calculation for an ISQ item is shown in Table 4-2.

Table 4-2 Example of mean score calculation in patient feedback report

Q1) Satisfaction with visit to the pharmacist (total number of responses to Q1 = 30)						
ISQ rating scale	Poor	Fair	Good	Very good	Excellent	Non rated responses
Number of ratings	0	0	5	9	16	0
Value assigned to each rating	0	25	50	75	100	n/a

[(number of Poor ratings x 0) + (number of Fair ratings x 25) + (number of Good ratings x 50) + (number of Very Good ratings x 75) + (number of Excellent ratings x 100)] ÷ [(total number of patient responses - number of Non-rated responses)] = mean score of Q1. = [(0 x 0) + (0 x 25) + (5 x 50) + (9 x 75) + (16 x 100)] ÷ [(30 - 0)], thus, mean percentage score for Q1 = 84%.

Data analysis conducted by the researcher for phase-1 included descriptive analysis of pharmacists and patient participants with reference to demographic data collected. Data collected were also analysed to identify questionnaire response rates, the number of patients who declined to participate (and if possible reasons for that), the gender of patients who were approached, the site where patients were approached, methods used in giving out questionnaires to patients and time taken for that. Data provided from feedback reports were used to identify patient response rate for each pharmacist and for all pharmacists in terms of patients' demographics; age, gender, and whether this is the first time they see the pharmacist. Reports were also used to identify the ISQ's item(s) that received the highest and lowest scores. With respect to phase-2, the sample of patient participants interviewed was described according to their age, gender, whether inpatients or outpatients, and the methods of receiving and returning the questionnaire. A detailed description of pharmacists recruited based on their NHS band, and of patients interviewed in phase-2 for each pharmacist was not reported to protect the anonymity of all participants.

4.3.7.2 Qualitative data collection and analysis

Audio-recordings of all interviews were transcribed verbatim by the researcher and/or a transcriber assistant. Patients' and pharmacists' interviews were

transcribed and analysed separately from each other. All transcripts were anonymised, pharmacists were given new codes other than the ones used while conducting the study (i.e. Pharmacist A, Pharmacist B etc) to further protect their anonymity. As for patient participants, they were referred to as participant 1, participant 2,…etc. Pharmacists' colleagues were referenced as colleague 1, colleague 2, etc. Data generated from interviews were coded and thematically analysed by the researcher to identify common emerging themes that are related to interview questions. Thematic analysis is a flexible method of qualitative data analysis that is used by novice researchers, which helps in generating rich and detailed descriptions of data that is understandable by people of different educational levels (Braun and Clarke, 2006, Javadi and Zarea, 2016). An inductive approach of thematic analysis was used to obtain codes and themes that are data driven and to reduce the influence induced by the researcher's existing knowledge and experience (Braun and Clarke, 2006, Tonkin-Crine et al., 2013). Braun and Clarke's six phases were followed when analysing the data thematically. Transcripts were continuously revisited and the accuracy, clarity and reliability of transcriptions were verified by the researcher, by listening to the recordings and comparing it with the transcripts. Each transcript was then read and initial individual codes were generated. Coding of data was conducted using NVivo® software. Coded transcripts were checked by another member of the research team (Thando Katangwe (TK) and/or MT) to ensure an appropriate and consistent coding process. Meetings were held with a member of the research team (MT) to discuss the generated codes, to identify the relationships between them and to create an initial list of themes. Any disagreements were resolved by consensus, and by referring to the transcripts and original recordings. Once initial themes were generated, they were reviewed and refined to ensure that underlying codes of each theme form a coherent pattern. At this stage, some initial themes were combined together and others were broken down into separate themes. Following this stage, themes were defined and an appropriate label was given for each one. Final themes were then presented to members of the research team for review and discussion, and they were supported by anonymised quotes from the different participants.

4.4 Results

4.4.1 Phase-1: Questionnaire administration and collection

4.4.1.1 Pharmacist characteristics

From the 59 pharmacists who were invited to the study, only nine expressed interest by completing the EIF (response rate 15.3%). Six pharmacists were finally selected based on the predefined criteria. The median age (Interquartile (IQ)) of pharmacists was 27 years (25, 31) and they were of equal number of males and females. However, one pharmacist withdrew from the study one month following the start because they were working part-time at the hospital and the practicality of conducting the study was not feasible for them to continue. Therefore all data recruited by this pharmacist at the point of withdrawal were removed and not presented in this study, another pharmacist was recruited in their place. Characteristics of pharmacists participating in the study are shown in Table *4-3*.

Table 4-3 Characteristics of pharmacists

Pharmacist code	Gender	Age
A	Male	<25
B	Female	25-35
C	Female	25-35
D	Male	25-35
E	Female	25-35
F	Male	>35

4.4.1.2 Participants' characteristics

A total of 125 patients were approached for phase-1 (52% females, n=65). However, six patients declined to participate for various reasons; reporting reading difficulty (one; female inpatient), reporting writing difficulty (one, female inpatient), indicating not knowing the pharmacist that well to give feedback (one; female inpatient), and refusing to wait to complete the ISQ (three; males, two outpatients and one inpatient). A total of 119 ISQs were thus distributed to participants who agreed to take part, of which 111 completed questionnaires were returned (response rate = 93%). Figure *4-1* provides a flow diagram of participants approached for phase-1 and Table *4-4* presents further details on all participants approached in this phase, including those who declined to participate and those who did not return their completed ISQs.

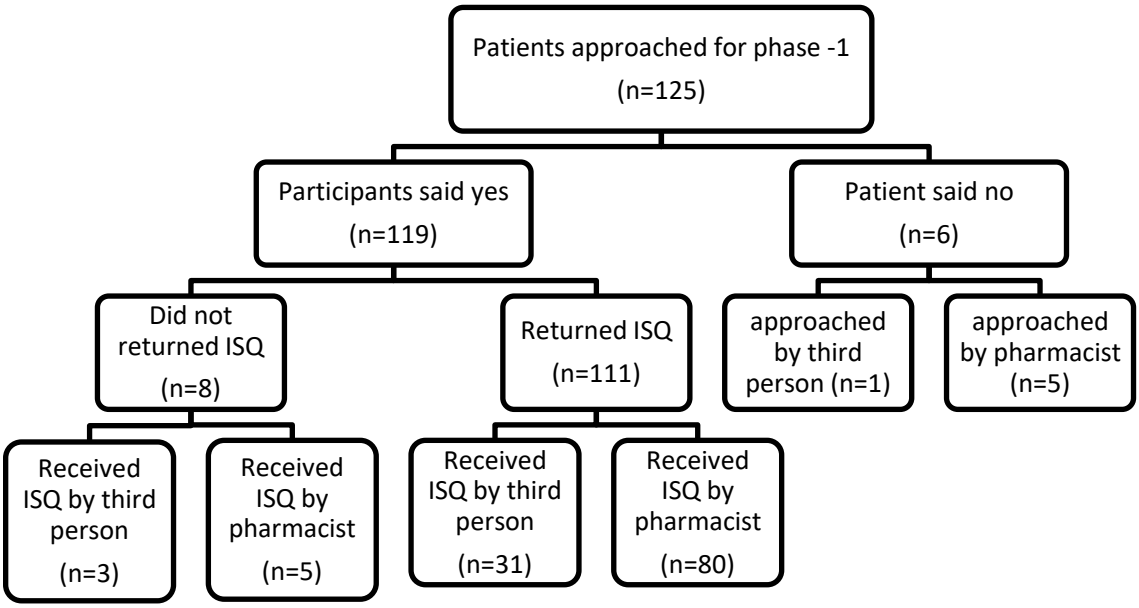

Figure 4-1 Flow diagram of participants in phase-1

Table 4-4 Details of patients approached for phase-1

	Patients approached, No. (%)	**Patients declined to participate, No. (%)**	**Patients didn't return back the ISQ, No. (%)**
Total number	125	6 (5%)	8 (6%)
Gender Female Male	 65 (52%) 60 (48%)	 3 (50%) 3 (50%)	 2 (25%) 6 (75%)
Setting Inpatient Outpatient	 86 (69%) 39 (31%)	 4 (67%) 2 (33%)	 7 (88%) 1 (13%)
ISQ administration By Pharmacist By third person	 90 (72%) 35 (28%)	 5 (83%) 1 (17%)	 5 (63%) 3 (38%)

As for participants who returned their completed ISQs, they were mostly females and older than 60 years old. There were no major differences between the sample of patients who agreed to participate and those who did not. The majority of participants were recruited from an inpatient setting (n=75, 68%). More females were approached in both the inpatient setting (n=39, 65%) and the outpatient setting (n=21, 35%). Only a few participants reported seeing the pharmacist before (n=9, 8%). The vast majority of items in the ISQ were completed, only a few items were either spoilt or left blank (n=22, 2%) and thus were not included in the mean percentage score analysis. There were also a few participants who did not report the gender (n=1, 1%), age (n=5, 5%) or whether that was the first time for them to see the pharmacist (n=8, 7%). Table *4-5* provides full demographic details of participants who returned the completed ISQ.

Table 4-5 Details of participants who returned their completed ISQ (N=111)

	Gender*		Total No. (%)
	Female No. (%)	Male No. (%)	
Age*			
Under 25 years	2 (3%)	1 (2%)	3 (3%)
25-59 years	23 (38%)	19 (38%)	42 (38%)
Over 60 years	32 (53%)	29 (58%)	61 (55%)
Blank/spoilt*	3 (5%)	1 (2%)	4 (4%)
First time to see the pharmacist*			
Yes	53 (88%)	41 (82%)	94 (85%)
No	2 (3%)	7 (14%)	9 (8%)
Blank/spoilt	5 (8%)	2 (4%)	7 (6%)
Total no.	60 (54%)	50 (45%)	110 (99%)

* One extra participant (1%) did not report age, gender or whether this is the first time to see the pharmacist

All pharmacists were able to recruit participants to take part in the study. The highest number of completed questionnaires per pharmacist was 30, and the lowest number was seven. Three pharmacists collected feedback from ≥ 28 participants over a period between eight to 11 weeks. Table 4-6 summarises characteristics of participants approached by each pharmacist in this phase.

Table 4-6 Description of participants approached per each pharmacist.

Pharmacist code	No. participants approached	No. ISQs returned (response rate %)	Inpatients (No., %)	Female gender (No., %)	Age ≥ 60 years (No., %)	1st time to see pharmacist (No., %)
A	36	30 (83%)	30 (100%)	14 (47%)	23 (77%)	27 (90%)
B	10	10 (100%)	10 (100%)	6 (60%)	6 (60%)	9 (90%)
C	9	8 (89%)	2 (25%)	5(63%)	4 (50%)	6 (75%)
D	7	7 (100%)	1 (14%)	4 (57%)	1 (14%)	1 (14%)
E	34	28 (82%)	17 (61%)	15 (54%)	12 (43%)	26 (93%)
F	29	28 (97%)	15 (54%)	16 (57%)	15 (54%)	25 (89%)
Total	125	111 (89%)	75 (68%)	60 (54%)	61 (55%)	94 (85%)

4.4.1.3 Questionnaire administration method

Data collected from the questionnaire administration form (QAF) provided information on how participants were approached to take part in the study. Findings indicate that the ISQ was mostly given out to participants directly by their pharmacists (n=80, 72%). A third person was also reported to be used in 31 occasions, especially when recruiting participants on the wards (n=25, 23%). One pharmacist however reported giving out questionnaires themselves. The other pharmacists reported using the two approaches, and indicated using different third persons. Third persons used and the number of times using them was: pharmacy technician (n=12), another pharmacist (n=11), dietitian (n=4), pre-registration pharmacist (n=2), physiotherapist (n=1), and a nurse (n=1). Table 4-7 provides more details about the methods used for recruiting participants for phase-1 that was employed by each pharmacist.

Table 4-7 Questionnaire administration method (N=111)

Pharmacist code	No. of returned ISQ (%)	ISQ administered by pharmacist* No. (%)	ISQ administered by a third person No. (%)					
			Other pharmacist	Pharm. Tech.	Nurse	Dietitian	PT	Pre-registration pharmacist
A	30 (27%)	16 (53%)	4 (13%)	10 (33%)	-	-	-	-
B	10 (9%)	7 (70%)	1 (1%)	-	-	-	-	2 (20%)
C	8 (7%)	8 (100%)	-	-	-	-	-	-
D	7 (6%)	1 (14%)	-	1 (14%)	-	4 (57%)	1 (14%)	-
E	28 (25%)	25 (89%)	3 (11%)	-	-	-	-	-
F	28 (25%)	23 (82%)	3 (11%)	1 (4%)	1 (4%)	-	-	-
Total	111	80 (72%)	11 (10%)	12 (11%)	1 (4%)	4 (4%)	1 (1%)	2 (2%)
			Total by third person = 31 (28%)					

*Refers to the pharmacist undergoing the assessment and who conducted patient's consultation. Pharm. Tech: Pharmacy technician, PT: Physiotherapist

4.4.1.4 Questionnaire results

4.4.1.4.1 Individualised reports

Validated reports were only written for pharmacists A, E, and F. Others received an abbreviated report since the number of patients recruited was less than 28. A sample of these reports is available in appendix 3-Y (validated) and appendix 3-Z (abbreviated).

4.4.1.4.2 Pharmacists' ISQ scores and participants' comments

Mean score percentages for each item of the ISQ were only provided in the validated feedback reports. It ranged from 84% (item 12) to 96% (items six, eight and 13). Mean scores of pharmacists were found to be highly comparable to benchmarks provided.

Out of the 111 participants who completed the ISQ, 49 participants (44%) wrote comments in the free box provided. Comments were generally positive, suggesting no change to the consultations as they were happy with it. However, some participants highlighted certain issues they would like their pharmacists to consider when interacting with them. A sample of these comments is provided in Table 4-8.

Table 4-8 A sample of participants' comments written in the ISQ

Comments indicating positive experience	Comments indicating issues to consider
- Everything was dealt with professionally, thanks very much. - Very helpful, listened very well, no suggestions for improvement. Thank you. - No improvements. Very friendly, presented themselves very well. - Great to talk with - very understanding. - I find everything said most helpful and friendly.	- Just check with the patient that they are happy and not wanting to talk in private - curtains. - Maybe come right into the room instead of standing in the doorway. - If possible, it would have been more beneficial if the pharmacist was to visit at the start of your treatment, so medication could be explained then and not at the end of your treatment.

4.4.1.4.3 Aggregate report

The aggregate report also provided mean score percentages for each item of the ISQ for the whole sample size. The overall mean scores of all pharmacists' consultation skills ranged from 88% (items nine and 12) to 94% (item eight). Aggregated participants' scores were highly positive, with only a few times participants rating their pharmacists as "poor" (n=1, 0.06%) or "fair" (n=7, 0.5%) for an item of the ISQ. The question that received the maximum number of "excellent" response answer was number eight. Table 4-9 summarises the number of scores given by participants to each item of the ISQ.

The aggregate report also compared the mean scores of pharmacists who received validated reports with the mean scores calculated from their participants altogether and with the same benchmark data used in the individualised reports (secondary care doctors, primary care doctors and nurses). Pharmacists' aggregated scores were found to be highly comparable with the other provided benchmarks (see appendix 3-AA). A sample of the aggregate report is provided in appendix 3-AB.

Participants' feedback scores were also used in checking the reliability of the ISQ by testing its internal consistency using Cronbach's Alpha, which was estimated to be 0.93.

Table 4-9 Number of scores given by participants for each item of the ISQ (N=111)

ISQ item	Poor	Fair	Good	Very good	Excellent	Blank/ Spoilt	Mean score %*
Q1 Satisfaction with visit to the pharmacist	0	0	7 (6%)	25 (23%)	78 (70%)	1 (1%)	91
Q2 Warmth of the pharmacist's greeting	0	0	4 (4%)	23 (21%)	84 (76%)	0	93
Q3 The pharmacist's ability to really listen	0	0	8 (7%)	28 (25%)	74 (67%)	1 (1%)	90
Q4 The pharmacist's explanations of things	0	0	6 (5%)	23 (21%)	49 (44%)	3 (3%)	92
Q5 Extent to which patient felt reassured	0	0	8 (7%)	20 (18%)	81 (73%)	2 (2%)	92
Q6 Confidence in the pharmacist's ability	0	0	7 (6%)	22 (20%)	81 (73%)	1 (1%)	92
Q7 Opportunity given to express concerns/fears	0	1 (1%)	9 (8%)	20 (18%)	81 (73%)	0	91
Q8 Respect shown by this pharmacist	0	1 (1%)	3 (3%)	16 (14%)	91 (82%)	0	94
Q9 Amount of time given for this visit	1 (1%)	0	10 (9%)	29 (26%)	68 (61%)	3 (3%)	88
Q10 Consideration of personal situation	0	2 (2%)	10 (9%)	22 (20%)	73 (66%)	4 (4%)	89
Q11 Pharmacist's concern for patient as a person	0	1 (1%)	9 (8%)	21 (19%)	78 (70%)	2 (2%)	90
Q12 Extent the pharmacist helped patient to self-care	0	2 (2%)	10 (9%)	26 (23%)	71 (64%)	2 (2%)	88
Q13 Recommendation patient would give to friends	0	0	3 (3%)	25 (23%)	80 (72%)	3 (3%)	93

* See table 4-2 for more details

4.4.2 Phase-2: Semi structured interviews with patients

4.4.2.1 Participants' characteristics

Out of the 111 patients who completed the ISQ in phase-1, 28 patients initially showed interest in participating in phase-2, however, 14 patients were not interviewed, 11 of which were inpatients (79%). These patients were not interviewed for different reasons including not returning the signed consent form (n=7), not responding to three phone calls by the researcher (n=3), patient staying in the hospital more than four days following the consultation (n=1), and patient withdrawing the approval to do the telephone interview (interview time is too long) (n=1). Two additional patients were not interviewed because of recruiting enough patients from that pharmacist.

The data presented in this phase of the study are reflective of the experiences of patients who received consultations by four of the included pharmacists. However, no patients were recruited by one pharmacist, and none of the patients recruited by another pharmacist were interviewed, either because the signed consent forms were not returned (n=3), or the patient did not respond to the researcher's phone calls (n=1). The highest number of participants interviewed per pharmacist was six, and the lowest number interviewed was two.

The participant sample that was finally included in this phase comprised of 14 participants (seven males and seven females) with a median (IQ) age of 68 years (58, 77). The majority of participants (71.4%, n= 10) were recruited while being inpatients. Interviews lasted for an average of 14 minutes (range 10-23 minutes). Most participants reported being handed the ISQ directly by the pharmacist who conducted their consultation (64.3%, n=9), with most reporting that their completed ISQs were collected back by a third person (71.4%, n=10). Further details of participants' taking part in phase-2 are presented in Table 4-10.

Table 4-10 Details of patients participating in phase-2

Patients' codes	Age	Gender	Inpatient / outpatient	ISQ administration	ISQ collection
Participant 1	67	Male	Inpatient	By a 3rd person (another pharmacist)	By a 3rd person (probably a nurse)
Participant 2	62	Female	Inpatient	By a 3rd person (another pharmacist)	By a 3rd person (another pharmacist)
Participant 3	79	Female	Inpatient	By a 3rd person (another pharmacist)	Could not remember
Participant 4	66	Male	Inpatient	Pharmacist	By same pharmacist
Participant 5	55	Female	Inpatient	Pharmacy technician	Left it on bed (thus collected by a 3rd person)
Participant 6	76	Male	Inpatient	Pharmacist	By a 3rd person (Probably by a nurse)
Participant 7	54	Female	Outpatient	Pharmacist	By a 3rd person (receptionist)
Participant 8	59	Male	Inpatient	Pharmacist	By same pharmacist
Participant 9	83	Female	Inpatient	Pharmacy technician	By a 3rd person (Another pharmacist)
Participant 10	81	Male	Inpatient	Pharmacist	By a 3rd person (a nurse)
Participant 11	43	Male	Outpatient	Pharmacist	By a 3rd person (receptionist)
Participant 12	69	Male	Outpatient	Pharmacist	By same pharmacist
Participant 13	71	Female	Inpatient	Pharmacist	By a 3rd person (Left envelope on side table)
Participant 14	72	Female	Outpatient	Pharmacist	By a 3rd person

One of the interviews was conducted with a participant who could not recall everything while being at the hospital and thus was unable to answer all questions or discuss her experience in further details. Another interview was conducted with

a participant who stated having hearing difficulties, and thus the interview was conducted with him with the help of his partner. Five overarching themes emerged from participants' interviews: opinions on pharmacists, views on the feedback process, comments on the ISQ, benefits of patient feedback, and willingness and desire to continue giving feedback in the future. These themes are described in detail in the following section and are supported by participants' quotes.

4.4.2.2 Participant interview themes

Theme 1: Opinions on pharmacists

This theme relays participants' opinions about the consultation they have had with the pharmacist whom they assessed. Some participants also shared their views about the pharmacy as a profession and the recent changing roles of pharmacists.

All participants described their experience with the pharmacist's consultation as being generally positive. Most participants described the consultation as being well delivered and handled, not associated with any problem, and where a clear discussion about medication was carried out. Participants also described the general manners of their pharmacists and commented on how friendly they were. This was an important thing for participants as it played an important role in making them feel more comfortable during the consultation.

> *"umm, she…she made me feel at ease, umm she went through my medication umm told me what I will be on…following my surgery and...just made the whole thing friendly and easy" (participant no. 7).*

The majority of participants described a different set of consultation skills used by their pharmacists which they appreciated. These included pharmacist listening to them, and explaining everything using a simple and a clear language that they can understand and was not patronising. Some also commented on the time given to them during the consultation as not being rushed and that the pharmacist dedicated enough time to answer all their questions.

"that's right ya ya he wasn't rushed or anything like that he gave…I didn't feel that he was rushing to get passed you know get me spoken to him and then move on to somebody else or umm ya" (participant no.5).

Participants were clearly very positive and happy with the consultation they had with the pharmacist, and they could not identify anything that was not good about it. Moreover, some participants pointed out the trust and confidence they have for their pharmacists, which is based on their friendly and professional manner of interaction and on the rapport that is being built over many months of successful interactions.

"[pharmacist's name] is upfront, she's always been helpful and supportive and…I trust [pharmacist's name] I've gained that trust because I've been in hospital for so long…over the past 18 months and [pharmacist's name] you know and I've always dealt with [pharmacist's name] I know her" (participant no.8).

Besides expressing their opinions about their pharmacist's consultation, a minority of participants acknowledged the changing roles in the pharmacy profession and the new roles pharmacists are undertaking such as working at GP practices and being prescribers capable of making decisions about patients' medicines. The changing roles hospital pharmacists have was described making them more visible and approachable to patients than before. A participant stressed the importance for other patients to use pharmacists as "a point of reference" if they need more information about their medication and not just only ask their doctors or nurses since pharmacists are the medication experts.

Theme 2: Views on the feedback process

This theme reflects participants' views about the feedback collection process. This included methods for questionnaire administration and collection, encountered concerns, whether answers might have been affected by questionnaire administration method(s), and any suggestion(s) that may help better implement the process in the future.

Most participants felt generally positive about the feedback process and that it was well planned and smoothly executed without encountering any problem. Participants also highlighted being able to complete the questionnaire in their own time without being rushed to do it quickly. Most participants reported receiving the ISQ by the same pharmacist at the end of the consultation. Participants described receiving brief explanations from the pharmacist about the ongoing study as well as an assurance that their participation is completely voluntary.

> *"it was absolutely fine I mean she [pharmacist] presented it very very well and um explained it very clearly, there was no pressure, she made it very clear that...I didn't have to do…. she would be very grateful if I if I did and she put it very nicely and…yes she was extremely polite and professional about it but not pushy" (participant no. 14).*

Participants expressed that they responded to the questionnaire honestly and to the best of their ability irrespective of who gave it to them. Participants mentioned that their answers would have remained the same since their pharmacists carried out the consultation in an efficient manner that satisfied them.

> *"I must admit looking back to it I answered all the questions obviously as honest as I could, umm I can't remember a lot of things what was on there but at at the time I look at it and answered honestly, I thought it was a very thorough questionnaire and I it was it was very good very honest" (participant no. 6)*

A participant reported that he did not have a problem receiving the questionnaire from the pharmacist as he would expect it to be given out by the pharmacist himself or by anyone from the pharmacy department and not by another professional as it is a questionnaire that is related to pharmacy.

> *"the pharmacist is fine cause obviously I know it was coming from a questionnaire which he clearly explained that was survey being done through the pharmacy itself, you'd understand then the paperwork should really be handed to you from a member of staff who worked at the pharmacy" (participant no. 11).*

Although the majority of participants were supportive of how the feedback process was executed and didn't encounter any problems, some expressed a few concerns over certain aspects of the process, suggesting small adjustments on how they think the process could be improved for the future. The issues of concern were related to the confidentiality when approaching the patient for the study; timing of approaching the patient; and options available for the patient to return the completed questionnaire.

One participant expressed his concerns over confidentiality, especially that he was approached by the pharmacist while being admitted to one of the hospital's bays. The participant felt that this aspect of the process could be improved by approaching patients more privately using a quiet room on the ward which will help to make the process more private and confidential, and will prevent other people from listening to the conversation happening at the point of recruitment. The participant reflected that a more private approach would further protect the confidentiality, help in anonymising the process even more and allow the patient to answer more freely in reflection to his own experience without being influenced by the views of surrounding people.

> *"confidentiality and privacy is not something that is easy when I'm in a six bedded bay with patients and staff so maybe next time you could be approached and actually taken to somewhere more quiet….a quiet room and you could sit in a one to one with the pharmacist who can explain…what's…what's happening and again it anonymises it even more" (participant no. 8).*

Two other participants talked about the timing they were approached to participate in the study. One of them described being approached the next morning following her surgery, which the participant reported as being a bit early as she was still under the influence of anaesthetic medication and was not in a complete state of mind to comprehend and absorb the process. Although this was not a major concern, the participant recommended in the future whether possible to wait a bit longer following surgery until the patient is able to handle the process with full mental capacity.

"obviously I was still under the influence if you like from general anaesthetic, ... and it was quite difficult to concentrate the brain, and I just wonder whether perhaps it would be better to hand the questionnaire out a little bit later after surgery rather than so soon after surgery" (participant no. 2).

The other participant mentioned that he was approached as he was leaving the ward following his discharge. However, the participant described that he understands the timing for approaching him since the pharmacist was the last person he saw. The participant however indicated whenever possible to approach patients earlier during their hospital stay or even to take the questionnaire away and return it by post.

"the only thing was…I was given the questionnaire when I was about to leave the ward… it would've been perhaps slightly better if I've been given it a few hours before I walked through the door, but having said that the pharmacist is the last person you see …. it's not easy to…to give you the questionnaire until the process is finished" (participant no. 12).

A final concern raised by another participant was related to the method of returning the completed questionnaire. Although the participant reported being informed to hand over the completed questionnaire to the reception desk before leaving the ward, the participant described being worried about getting back home rather than returning the questionnaire, thus she just left it behind on her bed. The participant suggested whether it would possible for someone to come back and pick it up and not leave that responsibility on the patient as this might not be their priority, especially at the time of discharge.

Theme 3: Comments on the ISQ

Participants reported here their views about the ISQ which they completed following their consultation with the pharmacist. Findings gathered from interviews indicated that all participants viewed the ISQ as a clear, simple, easy to understand and follow questionnaire that is not burdensome in terms of time or effort needed

to complete it and which allowed voicing opinions they may have using the box provided.

With respect to the ISQ's relevance to assess pharmacy consultations, two interesting, yet contradictory views were gathered. On one side, most participants agreed on the ISQ's relevance for assessing pharmacy consultations. One participant described in-depth that the ISQ highlights the skills pharmacists use in their consultations with patients. However, only one participant, although she agreed with the others that the ISQ is clear and easy to understand, she did not view it as being very relevant to pharmacy consultation and that its questions need to be more thought out and revised without making it more complicated.

> *"I don't think it's very reflective about that to be honest, the questions could be more in depth, could be more relevant, could be more thought out … but it needs to be perhaps a bit more relevant I mean perhaps needs less questions but more in depth more or more pointed more thought out" (participant no. 14).*

This participant also gave few suggestions on how to improve the questionnaire including reducing the number of items by combining some items together and also increasing the size of the text box so that patients can have more space to write their comments. The participant also viewed the questions as being predictable but yet very subjective, and she expressed that the questions could be more sophisticated to make patients think more when answering them. The participant reasoned her views to her profession, where she used to work with and criticise questionnaires.

> *"uh, it's a bit predictable I suppose umm …. but maybe being very picky because obviously I'm a psychologist I'm used to questionnaires and so I'm quite I'm quite critical of them because you know what do you do you say excellent do you say very good I mean it's so subjective, so ya I think all questionnaires need to be much more sophisticated frankly as a whole" (participant no. 14).*

Theme 4: Benefits of patient feedback

This theme reflects the gathered benefits anticipated by most participants for their given feedback. A number of benefits were mentioned by participants regarding the value of the collected feedback and where they think it could be useful. Specific benefits reported related to patients themselves, to pharmacists, and to healthcare services. Some participants however were not able to give an opinion about how the feedback could be used and how useful it would be, mostly because they had a good experience with the pharmacist's consultation in particular and with the hospital in general. They were thus unable to identify whether feedback could make things better as things were already at a level they were satisfied with. As for other participants, they were in agreement that feedback will bring many benefits, they valued being asked to give feedback and some described it as a way that helps in expressing their feelings.

> *"I think it's very important… very important you know people experience in the hospital clinic outpatients whatever, it's very important that they get feedback they get a say in uh you know what's happening in their lives medication wise" (participant no. 8).*

A minority of participants reported that being involved in this process has given them a sense of self-satisfaction and a positive motivation as it made them feel that they can do something useful and contribute to help other people, whether patients or pharmacists.

> *"….it gave me a bit of lift in my spirit that made me feel well mm this might be something I could be a little bit of help with in some way" (participant no. 14).*

Most participants also agreed that feedback could be beneficial to pharmacists themselves by giving them an insight on what patients feel and think of their consultations, recognise whether problem(s) exist and thus direct them to where improvement is needed. Additionally, feedback is also a way for pharmacists to know that they are appreciated for their work and that their patients acknowledge

what they do for their care which will thus be a motivation for pharmacists to keep working on high standards to maintain this cycle of satisfaction.

> *"well it's an important part of the improvement process isn't it because as an individual the pharmacists may think that what they're doing is absolutely right and the correct way to do it but if you don't talk to the recipient the….the customer….the patient you may think what you're doing is absolutely right and the patient may feel actually it isn't it's not what what suits me, and the only way you get that acknowledged is by seeking feedback" (participant no. 12).*

The experience of collecting feedback was hoped to motivate other patients to increase the level of trust and confidence in their pharmacists and to rely on them for getting information about drug therapy without feeling that they should always ask their doctors. By helping pharmacists identify the areas that need improvement and by allowing patients to voice their needs, participants indicated that all of this would help thus in either maintaining the same quality level of good care given or work to improve it in the future.

Theme 5: Willingness and desire to continue to give feedback

This was a distinct theme but relatively short that all participants mentioned in a similar way. All participants were very supportive and expressed their willingness and agreement to give feedback again in the future. They reasoned that to all the benefits they foresee for the feedback besides their willingness to give help to whoever needs it. Some participants also recommended the continuation of this process of collecting feedback, especially that this was a new thing for them to experience;

> *"well I'd like to see it continued because from a patient point of view it's nice to know what's going on as I said I've been in hospital before I never seen anything like this" (participant no. 4).*

4.4.3 Phase-3 A and B: Semi structured interviews with pharmacists and a pharmacist's colleague

At least one month following the receipt of patient feedback reports, all pharmacists were interviewed to explore their views with the feedback process and received reports. An additional interview was also conducted with one of the pharmacist's colleagues (female, > 35 years old), with whom one of the pharmacists discussed his report. All interviews were conducted at the hospital lasting on average 37 minutes. Details of the pharmacists interviewed are previously described in Table 4-3. Two other line managers with whom pharmacists discussed their reports were not interviewed since one of them was the researcher's clinical supervisor, and the other was away during the designated time for conducting the interviews.

Five main themes emerged from pharmacists' interviews: challenges to effective patient communication; views on questionnaire and study process; challenges and suggestions for patient recruitment; factors inducing potential response bias; and report usefulness and subsequent action. These themes are described in details in the following section and are supported by different quotes.

4.4.4 Pharmacists' interview themes

Theme 1: Challenges to effective patient consultations

All pharmacists expressed that they like interacting with patients and talking to them. Pharmacists perceive consultations as an opportunity for patients to learn, to increase their understanding of their own treatment and to answer all questions they may have, especially when not all information is checked by their doctors or nurses. Pharmacists also described that pharmacy consultations could help in driving positive outcomes for patients such as boosting their confidence in taking their own medicines and improving their compliance with therapy.

> *"they can present to you information that they haven't discussed with the doctor or the nursing staff and have a question for you that they haven't*

asked that you can hopefully be able to answer and that's quite nice to find that you can offer them something that might make the difference" (Pharmacist F)

Pharmacists also shared different challenges they sometimes encounter in their daily practice when interacting with patients. These included the insufficient understanding of many patients about who the hospital pharmacist is or what they do, pharmacists' time constraints, busy workload, and the lack of proper interpersonal skills to be able to interact effectively with patients, such as skills related to handling difficult patients or patients with communication difficulties. Some pharmacists mentioned that they had had very little training at university when compared to other healthcare professionals such as doctors and nurses. The pharmacist's colleague reflected similar views indicating that newly qualified doctors seem to be more confident than newly qualified pharmacists in carrying out consultations because of all the training they receive. The pharmacist indicated that this was further reinforced in practice, especially that training to enhance consultation skills only occurs as a result of facing a problem rather than as part of routine training.

"for example I had an incident whereby I had a patient that was very upset and I didn't know how to handle that situation so I reflected on that and now I'm going to do a training program in March to overcome that and I feel like a lot of my practice now is wait until you find whatever problem it is and then reflect on it and then learn" (Pharmacist B)

Suggestions given by some pharmacists included introducing more placements to the pharmacy degree to help undergraduates and newly qualified pharmacists possess the needed skills and become more integrated with real world practice. Additionally, pharmacists should talk to patients at the beginning of the consultation about their roles to increase their understanding about pharmacists and what they do which will allow them to provide more accurate assessment when asked to give feedback.

Theme 2: Views on questionnaire and study process

Pharmacists viewed the ISQ as a suitable tool for patients to complete, especially that it is simple, easy to answer, succinct, and does not take a long time to complete. Additionally, most pharmacists also perceived the ISQ as being relevant with reference to assessing pharmacy consultations, and that is capable of capturing the main things while using a reasonable number of questions.

> *"I thought it's quite simple questionnaire to fill out which is good to patients it wasn't too long cause obviously they get especially in pre-op they get a lot of questionnaires already so if you did something too long they probably won't wanna fill it in" (Pharmacist C)*

However, a minority of pharmacists viewed certain items of the ISQ of not being always applicable to all patients. They indicated that the ISQ needs fine adjustments to make it more relevant, e.g. writing at the top of the questionnaire some bullet points about pharmacists' roles, adding some questions to investigate patients' understanding of given information and pharmacist's use of jargons, and adding a "non-applicable" answer option to cover for conditions that might not be applicable to some patients.

A pharmacist viewed feedback collected using a questionnaire is usually limited by its items and it might not give a full representation of patients' feelings. Instead, collecting qualitative feedback might be more useful. The pharmacist also suggested collecting feedback using an online questionnaire where it could be made compulsory for respondents to leave comment(s) explaining why a rating was selected so that to make the feedback more useful for the pharmacist to act on.

> *"it's almost be easier to do online but if it was compulsory to leave comments for instance which you can do with online service can't you they would've been a lot more useful because I think I had one patient that marked me low on a couple of areas I can't remember exactly which it was but it would be nice to know why they did that particularly on what specifically on their consultation I didn't do so well or didn't meet their expectations" (Pharmacist D)*

As for the study process, some agreed that approaching patients as soon as possible following the consultation is important to help collecting feedback before they forget it or before it could become contaminated by consultations conducted by other healthcare professionals. However, pharmacists mentioned several challenges they faced with different aspects of the study. Challenges included finding it irritating to carry study paperwork throughout the day to collect feedback, forgetting to recruit patients for the study most of the time due to busy workload, feeling responsible to go back and collect the completed questionnaires out of worry that it will be lost, and experiencing difficulty with always accessing study files because their storage site (main pharmacy) is located a distance from where the feedback will be collected. All of these challenges led eventually to reducing the number of patients recruited. A few suggestions were given to resolve some of these challenges such as collecting feedback electronically using for e.g. tablet devices which will probably make the process easier to handle, will reduce the worry of losing the completed questionnaires, and will help in gathering feedback quickly. Another suggestion was using reminders to help pharmacists remember taking the paperwork needed to collect the feedback, or even storing the files and the marked box in the hospital area where the feedback will be collected.

> *"it is just me remembering a lot of the time to take the box up to the clinic…and the distance from clinic to pharmacy is not that I particularly … I mean you can't just pop back and get it not if I even remembered I just got caught up so maybe you know a reminder to take the box to clinic" (Pharmacist D)*

With respect to study duration, most pharmacists agreed that three months is useful in reducing the pressure on pharmacists and should have been enough to collect feedback from the target number of patients. However, while considering factors like inpatient and outpatient settings and time of the year (winter and holidays seasons), different pharmacists described different time durations they perceive suitable to collect feedback. The suggested time periods ranged from one to five months to collect feedback, with each pharmacist deciding on how many days of the week to dedicate for collecting feedback. One pharmacist indicated that

a shorter duration of time (less than three months) is feasible to collect feedback especially that he stated joining the study later than the others by one month and was still able to collect the target number of completed questionnaires. Only one pharmacist indicated that a duration of five months would be more appropriate, since the turnover of patients attending their clinic is about four months.

As for the frequency of collecting feedback, pharmacists including the pharmacist's colleague suggested having feedback collected annually. However, they indicated that dedicating three months to collect feedback every year is quite a long time, thus every two years might be a good option as well.

Theme 3: Challenges and suggestions for patient recruitment

All pharmacists reported a number of different challenges and barriers they faced regarding the logistics of collecting patient feedback while trying to follow the ideal methods of questionnaire administration. Most pharmacists reported using two approaches when recruiting patients for the study, either directly by themselves or indirectly by a third person, with a predominance of the former method. Only one pharmacist reported approaching patients directly and not using a third person. Different third persons were described to be used such as pre-registration pharmacists, other pharmacists, nurses, or other staff members. A minority of pharmacists described using a third person in recruiting outpatients easier than recruiting inpatients due to higher availability of third persons to help.

> *"the only time I was able to do it is when I visited the ward with my technician who was very good at then following up the patients that I've seen and asking if they complete the questionnaire but the number of times where we were both there was in time was very very small so that part I found particularly difficult" (Pharmacist D)*

All pharmacists agreed that using a third person in recruiting patients was one of the major challenges they faced, and thus was one of the reasons for them to hand out questionnaires directly by themselves to patients at the end of the consultation. Various issues were raised by pharmacists on this respect including

the difficulty of finding a third person every time and at the right time (i.e. following patient consultation), staff members (e.g. nurses) declining to recruit patients for the study because of their tight and busy work schedule, and the limited number of staff members to help (i.e. short staffing). Additionally, the extra time needed to explain the study whenever a new third person agreed to help, since patients were recruited from different locations in the hospital, and also some staff members who already knew about the study were switching between wards. This was described by most pharmacists as time consuming, not only for them but also for the third person, adding more pressure to their already busy schedules. This was also highlighted by the pharmacist's colleague that the time needed in explaining the study represents a challenge to the process.

> *"because the nurses are always switching to then go up and every time like explain or I think you'd kind of end up repeating the same thing again and again it would take up so much time" (Pharmacist E)*

All pharmacists agreed that assigning a dedicated third person will help in resolving these challenges. Some indicated that it should be someone who is based in the area from where feedback is to be collected (e.g. a pharmacy technician or another pharmacist), or it should be an external person who is specifically responsible to assist the process. The third person was described to help in making the process more feasible, consistent, less time consuming, not associated with extra workload on pharmacists themselves or other staff members. The use of a third person would possibly make the process more anonymous thus perhaps encouraging patients to provide more honest, constructive and less socially desirable feedback, and also enhance collecting feedback from patients with reading or writing difficulties.

> *"I think if a third person filled in a questionnaire for a patient that wouldn't matter in my opinion because they should still I would imagine they would still tell that person the truth because if it was me they probably wouldn't say something was bad if it was because they don't want to be rude which I think is quite a natural thing" (Pharmacist A)*

All pharmacists also reported different individual barriers they had throughout the study such as the lack of sufficient time and increased workload requirements, the difficulty in following a consistent approach in patient recruitment, and the difficulty in identifying the right time to introduce the study to patients. Pharmacists explained that they had to make sure to prioritise their own work because of the limited timeframe they already had. Moreover, some pharmacists were actually newly qualified and were requested to meet the target of seeing all new patients within a short duration of time to which they will be assessed later on by their seniors, which thus contributed in making their work schedule even tighter, and in making feedback collection even more challenging.

> *"We were already quite squeezed for time…..I mean like during your working day ….So to find time to do that was very labour intensive" (Pharmacist B)*

Some pharmacists also talked about other challenges related to the hospital site from where feedback was collected, and they acknowledged that variations do exist between the different hospital areas. These included the variations between inpatients' and outpatients' expectations, the amount/type of pharmacy consultations conducted between hospital wards, with few consultations hardly taking place in certain areas, and the dynamics of running certain hospital areas, with some being fast paced environment. Furthermore, the medical conditions of inpatients varies between the hospital different areas, from very sick patients (e.g. have dementia) to more healthy patients. All of these site related factors were described by pharmacists to have influenced the number of patients they recruited for the study.

> *"Cardiology cos most of the people are fit and well they've just had a heart attack or something like that…they all sit there and have a chat with each other…So they're quite up for getting involved in it whereas on the older peoples medicines' wards…there's a lot more people with dementia or then they might not be able to write they might not be able to read they haven't got their glasses so it's more time intensive" (Pharmacist A)*

Theme 4: Factors inducing potential response bias

Most pharmacists agreed that recruiting patients themselves might have potentially encouraged them to give more favourable responses. However, few pharmacists expressed uncertainty about that, especially that patients were told that the questionnaire is anonymous and that the process is confidential. These pharmacists were not completely sure whether patients' ratings would have been influenced by whoever hands them the questionnaire, and that patients can be honest and provide true feedback even when given questionnaires directly by their pharmacists.

> *"because I was the one asking them for feedback even though I told them is anonymous and to put it in the envelope and to hand it to the nurse they might have felt because I was the one asking them that might have made them feel more obliged to give positive feedback" (Pharmacist C)*

One pharmacist pinpointed that asking patients for feedback while being in the hospital might have been influenced by a number of factors, and thus feedback collected under such circumstances might not be a true reflection of the pharmacist's performance. However, feedback collected when patients are away might be different because patients will be disconnected from the actual hospital setting and will have more time to think when completing the questionnaire. The pharmacist thus suggested using an online questionnaire to facilitate that, however, the pharmacist also addressed that online surveys have its own challenges such as reduced response rates and increased time span between the consultation and the feedback.

> *"there are lots of different things can influence their opinions as well so if for instance they had to wait a lot longer what they normally did that may influence the feedback it might not be particularly related to the service I gave but they might just be a little bit unhappy with the clinic as a whole and so that may've influenced whereas maybe if they did it later on and were just a little bit disconnected from the actual clinic setting they may think about it a bit more" (Pharmacist D)*

A minority of pharmacists described following a consistent approach when recruiting patients in an attempt to reduce selection bias and consequently response bias. These included assigning a certain day of the week and approaching all patients with whom the pharmacist consulted, or asking all patients by oneself or through a third person whenever possible to complete the questionnaire following the consultation. However, most pharmacists described approaching patients who met the inclusion criteria randomly without using a consistent approach. Pharmacists also indicated that they did not approach some patients who although were eligible, pharmacists gained the impression that they would not agree to participate or those who seemed angry because of a negative experience with pharmacy services. These pharmacists argued that their overall feedback could have been different when considering those patients or when considering the ones who declined to take part, and perhaps could have made the feedback more helpful.

> *"So I kind of was just trying to hand it out where I could I think some there were times when I thought I got a feeling they're not going to want to wait around…or they're not going to want to kind of answer it so I didn't hand it out…yes sometimes you just get a feeling…they when you're handing out medication they're literally like ok great bye" (Pharmacist E)*

Pharmacists also expressed their views on how they think the process could be improved with respect to avoiding selection bias. These included for example following a consistent approach when recruiting patients while using a third person whenever possible, assigning a specific day of the week and recruiting all patients consulted on that day, recruiting every x number of patients consulted, or assigning specific number of feedback to be collected on a certain day for a number of weeks. The employment of these approaches was described to make the process easier and more achievable, while avoiding the risk of selection bias.

Theme 5: Report usefulness and subsequent action

There was a consensus amongst pharmacists that patients as users of their services should be considered as a source of feedback, and that they are capable of giving a true reflection of the consultations they received. Patient feedback was viewed to have a great value in helping pharmacists identify their consultation performance, whether it meets patients' expectations, or whether they need to focus on certain area(s) to improve. Pharmacists (including the pharmacist's colleague) also agreed that patient feedback could give them information which they can act on to improve individually and which will eventually lead to improving the overall quality of pharmacy services, especially that pharmacists may perceive their interactions with patients differently from how patients may perceive it.

> *"I think it would then it then certainly allows the pharmacist to identify what they may not have known before....or maybe what they knew before and this is confirmation of...what they're good at as well as what they perhaps need to work on to improve" (Colleague-1)*

Additionally, the pharmacist's colleague greatly valued feedback collected from real patients rather than from an academic environment. She further indicated that all pharmacists, whether in primary or secondary care, and also pharmacy technicians should have feedback collected from their patients on their consultations.

All pharmacists also reported that this was the first time for them to receive this sort of consultation specific-patient feedback and expressed that they hardly receive any feedback on their consultations from any other source as there was no formal process in place for that. The pharmacist's colleague indicated that collecting feedback is taking place at academic institutions by using simulated rather than real patients which thus does not give a true reflection of real world practice. Pharmacists also talked about a few options through which they can receive general feedback, including through a senior/specialist pharmacist who observes the newly qualified ones, through a tutor who provides feedback to pharmacists doing postgraduate courses, through peer review which they do as part of their annual accreditation, through a colleague (e.g. nurse) in case a patient

conveyed comments to them about the pharmacist's, through a patient's relative, in few occasions through a "thank you" card sent to patient's healthcare team including the pharmacist, or through a simple thank you given by the patient at the end of the consultation. Pharmacists expressed that these sources of feedback are very limited as they are not always consultation specific, not available to all pharmacists, do not happen frequently, and most of the time not given by patients themselves, who may hold a different opinion to how the consultation was carried out.

> *"sometime you can get positive and negative comments from peers or colleagues as to I think you should speed up or oh you got a bit detailed on this or you you sort branched off sometimes just because that's our perception of how others are doing isn't necessarily what the patient wants and they're actually quite happy for you to elaborate a little bit more on something" (Pharmacist F)*

With respect to feedback reports, all pharmacists indicated reading it, with some describing reports as being self-explanatory and easy to understand. All pharmacists expressed that their feedback was generally positive and they were happy about it. However, different views were given by pharmacists regarding the usefulness of these reports. Some pharmacists stated that their reports had increased their awareness of the way they interact with patients and provided them with an overview of the different skills they used during the consultation. Reports were also viewed to be useful by some in helping them identify area(s) to focus on and improve. Additionally, the free-text comments written by patients were viewed to be generally helpful, although as indicated by pharmacists that most of these comments were positive and did not describe massive issues, some comments were beneficial to direct pharmacists to rethink certain areas of their consultations. Some pharmacists indicated that reports made them reflect on their own practice and think of how they can improve so that to communicate more effectively with patients.

> *"it highlighted a couple of areas that I figure I need to focus on nothing dramatic came out that I was sort of oh my goodness I didn't know this*

about myself from how I was interacting, there was also some pleasing outcomes as well to make me yes I will continue the way I approach things" (Pharmacist F)

However, some comments given by patients were not considered practical to work on by some pharmacists. One given comment was related to a patient's preference to see the pharmacist at the start of treatment to have all medications explained rather than at the end of patient's hospital stay, to which a pharmacist indicated that this could not always be possible. Another comment given to a different pharmacist was about closing the curtains when talking to the patient on the ward, in which the pharmacist indicated that it is also not possible, as pharmacists were told not to do that. In spite of that, these comments made pharmacists think of other ways to help address their patients' needs.

"what I did start doing was we have a lot of people here who have started on GTN spray which can't be used with Viagra…I'm on the ward all morning so when they go to the loo I let them go to the loo and then when they come back I tend to catch them and say do you mind having a quick chat with me in this room and they're like yes yes no problem and then you explain and they're oh and a lot of them are very thankful you know oh thanks for saying it in here because whilst you know all six of them in that bay may be on it it's a sensitive thing for men" (Pharmacist A)

Although some pharmacists viewed feedback reports as being generally positive, provided them with an assurance that they were doing the right thing in their consultations and thus boosted their confidence, yet, some pharmacists indicated a number of barriers that hindered the usefulness of these reports. First, the lack of negative feedback given by patients in almost all items of the questionnaire which made it difficult for pharmacists to identify areas to improve and recognise any learning potentials. Second, the lack of clear and specific patient feedback comments to justify given low scores. The reports of most pharmacists included predominantly positive comments, and one pharmacist did not receive comments at all from his patients, both of which made it harder for pharmacists to identify

why they received low scores in certain areas in their consultation so that they can change and improve in the future.

> *"none of the patients left me comments so it was only… it was limited in terms of the feedback, it was all fine …. but there was no specific feedback … if someone did rate me lower on something they then didn't say why so it had limited …limited sort of usefulness in terms of changing my practice really because there were no …because there was no comments, so even if I was rated lower on certain area it was nothing specific particularly" (Pharmacist D)*

Most of pharmacists though who viewed reports of limited usefulness did acknowledge that this might have been caused by the small number of patients they recruited which thus made them receive an abbreviated form of the report.

A minority of pharmacists, especially the ones who received validated reports talked about the benchmarks provided. They indicated that their reports were detailed and allowed them to compare their scores with benchmark data provided for other healthcare professionals. Although most pharmacists preferred having pharmacy specific benchmarks, they acknowledged that such data are not yet available and they thought that using the ones for other healthcare professionals was a good option and helped in making feedback more meaningful. A few pharmacists highlighted that continuing the process of collecting patient feedback data for pharmacists will eventually help in creating a benchmark database for pharmacists to use in the future, which will be then more useful. They also indicated that benchmark data gave them an overview of how good their consultation skills were with respect to others, made it easier in clarifying areas needing more attention, and acted as a stimulator to achieving best performance. However, one of the three pharmacists who received the full report did not notice the availability of benchmarks in her report prior to the interview, and after having a quick look at the benchmarks, she equally thought the report as being generally positive and was supported by given benchmarks.

> *"I am competitive um so for me that's like right I need to make sure I beat the benchmark but then when I don't it also makes you think right, I need to have a look if other people are doing this well and I'm doing this what am I doing wrong …I think that's the benefit of a benchmark if you don't know how anyone else did you have no idea …. I think benchmarks makes data more interesting and easier to reflect on" (Pharmacist A)*

Contrary to all other pharmacists, one pharmacist considered benchmarks provided of other healthcare professionals of not being useful because they are not specific to pharmacists. Moreover, she perceives that benchmarks provided were gathered from patients who have prior expectations about their healthcare professionals (i.e. nurses and doctors), whereas for pharmacists, patients don't have the same level of expectation, therefore using other benchmark data will not be helpful.

> *"I think it's kind of comparing apples with pears really …. I think because the role of the doctor and the role of the nurse is so engrained in peoples psych they know what to expect when they see a doctor they know what to expect when they see a nurse that when they see a pharmacist they don't know what to expect …. So if you don't have that expectation how are you going to judge that" (Pharmacist B)*

With respect to subsequent plan following receiving the reports, the pharmacist's colleague indicated that reports might drive some pharmacists to change positively and improve their practice, however, variations exist on how individuals would respond. Some pharmacists stated starting already in implementing some changes in their consultations as informed by the feedback report with plans to revisit the report to identify other areas and develop an action plan. One mentioned area was about paying more attention and listening to what patients are saying while minimising the flow of their own thoughts about the next steps to do in the pharmacist's consultation agenda. Other areas included asking patients whether it is an appropriate time to talk or should the pharmacist come back later if they have something else they need to do, avoid rushing patients at the consultation, and confirm with patients at the end of the consultation whether they have any further questions.

"I noticed that with time I'd forgotten to ask patients if it was ok to do that now, I think it's quite easy when you're in a rush just to say oh I'm here to do this and they go ok but actually I need to remember to say is it ok if I do that now because they might need the loo or they might be going for a scan or something you just don't know" (Pharmacist A)

However, most pharmacists reported not planning to change any aspect of their consultations. Reasons given were either because the reports supported that they already have good consultation skills and that patients were satisfied with it, thus they viewed there was no need to change, and/or because the gathered feedback did not highlight clear area(s) to work on and improve, both of which made pharmacists decide to carry on with how they usually conduct their consultations.

"I had a look at the report and it was all pretty positive so I've just carried on doing as I was … ya I don't think I actually got any negative or rooms for improvements so" (Pharmacist C)

The majority of pharmacists mentioned other options for using these feedback reports. These included using it in writing reflective notes for their continuous professional development as part of their postgraduate course work, using it as an evidence for conducting research to provide patients with the best care, and using it as part of pharmacists' appraisals to help improve their consultation skills.

Discussing patient feedback reports with someone else was another area revealed by some pharmacists in their interviews. Most pharmacists reported discussing the report either formally at an appraisal with a line manager, or informally in a quick chat with peers or seniors. Some pharmacists mentioned different benefits for discussing the reports through which these discussions could help in extracting the most value out of collected feedback and clarify where to focus and what to do for future development. Additionally, discussing reports with someone else was also considered an option that pharmacists would undertake, especially when receiving negative feedback.

"so I already chat with my senior colleagues and ask what I can do better so that probably would start a conversation regarding where the error or where

problem is like for example if they said that a patient wasn't confident in me I would probably go and seek um some feedback or some um I would probably chat to my seniors about it" (Pharmacist B)

The pharmacist's colleague indicated that the report was introduced to her in an informal, brief discussion with the pharmacists. She also indicated that the report had encouraged the pharmacist to think and reflect on his own practice, as some areas in his consultations were highlighted by it. This colleague also agreed on having patient feedback collection as part of the appraisal to improve the overall performance.

"I think because it's information coming from a user…it is something that should be considered as part…an appraisal, the purpose of an appraisal is…to review that individuals performance over the previous time period…but also identify where things perhaps aren't going as well as they should be…so actually anything that could feed that process has got to be a positive so yes" (Colleague-1)

Different ways were indicated by the colleague on how generally she can provide pharmacists with support in response to given feedback. As a senior pharmacist herself, provided support was described of discussing areas highlighted by the report with the pharmacist and directing him/her to improve these areas by for example observing their consultations and by guiding them to useful online resources that show how to conduct consultations appropriately with emphasis on the skill(s) highlighted by the report.

4.5 Discussion

This is the first exploratory study to investigate the feasibility of collecting patient feedback on hospital pharmacy consultation skills using the ISQ. The study provides an overview of the process of feedback collection by describing the experiences of a sample of patient participants, pharmacists and a pharmacist's colleague with the feedback process. Findings of the study support its feasibility as it met all of the assigned feasibility measures. The study was found to be acceptable by all study participants (acceptability measure), indicated the usefulness of feedback reports to some pharmacists and their intention of using it to enhance their consultations (practicality measure), and identified how to better implement the process in the future (implementation measure).

The feedback process seemed to increase pharmacists' awareness of the importance of patient feedback and also increased patients' sense of contribution to enhancing pharmacists' professional development. Pharmacists acknowledged the value of patient feedback and were in agreement that patients, as customers of the healthcare system, have the right to give feedback on services given to them. Both patients and pharmacists (including the pharmacist's colleague) were generally positive about the benefits of patient feedback, in which it could be used for learning and development purposes, by providing pharmacists with an overview of their consultations and highlighting areas to target for improvement. This aligns with the findings of the systematic review where healthcare professionals were also in favour of the value of patient feedback and the role it plays in their development (Al-Jabr et al., 2018). Thus by identifying existing problem(s) highlighted by patient feedback, pharmacists' learning may have taken place by using a mixture of the different elements of learning theories described in chapter one. They analysed received feedback mentally, made reflections on their actions, and eventually made/start making the necessary changes, thus, throughout the process, they were actively involved in their learning and development. By considering patient feedback and responding to it appropriately, all pharmacists agreed that this would eventually lead to improving the overall quality of care. This has been advocated as a component of quality management to provide services to patients that meet their

needs and expectations (Moret et al., 2007), and it represents one of the domains of the NHS outcomes framework 2015/16 to ensure positive patient experience with the care they receive (Department of Health, 2014).

Moreover, feedback was reported by patient participants as a means to allow them to voice their needs, and it made them feel valued for contributing to helping others. These benefits were also expressed by patients in another study regarding their feedback on health services while being in a hospital (Bogetz et al., 2017). Finally, participants added that feedback could reflect their appreciation to efforts undertaken by pharmacists, which can then motivate them to work at high standards to maintain patient satisfaction.

Participants also commented on the consultation they had with the pharmacist, with a focus on pharmacists' friendly manner and interpersonal skills, all of which helped in putting patients at ease and made the consultation more successful and satisfactory. These findings mirrored those of other studies that mentioned similar set of skills described to support a constructive and effective interaction with a hospital pharmacist (Morecroft et al., 2013, Chevalier et al., 2018).

As for the feedback process, data collected from the three phases of the study indicated that for some pharmacists, recruiting target numbers of patients was achievable within the designated time. Therefore, this supports the feasibility of the process, however not for all pharmacists. Although patient feedback was acknowledged by pharmacists to be a valuable source that could direct them to enhance their consultation skills, the practicality of the process was hindered by a number of challenges that impeded them from collecting feedback from the minimum number of patients while following the ideal methods of questionnaire administration. Challenges were mostly related to pharmacists' limited time schedule and busy workload, variations between hospital areas from where participants were recruited, limited availability of third persons to assist in patient recruitment, and the lack of a consistent approach employed in patient recruitment. Similar challenges were mentioned by another study that was investigating collecting patient feedback on consultation skills of doctors in two different settings (Burford et al., 2009). These challenges contributed in making

pharmacists select patients themselves for the study, with some pharmacists clearly indicating selecting certain patients over others, thus increasing the risk of selection bias. Furthermore, although not thoroughly investigated, another challenge experienced was related to working as a part-time hospital pharmacist. This deterred one of the pharmacists who initially agreed to participate from continuing in the study, as the study practicality were not feasible to allow the pharmacist to continue, especially that the study was designed for full-time pharmacists. The study indicated that it is feasible to collect feedback, however, standardised approaches should be put into place while taking into account the challenges, the variations between the different settings from where feedback to be collected and the risk of selection bias (Burford et al., 2009).

With respect to the number of patients who completed the questionnaire, the evidence collected indicates their agreement to participate and give feedback since 93% of the distributed questionnaires were returned. Several factors might have contributed to this high response rate including the characteristics of the questionnaire itself (e.g. anonymous and does not take a long time to complete), the content and relevance of the questionnaire (Groves et al., 2000) and the use of sealed envelopes to collect the completed questionnaire. Moreover, the way participants were approached for the study was through a direct face-to-face approach either by the pharmacist or by a third person. This approach of recruitment was found to be associated with higher response rates than those obtained by using other means of recruitment such as by sending questionnaires by post (Sitzia and Wood, 1998) or by recruiting individuals by telephone (Nebot et al., 1994).

The admission data between April 2018 to March 2019 of the hospital where the study was carried out reported that 52% of patients who visited or were admitted were females, and 89% were ≥ 60 years old (R. Saadvandi, personal communication, June 26th, 2019). In this study, around 54% of participants who completed the questionnaire were females, and 55% were ≥ 60 years old. Thus, study findings indicate a very similar gender proportion of participants to the hospital's admissions. However, it also indicates that younger people participated more in the

study. This is not surprising as many of people aged 60 years and above probably were not well enough to participate and complete the questionnaire.

Findings also indicate the feasibility of providing pharmacists with feedback reports, whether validated or abbreviated reports. Pharmacists expressed variations regarding report usefulness and how they responded to it. They indicated different factors to have played a role in the way they responded to received feedback. These included the specificity of feedback and its ability to highlight areas to focus on, and perceived barriers to change. All these factors were also highlighted by some studies to influence responding to feedback and changing one's practice (Kluger and DeNisi, 1996, Smither et al., 2005, Boehler et al., 2006, Hattie and Timperley, 2007, Sargeant et al., 2007, Bogetz et al., 2017).

Pharmacists who found reports to be useful (especially the validated reports), mentioned that the feedback was generally positive, is concordant with what they know about their own skills, and have highlighted specific areas to focus on. The specificity of feedback seemed to be supported by the use of benchmark data that allowed comparisons with other healthcare professionals, and by patients' written comments. Areas highlighted by the reports made pharmacists rethink and reflect on their own practice to try identifying how they can change and respond to feedback in the most satisfying and practically applicable way. As indicated by some learning theories (i.e. cognitivism, and Schön's reflective model), analysing results and making reflections (whether in or on action) have an important role in helping pharmacists identify areas in their practice they can improve (Schön, 1984). This highly supports that patient feedback has the potential to be a learning aid to help pharmacists develop professionally, especially that it is collected from the recipients of their consultations. This was emphasised by studies identified in other systematic reviews (Al-Jabr et al., 2018, Baines et al., 2018), and also accords with pharmacists' and participants' views regarding the benefits of feedback.

However, for a number of pharmacists, especially those who received the abbreviated reports described them as being of limited usefulness. This was influenced by the low number of patients who gave feedback, and that given feedback was mostly positive combined with either nonspecific positive comments

or no comments at all. Moreover, no benchmarks were provided. The positivity of given scores might have created a 'ceiling effect', which is usually associated when most scores accumulate towards the favourable end of the response scale (Masino and Lam, 2014). The ceiling effect was described to be associated with nonspecific feedback that makes it difficult for professionals to differentiate or identify areas to focus on (Davies and Cleary, 2005). This was highlighted by some of the pharmacists at their interviews who could not identify how or what to do to improve their consultations, since given scores were already in the upper end of the scale and it was interpreted as no further development is needed and that their practice is already up to standards. Some pharmacists also raised a point of the difficulty to respond to patient feedback even when identifying poor ratings given to certain items of the questionnaire because of the different barriers they face in their daily practice such as limited time and busy workload.

With regard to benchmark data, different benchmarks were given to pharmacists in the validated reports. The aim was to help them identify their level of performance in comparison to other healthcare professionals. Benchmarks represent a useful tool to be used by the different professionals to follow their level of performance over time. It also helps in continuously improving healthcare services and performances (El-Saed et al., 2013). Pharmacists who received this data recognised its importance and stated that it made the report and feedback more useful. Although most pharmacists were highly in favour of using benchmarks specific to pharmacy, they acknowledged the lack of this data at the moment but viewed that continuous patient feedback collection will eventually contribute to building pharmacy specific benchmarks.

Some pharmacists indicated discussing their reports with other colleagues (e.g. peers, line managers or seniors) mostly informally, showing an overview of obtained results. Discussions were described as being useful to get the opinions of others towards identifying where and how to improve performance, especially if negative feedback was given. Discussing feedback with someone else may help in bringing another perspective to received feedback and in easing emotional reactions, especially if it perceived to be negative or unexpected. Having these

discussions reflect a supportive environment that aims to enhance professional development. This was indicated by many learning theories to facilitate the learning process. Some leaning theories (i.e. reflective model and social learning theory) indicated that these discussions can take place with the learner's supervisor, mentor, or simply with someone who has a better understanding of the task as compared to the learner (i.e. the more knowledgeable other indicated by the social learning theory). Such discussions, as supported by another study (Bogetz et al., 2017) facilitate clarifying areas needing further attention and designing a suitable action plan to work on. This mirrors the gathered findings were the pharmacist's colleague indicated the help they can provide in directing pharmacists to the available useful resources to improve their consultations.

As for the given feedback, participants' ratings to the different pharmacists were generally very positive with more than 90% of participants selecting either the "very good" or "excellent" response options to any item of the ISQ. This supports the findings of other studies, where participants were found to select the most positive response option when completing questionnaires on their healthcare experience (Campbell et al., 2009, Skudal et al., 2012, Bjertnaes et al., 2012). Thus the overall feedback scores given by all participants were not evenly distributed across the five response options of the ISQ, which might indicate the existence of the ceiling effect (Masino and Lam, 2014).

Pharmacists argued that several factors might have contributed to these high ratings, such as asking participants to complete the questionnaire before leaving the hospital, and recruiting patients randomly, thus possibly inducing selection bias. Some pharmacists indicated not approaching certain patients because they got the impression that they would not agree to participate or those who had a negative experience with the pharmacy. If this sample of patients was not excluded, pharmacists' feedback might have been different. Pharmacists also indicated that recruiting most patients directly by themselves might have potentially encouraged them to give higher ratings. However, the exact influence this might have had on participants given feedback is not evident, as this was an exploratory study that was not intended to measure differences in ratings given to pharmacists in reference to

the mode of questionnaire administration. Furthermore, these two sets of data were collected separately and were not directly linked to each other, a point that merits further investigation in the future.

Patient participants however held a different opinion to pharmacists with respect to the feedback they gave. Participants indicated that they were happy with the way they were approached to give feedback. They also described answering the ISQ honestly irrespective of who gave them the questionnaire, thus indicating the reduced possibility of providing positively biased responses. In the literature, different views are displayed regarding feedback collected from patients and factors influencing it. From one side, social desirability bias has been indicated to be associated with social interactions between individuals (Bowling, 2005, Duffy et al., 2005). Evaluations given by patients have been found to be influenced by their feelings of gratitude, luck and equity to given care, even if it was of poor level (Staniszewska and Henderson, 2004). In another study, some patients reported feeling uncomfortable if their feedback was collected by a staff responsible for their care and thus indicated that the feedback would be different depending on who is collecting it (Gill et al., 2015).

On the other side, efforts undertaken in this study such as collecting feedback using an anonymised questionnaire, and using sealed envelopes might have encouraged participants to give honest responses, and it might also have made them indifferent to the mode of questionnaire administration, which was actually highlighted by some participants at their interviews. Even more, the influence of social desirability bias might be more obvious with patients seeing the same pharmacist frequently on more than one visit, where a rapport is being built over many encounters rather than when assessing pharmacists they saw for the first time. In this study, the majority of participants reported seeing the pharmacist for the first time, which might thus also contributed in collecting less biased responses. Additionally, some studies reported a lack of difference in assessments given by patients to health services when different modes of questionnaire administration were used (Gasquet et al., 2001, Harewood et al., 2001). In another study (Ramsey et al., 1993), no significant difference was found to peer ratings given to physicians between a

group of raters selected by the physician himself to another group of raters selected randomly by the physician's supervisor, however, this study did not include questionnaires completed by patients. Yet, it is important to also consider that given feedback might have resulted from patients' genuine ratings to the consultation they received.

Both pharmacists and participants agreed that the ISQ is a simple questionnaire, easy to understand and follow, and is not bothersome in terms of time or effort. Most of them also agreed on its relevance to assessing pharmacy consultations. These findings thus support those of the think-aloud study (Al-Jabr et al., 2019) and also supports the face validity of the questionnaire. A minority of pharmacists and participants, however, indicated that the questionnaire needs some minor adjustments to make it more relevant. Only one pharmacist indicated possibly adding a 'non-applicable' response option to give wider response options to all patients. However, as argued before in the previous chapter, the use of this answer option has been discouraged as it may be misused by respondents who may select it just to escape giving an answer, which will then lead to missing data. It may also discourage patients from writing comments in the free box and thus reduce the usefulness of given feedback. Since the majority of participants and pharmacists were happy with the questionnaire and found it relevant, this supports its suitability to using it in assessing pharmacy consultations. However, further studies are needed to be conducted in the future with a larger sample of participants and pharmacists to support these findings.

Study findings also indicate that the ISQ appears reliable in terms of its internal consistency with hospital pharmacist consultations. This was reflected by the high Cronbach's alpha that indicates the strength of how closely the ISQ items are to each other, which thus further supports the findings of previous studies that reported the internal consistency of the Doctor Interpersonal Skills Questionnaire (DISQ) from which the ISQ originated (Greco et al., 1999, Greco and Pocklington, 2001, Greco et al., 2001b, Al-Shawi et al., 2005).

In light of the study process, pharmacists and some participants gave suggestions to enhance collecting feedback again in the future. Suggestions given by participants

were about not approaching patients too soon following surgery to give feedback since they would still be under the influence of operative medications; whether possible ask patients for feedback enough time before leaving the ward/clinic to avoid making them wait for extra time to complete the questionnaire or instead give them the option to return the completed questionnaire later by post; consider approaching inpatients in a private room in a one-to-one approach to help more in maintaining their confidentiality and privacy, and make it clearer to patients that the envelope containing the completed questionnaire will be collected if left behind on the patient's bed.

Suggestions given by pharmacists were mostly focused on assigning a third person to be responsible for recruiting patients for feedback. This was viewed to help in resolving many of the encountered challenges pharmacists faced during the study. The use of a third person could thus make the process less personal, and more consistent and feasible to apply. Another suggestion was to collect online feedback where it can be made compulsory to leave comments behind selecting responses in order to make the feedback more useful. However, this suggestion might not be appropriate for several reasons. First, collecting online feedback may increase the time elapsed between the consultation and the feedback, which thus subject feedback to recall bias. Second, this might not be a valid option to all participants with respect to having access to the online questionnaire (e.g. internet service). And third, online surveys are usually associated with low response rates (Dommeyer et al., 2002, Ballantyne, 2003, Aitken et al., 2008, Cunningham et al., 2015), and this could be further reduced if respondents were obliged to write comments for a selected score. Another suggestion was about collecting feedback using qualitative methods instead to provide pharmacists with rich and useful data that is not limited by the questionnaire's items. This is consistent with research conducted by Staniszewska and Henderson (2004). The research indicated that some patients find difficulty in providing negative feedback using questionnaires, and that the use of qualitative approach helps patients voice their thoughts and provide a rationale for their evaluations (Staniszewska and Henderson, 2004). Suggestions also included collecting feedback by using an electronic device (e.g.

tablet device) as it will help in transferring feedback results immediately than when using the paper format of the questionnaire. This is consistent with the reported benefits of collecting data electronically (Schick-Makaroff and Molzahn, 2015). Several other benefits were also indicated to this mode of data collection, including economic benefits in terms of time and resource, reducing risk of errors associated with data entry, and reducing risk of missing data (Dupont et al., 2009, Holzner et al., 2012, Zbrozek et al., 2013, Chang et al., 2014). Other suggestions given by pharmacists included the following:

- Talking to patients about pharmacists' current roles and responsibilities. This should be done by pharmacists when they conduct patient consultations. It will help increase patients' awareness and understanding of these roles and thus make the collected feedback to be more useful.
- Writing at the top of the ISQ some bullet points about pharmacists and their roles, thus to make the questionnaire more pharmacy oriented.

All pharmacists and participants welcomed collecting feedback. Participants expressed willingness to give feedback again. The majority of pharmacists (including the pharmacist's colleague) were in favour of collecting feedback annually or every two years. Finally, discussing the feedback report with someone else (e.g. a colleague or line manager) was one of the topics mentioned by pharmacists. Such discussions were considered helpful in getting the best benefit out of these reports to improve consultations. This was reinforced by the pharmacist's colleague, who indicated several means of support that could be provided to pharmacists, such as directing them to useful resources to enhance the specific skills highlighted by the reports. The effect of preceptor discussion with practitioners regarding their patient feedback report in a study was shown to be associated with an improvement in their consultation skills (Cope et al., 1986, Greco et al., 2001a).

4.5.1 Strengths and limitations

This is the first study to be conducted with pharmacy professionals in general, and with hospital pharmacists in particular in reference to collecting patient feedback on their consultation skills. The study contributes to literature by adding novel information to this under-researched area and provides insights on how the process could be better implemented in the future.

Various criteria for evaluating the qualitative element of the study were supported including study's credibility, confirmability, authenticity, and lay knowledge, all of which increase the trustworthiness, i.e. the confidence in used methodology and data interpretation (Horsburgh, 2003, Polit and Beck, 2009, Garcia et al., 2014, Connelly, 2016). Study credibility refers to the confidence in data processing and analysis in addressing its objectives (Garcia et al., 2014, Connelly, 2016). This has been supported by having all interviews conducted consistently using a specifically designed topic guide that serves the aims and objectives of the study, and by having all data analysed and coded by the same researcher, with the accuracy of codes and final themes continuously checked by other members of the research team. Discussing themes with other members of the research team helped in reducing biases induced by the researcher into study findings, which also supports the study's confirmability. The authenticity of the study was reflected by showing the different, rich and detailed views of the varied sample of participants and pharmacists interviewed (Connelly, 2016). And finally, relaying the views of patients who participated in the study and giving it equal importance to views of pharmacists supports the "lay knowledge" criterion of evaluating qualitative studies (Popay et al., 1998, Horsburgh, 2003).

The study also has several other strengths to highlight. First, the study used a mixed method research approach to explore the feasibility of collecting patient feedback, in addition to gathering the views of patients, pharmacists and a pharmacist's colleague about their experiences with the process. Second, the included sample of participants encompassed a diversity of characteristics with respect to their age, gender, hospital area from where they were recruited, whether inpatients or outpatients, methods used in approaching them, and whether it was the first time

for them to see the pharmacist, thus providing evidence and diverse views on the practicality of conducting the process. Third, several efforts were taken into account in the design and conduct of the study in order to help participants provide honest responses such as assuring their anonymity and using sealed envelopes to keep their feedback protected. Efforts were also made to reduce the effects of feedback contamination by consultations conducted by other professionals by approaching participants immediately following the consultation to give feedback, however, it was not possible to identify how long patients actually took to give feedback following the consultation. Fourth, all interviews were conducted by the researcher who is not a member of the healthcare team, which is thus hoped to have encouraged the collection of honest and open responses.

Fifth, this study also represents a steppingstone towards building benchmark data for patient feedback on pharmacists' consultation skills which can be used as a database for pharmacists to compare their own performance over time and to compare their performance with their peers and colleagues.

Despite the above mentioned strengths, a few limitations were encountered. These include conducting the study in a single hospital with a small number of pharmacists and patients, thus, the views collected from those interviewed may not resemble the views of other patients or colleagues who were not interviewed, patients or pharmacists who did not take part in the study, or the views of patients, pharmacists or colleagues in other hospitals or settings, which may all thus limit the generalizability/transferability of results to the wider population. Another limitation was the selection bias that was introduced by pharmacists when recruiting patients themselves for the study, which potentially may have introduced response/social desirability bias by participants when completing the questionnaire. However, despite the efforts taken into account to reduce the associated bias, it might have influenced the final feedback collected and thus the usefulness of reports constructed at the end. Additionally, recall bias might also have been encountered as it was not possible to conduct interviews with participants immediately following the consultation and feedback collection. However, efforts were made to reduce this by conducting the interviews as soon as possible within two weeks period from

giving the feedback. Another limitation was with respect to the number of participants interviewed per pharmacist. The target was to interview up to three participants per pharmacist, however, variations existed between the numbers recruited and none of the patients for two pharmacists were interviewed due to not returning back their informed consent, not responding to the researcher's phone calls, or not expressing interest in the study. This limited the exploration of a wider participant experience with regard to the feedback process between the different pharmacists.

With respect to interviewing colleagues in phase three with whom pharmacists discussed their reports, although three pharmacists clearly stated discussing their reports with someone else, only one colleague was interviewed. The two other colleagues were not interviewed since one of them was the clinical supervisor of the researcher, thus to avoid the effects of response bias, it was not possible to include him in the study. The other colleague was not interviewed as she was away within the designated time for carrying out these interviews. The views of these colleagues might have brought a different perspective regarding the process and the support they can provide, something that merits investigating in future studies.

4.6 Conclusions

The study provides valuable information to the field of patient feedback and pharmacy consultations. Findings support the feasibility of collecting patient feedback on hospital pharmacists' consultation skills. Recommendations were given by pharmacists and participants to amend certain aspects of the study to make it more practical and acceptable in the future. All participants and pharmacists were happy with the idea of patient feedback, and most viewed the ISQ as a relevant tool that fits the purpose of collecting patient feedback and providing pharmacists with individualised feedback reports.

4.7 Implications for the future

The study provides valuable information regarding how the process could be better implemented when seeking patient feedback. In light of study findings, a distillation of key points suggested by patients and pharmacists should be considered to facilitate the logistics of feedback collection in the future. These key points include the following:

- Using a third person to distribute questionnaires and collect feedback from patients following their pharmacists' consultation, this will help in reducing the effects of selection bias, and response and social desirability bias, and will enable collecting feedback from a wider range of patients (including those who have reading or writing difficulties).
- Following a consistent approach when collecting patient feedback to reduce the effects of selection bias and facilitate comparing data of different pharmacists.
- Collecting patient feedback as soon as possible following pharmacist's consultation to reduce the effects of recall bias and reduce the risks of feedback contamination by consultations conducted by other healthcare professionals.
- Approaching patients for feedback collection in a side room whenever possible to maintain their privacy and protect their anonymity and confidentiality.
- Explaining to patients to put the completed questionnaire in the marked box or give it to any member of staff to who will return it back to the box. Otherwise, patients can leave the sealed envelope containing the questionnaire on the bed when discharged and it will be collected by any member of the staff.
- Using electronic devices whenever possible to collect patient feedback, this will help in obtaining feedback results quickly and will reduce the burden of collecting the completed questionnaires.
- Approaching patients for feedback collection enough time following their surgery when they are no longer under the influence of their operative medications and can handle the process appropriately.
- Encouraging pharmacists to talk more to patients about their current roles in patient care. This will increase patients' awareness about pharmacists and thus will contribute in making feedback more useful.

- Collecting patient feedback every one to two years. This will help pharmacists to follow their improvement across the years.

When refining the process of feedback collection as indicated by patients and pharmacists, future studies should be designed to be carried out with a higher number of pharmacists in more than one hospital with feedback collected more than once to serve the following purposes:

- Investigate the impact patient feedback might have on enhancing consultation skills of pharmacists.
- Explore whether pharmacists conducted changes to their practices,
- Identify patients' views about what outcomes they perceive important to be measured when collecting their feedback to consultation skills of their pharmacists.

Future studies may also consider investigating collecting patient feedback from other care settings such as community pharmacy and general practices, which both may have different challenges than those encountered in the hospital.

5 Chapter 5: Overall discussion

5.1 Summary of conducted studies

The overarching aim of this thesis was to explore the use of patient feedback in hospital pharmacy consultations. The introduction chapter discussed a literature review that described the importance of communication and consultation in healthcare systems. It also summarised the different models of consultation and theories of human interactions that were developed across the years alongside moving care from following a doctor-centred approach to become more patient-focused and centred, and how this is linked to enhancing several desired outcomes of therapy. These changes were associated with introducing different sets of consultation skills that professionals can use when interacting with patients. The chapter also briefly discussed changes to the pharmacy profession in the UK, in its different sectors, including the way it is practised (Department of Health, 2004, Noyce, 2006). Alongside these changes, pharmacists have been increasingly involved in direct patient care, thus increasing the number of patient consultations they conduct (Department of Health, 2008b, Smith et al., 2013, Pharmaceutical services negotiating committee, 2019).

The importance of person-centred consultations has been acknowledged by different pharmacy professional bodies in the UK, such as the GPhC and the RPS (Royal Pharmaceutical Society, 2014, General Pharmaceutical Council, 2017). Pharmacists were provided with various learning opportunities to help improve their consultations, however, it was not clear whether they have been successful.

The literature review reported different methods to assess and enhance consultation skills, one of which is by collecting feedback from those who receive these consultations; i.e. patients themselves. There is a need for this feedback to give insights to professionals on how they perform (Sargeant et al., 2010, Lockyer et al., 2011). Although feedback importance has been increasing and is internationally acknowledged (Evans et al., 2007, Reinders et al., 2011, Edwards et al., 2015, Gleeson et al., 2016, Davidson et al., 2017), surprisingly, there is paucity in research in exploring this area with respect to the pharmacy setting. Therefore, for the purpose of this thesis, and based on the findings of the literature review, three

different studies were conducted to provide answers to the thesis overarching aim, with each study being informed and shaped by the findings of the previous one(s).

The first study was a systematic review that aimed to identify questionnaires that collect patient feedback on consultation skills of healthcare professionals, and where feedback has been used in constructing individualised reports for professionals to read and use to develop their own consultations. The evidence gathered by this systematic review indicated that patient feedback has been used to help professionals identify areas of their consultation that needed further attention. Professionals also welcomed and valued feedback given by their patients since they are the recipients of their consultations and are most suited to direct them to where improvement is needed. The review also supported that this is an under-researched area in pharmacy and that several gaps are available and need to be addressed, since studies were mostly conducted with physicians, especially in primary care. Several questionnaires were also identified by the systematic review, one of which was the DISQ, which had more evidence in terms of its psychometric properties and its general characteristics in comparison to the other questionnaires (Greco et al., 1995, Greco et al., 1998, Greco and Pocklington, 2001, Greco et al., 2003).

As explained before, the development of DISQ followed methods usually undertaken for developing a new questionnaire, including reviewing literature, identifying other related questionnaires, and engaging related stakeholders in its design (Greco et al., 1995, Greco et al., 2000). DISQ finally included 12 items that are easy to understand, and complete. From all identified questionnaires, DISQ was selected because it had more evidence regarding its characteristics and psychometric properties .Since it has never been used before with pharmacists, it was first pre-tested in the second subsequent study of this PhD. A generic form of DISQ, i.e. the ISQ, was used though in the rest of the PhD. The ISQ is similar to DISQ, however the word “doctor” has been replaced by “pharmacist”, and it has an extra item that was added by its owners (the CFEP) to cover the aspects of patient self-care that was highlighted by the NHS during the 2000s (C. Blackburn, personal communication, November 10th, 2017). However, these changes indicated a need

for further studies in the future to investigate the reliability and validity of the ISQ. The face validity of the ISQ was supported by the subsequent two studies, and its internal validity was also supported in the final feasibility study in this thesis.

The second study in this PhD consisted of qualitative think-aloud cognitive interviews designed to pre-test the ISQ in the new setting of hospital pharmacy consultations. The study was conducted with patients who received a copy of the ISQ and were asked to voice their thoughts while answering the questionnaire. No major problems emerged from participants while answering the questionnaire and findings supported that the ISQ is potentially useful to be taken forward to collect patient feedback on hospital pharmacists' consultation skills. The findings of this study also supported the face validity of the ISQ as all participants described it as being easy to understand and answer.

The third and final feasibility study was designed based on the findings of the previous ones. The main aim was to identify the feasibility of collecting patient feedback on hospital pharmacy consultations. A mixed methods research approach was used in this study to collect as much evidence from related stakeholders (i.e. pharmacists and patients). Final findings indicated that both patients and pharmacists are welcoming to the idea of collecting patient feedback, and are willing to do it again in the future since it has several benefits to patients, pharmacists, and to healthcare services. Several suggestions were also given by patients and pharmacists on how the process could be improved in the future.

5.2 Calgary-Cambridge guide and the ISQ

The different models of consultations described in chapter one showed a wide range of skills used by healthcare professionals. Recent models were highly directive towards making consultations more person-centred. Amongst these models is the Calgary-Cambridge guide, which is probably the most widely used in the UK in teaching undergraduate medical and pharmacy students about consultation skills (Greenhill et al., 2011). The guide is comprised of 71 different skills that cover the different phases of a consultation. In comparison to other

consultation models, the Calgary-Cambridge guide is task-oriented and follows a structured scientific approach which neglects neither the patient's nor the doctor's agenda.

However, if pharmacists were trained on consultation skills using the Calgary-Cambridge guide, it is important to identify whether skills assessed by the ISQ are also included in the guide, just to ensure that pharmacists are being assessed on what they received training to do. The guide however was designed using a scientific/medical language and is directed to be used by assessors (e.g. tutors or consultation experts) to evaluate the different skills used by students at each phase of the consultation (Kurtz and Silverman, 1996). As for the ISQ, it was designed using a simple language that is easy to understand by its respondents (i.e. patients), and that is directed to test the interactional abilities of the professional (e.g. pharmacist) with patients which represent a reflection of consultation skills used. Unlike the Calgary-Cambridge guide, the ISQ assesses skills used in the whole consultation and is not consultation-phase specific, which probably makes it easier to understand and handle by patients completing it.

A provisional mapping between the ISQ and the Calgary-Cambridge guide was conducted (see appendix 4-A). Mapping revealed that most items of the ISQ appeared in the different phases of the consultation described by the guide. This could in turn make it difficult for pharmacists to identify which component of the skill they need to focus on and improve. For example, if a pharmacist received a poor rating on item number two of the ISQ, i.e. warmth of pharmacist's greeting, this item in turn was mapped to four skills in the guide, each has different components, e.g. obtaining patient's name, demonstrating respect, and using non-verbal skills appropriately. Under such condition, the pharmacist would probably not be able to identify which of these skills/components need to be improved. Thus, unless patients provide specific comments in their feedback that justify giving lower ratings on certain skills (e.g. greeted without looking at me in the eyes), it would be difficult for pharmacists to identify what they need to do to improve. Feedback specificity and patients' comments help in directing pharmacists on which element(s) of the consultation patients were not happy with and would prefer

pharmacists to change. This was actually highlighted by some pharmacists in the feasibility study. Although some stated that feedback reports highlighted areas for them to make an action plan to change and improve, some other pharmacists could not do that because of either not receiving comments at all or received comments were not specific to justify poor ratings. This accords with the findings of a systematic review which described an influential patient feedback as the one that would stimulate reflective discussions, contain narrative comments, and specify and clearly highlight areas to change (Baines et al., 2018).

Consequently, this raised questions about whether the ISQ is the right tool to be used in this setting. The thesis argues that it does have the potential to, it has several strengths and evidence to support its use, and the findings of the studies conducted in this PhD did not reveal significant problems when it was used by most pharmacists and patients. However, some findings indicate that it may require some adjustments to make it more suitable for pharmacy consultations. Minor issues were identified by some patients at the TA study (chapter 3) with respect to certain questions of the ISQ. Given suggestions were about adding a "non-applicable" response option to cover all patients' conditions. This was also highlighted by a few pharmacists in the final feasibility study, indicating that some questions may not always be applicable with all patients. This could be attributed to several factors, such as the type of consultation a pharmacist is conducting.

Hospital pharmacists conduct different types of consultations depending on their area of specialisation (Greenhill et al., 2011). In the hospital setting, pharmacists usually approach patients for different reasons, such as to take a medical history or to give them information about their treatment. Sometimes, pharmacists might be approached by patients who might ask for advice on something related to their treatment. This may therefore influence the relevance of some items of the ISQ to the consultation. For example, when hospital pharmacists approach patients to obtain their medical history, some elements of the ISQ might not seem relevant for patients to assess since they were approached by the pharmacist and they may not see the full benefit behind that consultation. Whereas, if the patient approached the hospital pharmacist himself, or the hospital pharmacist approached patient to

consult them about using a medicine and/or medical device, the patient may then see a benefit of the consultation and as a result, feel these elements to be more relevant and applicable (e.g. ISQ item number 12). Thus, for pharmacists, the variability in consultations they conduct may impose different discussions to be held with patients and thus influence how they will relate items of the ISQ to the consultation. This may then support the need to amend the ISQ, for example by adding a "non-applicable" response option to cover all conditions encountered among the different consultations. However, this was not explored in this thesis, and thus indicates a need for future studies to investigate and understand more about the different types of consultations hospital pharmacists conduct and its relevance to the questionnaire's items.

5.3 Feasibility study and pharmacists

According to andragogy, adult learners are considered self-directed and responsible for their own learning, however, the availability of different learning methods and the exposure to various experiences also play a role in enhancing their development (Merriam, 2001). In this thesis, patient feedback was considered a method to facilitate the scaffolding of pharmacists' consultation skills, by allowing them to know what patients think of their consultations.

Informed by the findings of previous work conducted in this PhD (Al-Jabr et al., 2018, Al-Jabr et al., 2019), and by the views of the supervisory team, the final feasibility study was designed to be conducted in three phases, with pharmacists participating in the first and third ones. All pharmacists were provided with information sheets that described the study and its associated benefits. Although the study was carefully designed, it was anticipated that a higher number of pharmacists would be interested in taking part, especially that it is related to their daily practice and is directed to enhancing patient care. However, few pharmacists expressed interest.

A number of factors which hinder healthcare professionals (including pharmacists) from participating in research or different learning activities (e.g. CPD learning

activities) are described in literature. These include lack of time to dedicate to research, excess workload, perceived difficulty managing workload with other activities, lack of individual capacity to handle the research process, and failure to recognise contributions of research in job plans. Furthermore, insufficient support by leadership, lack of support staff, giving priority to clinical practice and management duties over research, and lack of interest in the research topic were also mentioned (Foley and Moertel, 1991, Hanson and De Muth, 1991, Shea et al., 1992, Smyth et al., 1994, Dickinson, 1994, Morse et al., 1995, Ward et al., 2000, Bell et al., 2002, Saini et al., 2005, Armour et al., 2007, Marriott et al., 2007, Peterson et al., 2009, Bakken et al., 2009, Laaksonen et al., 2009, Yanagawa et al., 2010, Donyai et al., 2011, Awaisu and Alsalimy, 2015, Lowrie et al., 2015, Tsoi et al., 2016, Dimova et al., 2018, Maben and King, 2019). Any of the above mentioned factors or a combination of them might have contributed to decreasing the number of pharmacists expressing interest in the study, especially that currently, the NHS is reported to be chronically understaffed. Across the UK, hospitals are getting busier and are putting more workload on the available staff (British Medical Association, 2018). Challenges facing the NHS are further aggravated with the ageing population, the increase in the number of patients with chronic and complex medical conditions and the inability to better use the skill mix of the NHS workforce (Buchan et al., 2017, British Medical Association, 2018, The Health Foundation, 2019). This has also influenced hospital pharmacy, which further contributed to increasing the workload on its staff (Lowrie et al., 2015). Additionally, it was reported that the number of pharmacy staff employed in acute hospitals in England is not parallel to meet all work demands (Fitzpatrick and Sanders, 2016).

However, in spite of the low number of pharmacists expressing interest in the study, the 10% sample of pharmacists targeted to participate was finally obtained. Prior to starting though, a training session was conducted with pharmacists who were interested. At the session, pharmacists (i.e. learners) were provided with information regarding how the study would ideally be carried out. Study aim and objectives, and the potential benefits pharmacists could gain were also explained. Pharmacists were told that they will receive individualised reports constructed from

their patients' feedback, and they are free to decide what they would like to do with these reports and how to act upon it.

Although ideal methods of conducting the study were described, pharmacists were told to amend the process where necessary, since the explained logistics were derived from studies carried out with physicians, and might not always be applicable to the hospital pharmacy setting. Thus, pharmacists' accumulated experience acted as a good source of learning to direct them as well, which is consistent with one of the principles of andragogy (Knowles, 1990, Knowles et al., 1998, Knowles et al., 2012).

The session provided pharmacists with what they needed to know before deciding to participate. All of this is aligned with the assumptions and principles of andragogy previously discussed in chapter one (Knowles, 1990, Knowles et al., 1998, Knowles et al., 2012). After having their enquiries clarified, pharmacists, as adult learners were able to make independent decisions to participate in the study.

However, what might have encouraged pharmacists to participate? Several motivational factors were reported by the literature to drive healthcare professionals to take part in research. These include internal factors such as curiosity and interest in the research topic (Simpson et al., 2001). In the feasibility study, pharmacists were probably driven by the topic under investigation, especially that it was about an indispensable part of their daily practice that they probably wanted to explore and improve. Other factors include a desire to expand professional roles, improve care delivered to patients, and improve own skills, or develop and use new ones (Hanson and DeMuth, 1992, Krska et al., 1998, Simpson et al., 2001, Garrett and Martin, 2003, Sarwar et al., 2018). Although not explored in further detail, pharmacists' collated positive views about the concept of patient feedback and its potential usefulness in improving their performance are aligned with these motivational factors. Adult learners are more interested in learning activities that have practical applications in their life, and that can satisfy their learning needs (Knowles et al., 2012). Thus, pharmacists possibly had learning needs that they wanted to satisfy and enhance by taking part in this study.

With respect to study conduct, pharmacists were in control of their learning experience in two aspects; how the feedback was collected and how they responded to it. Gathered findings indicated that pharmacists tried to follow the described ideal methods of feedback collection, however, the process was associated with various challenges that made them amend the process to suit their working conditions (i.e. give questionnaires directly to patients rather than by a third person). As for feedback reports, although all pharmacists reported reading it, some indicated discussing their reports with someone else, and few have started already in using it to develop their consultations by putting the new skill(s) under immediate action. As promoted by different learning theories, experimentation helps in strengthening and consolidating the new learned skill (Hartley, 1998, Kolb et al., 2001, Hutchinson, 2007). Given reports have created opportunities for these pharmacists to reflect on their practice and to identify how they can change and improve. This was indicated by pharmacists and the pharmacist's colleague at their interviews.

However, feedback reports were found of limited usefulness to some pharmacists, especially those who received the abbreviated report. As expressed at their interviews, this was attributed to the various challenges they encountered throughout the study that led to recruiting a fewer number of patients which made them receive the abbreviated report. Lack of specific comments and the general positivity of reports without highlighting areas to improve or justify lower ratings were also mentioned. Although this might have played a role, there are possibly other reasons as well. As mentioned above, being motivated is important in facilitating adult learning experience and participation in research (Lieb, 1991, Merriam and Caffarella, 1991, Abdullah et al., 2008). All pharmacists who took part in the study reported similar challenges with recruiting patients (whether inpatients or outpatients) at the different hospital areas, and almost all agreed that the given duration of time (i.e. three months) should have been enough to collect the required feedback. However, beside reported challenges, possibly some pharmacists were not motivated enough to collect feedback, did not recognise a value of feedback reports, or did not perceive it as a priority for them to pursue

next to their work duties, which thus made them receive the abbreviated report. Unlike the other pharmacists who, in spite of encountering similar challenges, were probably more motivated, tried to overcome these challenges, managed to collect feedback from the target number of patients and finally received the full report, which they reported to be useful.

5.4 Study findings and learning theories

Studies conducted in this PhD supported that patient feedback has the potential to be used as a learning tool to direct professionals to know more about their consultations and how to improve it. This is highly supported by the patient feedback cycle described by the Department of Health (2009), where feedback is incorporated in designing an improvement plan to help professionals develop. A range of different learning theories was discussed in the first chapter explaining the different ways individuals learn. Some theories were focused more on learning that happens through observation (behaviourism), some on mental processes taking place within the mind (cognitivism), learning through experience (experiential learning models), learning from interacting with others and receiving feedback (constructivism), learning from interacting with and observing role models (social learning theory), or a combination of these theories. Figure *5-1* illustrates a mapping conducted between the different learning theories with phases of the multi-theories model proposed by Taylor and Hamdy (2013) and with the process of patient feedback collection that pharmacists went through in the final feasibility study.

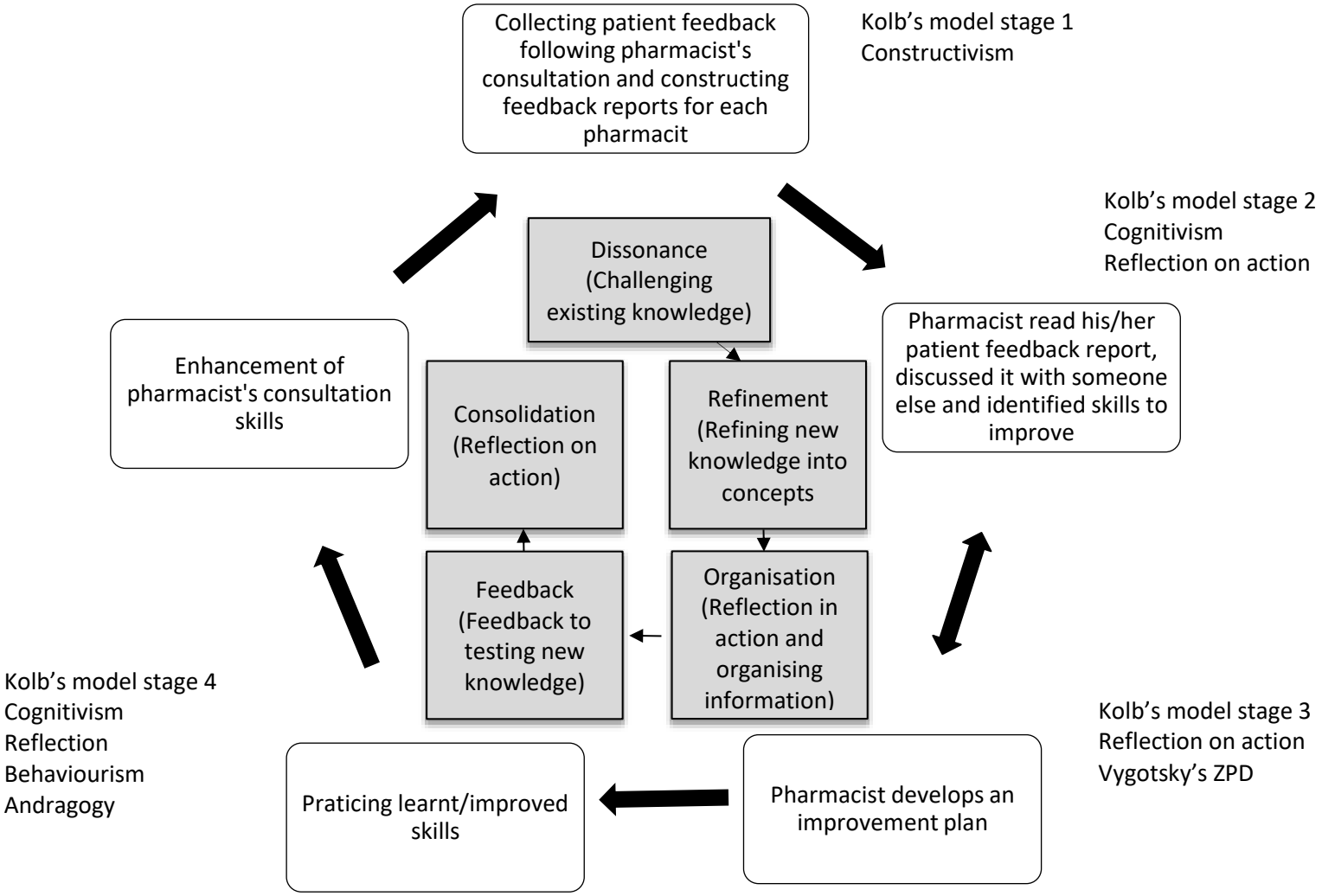

Figure 5-1 Proposed pharmacists' multi learning process using patient feedback

ZPD: zone of proximal development

In this proposed multi-learning process model, patient feedback is considered as a tool to enhance consultations skills, which is supported by the findings of the interviews conducted with patients and pharmacists. As proposed by Taylor and Hamdy (2013), a multi-theories model could help in explaining the learning process pharmacists went through with the patient feedback experience and how it might have helped them develop their consultation skills. In the feasibility study, first, a pharmacist conducted a patient consultation that is part of his/her daily practice (Kolb experiential learning stage 1). Pharmacists' consultation skills were then challenged by collecting feedback from their patients (dissonance phase of multi-theories model). Collected feedback was used in constructing reports for individual pharmacists (constructivism), and pharmacists identified how well their consultations were conducted by reading these reports. According to constructivism, within a series of tasks (patient consultation), learners (pharmacists) could use feedback from one task to inform the development in the next one. Thus, learners become actively engaged as they continuously use prior feedback in the next step(s) (Carless, 2016). For some, reports were more useful than others, especially when pharmacists were able to identify learning points (areas of poor performance). By reading these reports, pharmacists processed feedback results (cognitivism), reviewed and reflected on their practices (Kolb's experiential learning model stage 2) to try identify what has happened during their consultations, and what influence their feedback would have on their future practice (reflection on action). Lower ratings or specific comments received about consultation skills may have created a disequilibrium to pharmacists' goals and expectations (cognitivism), thus acted to motivate them to change and respond appropriately. Some pharmacists indicated discussing their reports with others (formally or informally), to help them refine their new learning points (refinement phase) and make better use of the received feedback. From this new experience and with continuous reflection on action, a few pharmacists, especially the ones who received the validated reports, identified areas in their consultations that need further attention and development (Kolb's experiential model stage 3). Driven by various motivational factors (andragogy), these pharmacists used the collected feedback in developing and achieving learning outcomes in enhancing their

consultation skills (Vygotsky's ZPD). Some pharmacists reported planning to use their feedback to change their practice (organisation phase). Next, the new learned skills (e.g. talking to patients more privately, listing attentively) were practised in order to be reinforced (Kolb's experiential model stage 4, cognitivism, behaviourism, and reflection) (feedback phase). The process eventually ends with the enhancement of the skills that were rated low by patients (consolidation phase). However, follow-up feedback could help in supporting this claim.

The above proposed model works more with pharmacists who were able to identify areas in their consultation that called for an action, especially when specific comments were also included to help direct pharmacists on what to do. When these areas were under pharmacists' control, they reported starting immediately in improving their consultations as recommended. However, some other pharmacists, although identified areas to improve (e.g. giving more time to patients), they were not able to identify how this can be implemented as it was not under their control and they needed more support from the organisation, which thus hindered them from responding appropriately to the feedback. These findings are in line with the Patient Feedback Response Framework (PFRF) introduced earlier in chapter one. This framework indicates that responding to feedback can be initiated individually and immediately when the feedback is within the control of its recipients, and when motivation and intentions are also available. However, some feedback may call for higher organisational support to help individuals respond appropriately (Sheard et al., 2017, Moore, 2018). Figure *5-2* summarises the findings of pharmacists' experience with feasibility study using the PFRF.

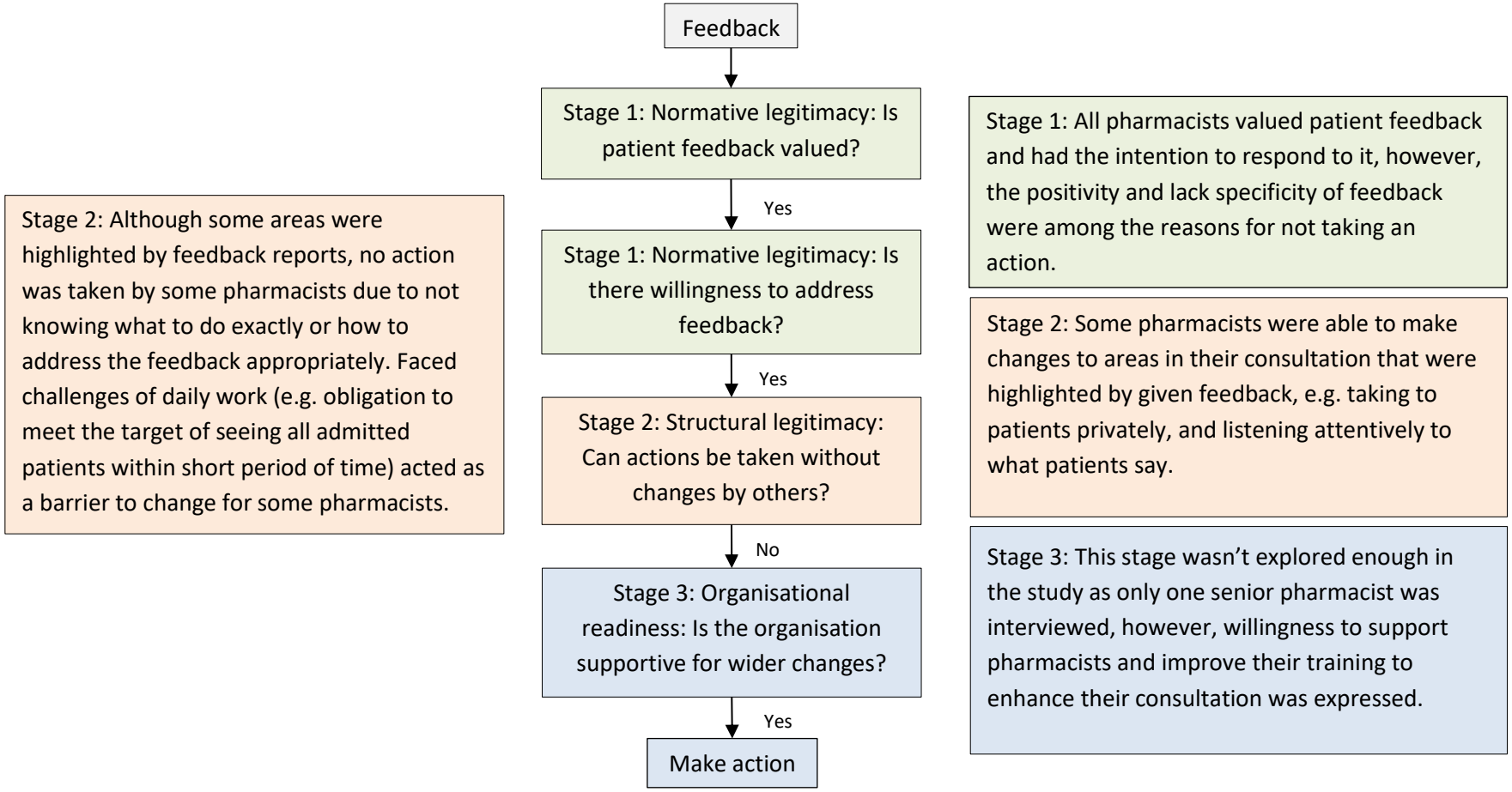

Figure 5-2 Flowchart of Patient Feedback Response Framework with incorporated results of pharmacists' interviews at feasibility study. Adapted from (Sheard et al., 2017, Moore, 2018)

The variation in responding to feedback raises questions regarding how feedback can be made more helpful and useful. Different factors were reported to influence the response to a given feedback to implement behaviour change. These include characteristics of the feedback itself, feedback recipients, and provided support (Smither et al., 2005, Miller and Archer, 2010). Characteristics of feedback itself include whether it is positive or negative, and feedback specificity (Smither et al., 2005). Feedback that is mostly praise to the recipient and is not specific to the task that is being assessed is usually not useful to be taken forward to design an improvement plan (Kluger and DeNisi, 1996). This is consistent with the findings of the feasibility study, as some pharmacists were not able to identify areas to improve due to different reasons, including the lack of specificity in given reports. Additionally, high feedback scores can mislead professionals that they do not need further improvement (Baines et al., 2018), which was also reported by some pharmacists at their interviews.

Possibly one of the ways to encourage patients to provide specific feedback could be by highlighting that in the questionnaire itself and clearly asking patients to write comments when selecting poor ratings to help pharmacist develop.

Characteristics of feedback recipients include their personality, the perceived need to change, beliefs about change, their goal setting, and taking action (Smither et al., 2005). Individuals who are continuous learners tend to be feedback oriented, and always anticipate changes in their environment (e.g. job) that encourage them to seek feedback and use it for improvement. These continuous learners have goals that they seek to achieve by taking part in different learning activities (Vincere and Fulmer, 1998). Some individuals consider discrepancies between self-perception and ratings by others as a need to change. Taking action by individuals following feedback takes different forms such as working with a coach, making a behaviour change, discussing feedback results with others, and/or taking part in learning activities (Smither et al., 2005). This is consistent with the actions undertaken by some pharmacists in the feasibility study following the receipt of their feedback reports.

The third factor is related to support provided and resources available. As indicated by the PFRF, the role of the organisation and team support is also important to facilitate responding to feedback. Some pharmacists stated not being able to respond to feedback, partly because of not knowing exactly what to do and how to respond to it (PFRF stage 2). Knowing that one should change without knowing how to change can cause frustration and demotivates the individual from engaging with feedback (Sargeant et al., 2013). Some pharmacists mentioned that their duties in meeting specific targets of seeing all newly admitted patients acted as a barrier against responding to feedback. Thus, for these pharmacists, responding to feedback might have been outside their control, as it has to do with the management. This was not investigated in detail in this PhD due to time limitations and due to the fact that some pharmacists did not discuss their reports with their line managers. Two line managers were not interviewed since one was away when interviews were carried out and the other one was the clinical supervisor of the thesis author. However, this area merits further investigation in the future to identify how the organisation can provide support to its pharmacists to help them respond appropriately to given feedback and enhance their consultations.

5.5 Proposed model of feedback collection

Patient feedback is more established with doctors than with pharmacists. Since introducing revalidation in 2012 by the General Medical Council (GMC), doctors are requested to collect feedback from colleagues and patients and show evidence of their good practice once every five years (Nath et al., 2014, General Medical Council, 2019a, General Medical Council, 2019b). The way doctors usually collect feedback from patients is during a clinic or surgery, either by a third person (i.e. staff member such as a receptionist) or directly by themselves if necessary. Feedback can also be collected electronically by means of completing an online form. However, the feedback collection process was reviewed and improvement was requested (General Medical Council, 2019b). A survey was open for doctors in the middle of 2019 to express their opinions on how to change the guidance in

order to make the process more suited to the needs and preferences of patients, and also to reduce the burden on doctors, especially with the current increased pressure within the busy NHS. Moreover, it was felt that collecting feedback every five years would not allow enough patients to take part. Thus, a recent suggestion was to collect feedback annually instead (General Medical Council, 2019b). Survey results are yet to be declared.

With respect to the pharmacy profession, revalidation was introduced in 2018 by the GPhC as a replacement to the continuing professional development system. All registered pharmacists are currently required to annually submit records that reflect their learning and development, and how this benefited people who received their services (General Pharmaceutical Council, 2019). Although collecting patient feedback is not mandatory in the pharmacy revalidation system, there is more scope for it to be used with the current revalidation requirements and it could form part of it. The requirements necessitate pharmacists to submit four CPD entries, one peer discussion, and one reflective account every year. Thus, patient feedback can be used as part of the peer discussion, and also as part of the reflective account.

In this PhD, patient feedback was collected while following recommendations from literature, all of which were derived from studies conducted mostly with doctors. What has been established from this thesis is that both patients and pharmacists value and welcome the idea of patient feedback, and they are very supportive of patients giving and pharmacists receiving feedback on their consultations. As different methods were mentioned in literature with respect to questionnaire administration, and were also used in the final study, to facilitate the process in the future, the following model of feedback collection that is summarised in Figure *5-3* is proposed. The model takes into account the views of patients and pharmacists who were included in the feasibility study.

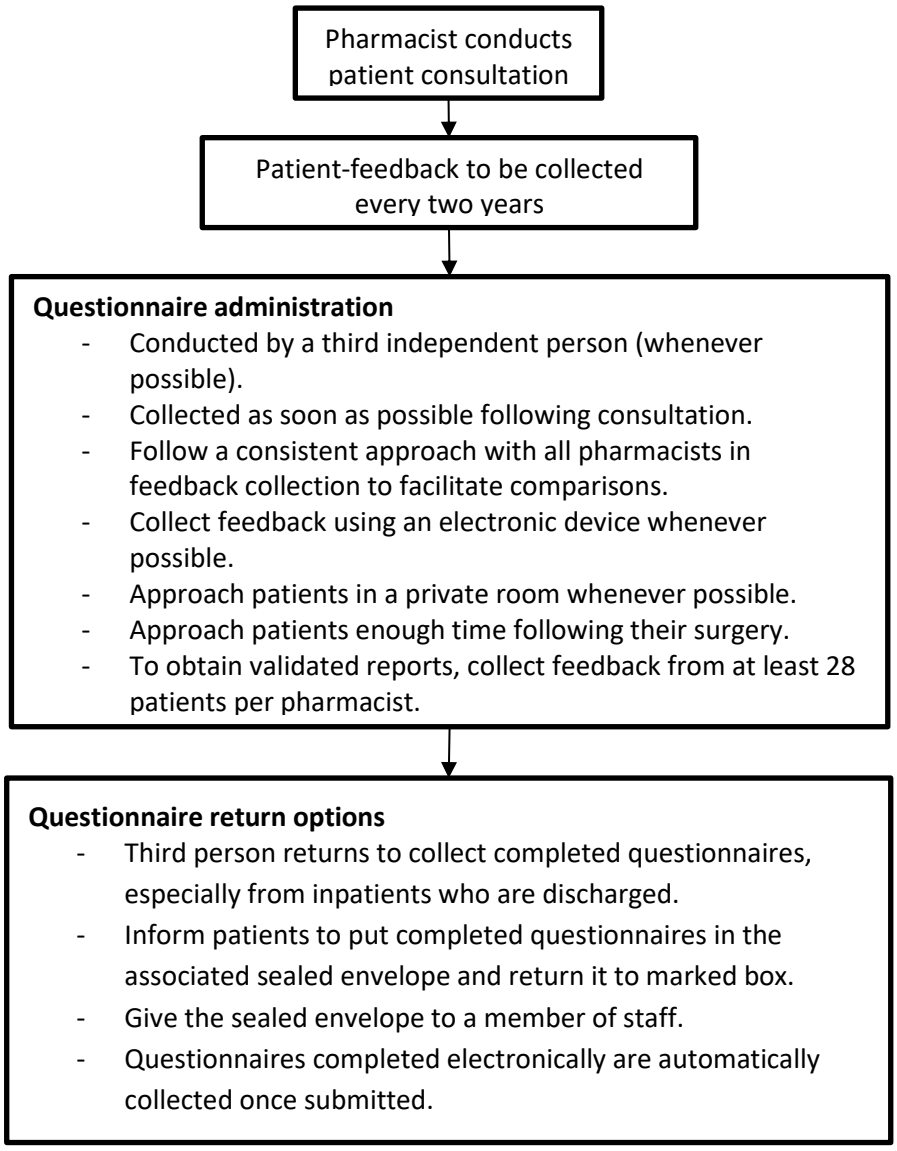

Figure 5-3 Proposed model of patient feedback collection on hospital pharmacy consultation skills

The biggest challenge of the proposed model above is particularly with identifying a third person who would be responsible for collecting feedback from patients following pharmacists' consultations. As indicated by pharmacists, the use of a third person can make the process more feasible, especially that most pharmacists could not find a third person all the time, with only 28% of patients reported being recruited by a third person. Pharmacists also mentioned several other benefits for having a third person, in which it will help in reducing selection and response bias, and reduce pressure on pharmacists and staff every time a patient is approached.

However, it is important to consider the complexity that NHS hospitals are going through today regarding the shortness of staff and increased workload. Therefore, the validity of assigning such third person needs further investigation especially with pharmacy management at the hospital to identify their views about patient feedback and its importance, whether assigning a third person to facilitate the process is possible, if so who would it be, and also what support they can provide to pharmacists to help them improve and respond to received feedback.

5.6 Implications for future research

Studies conducted in this PhD add more information to the literature regarding patient feedback and hospital pharmacy consultations, however, there is still a dearth of research in this area, and more studies are needed in the future to answer the several raised questions and explore this field in more details. This work is aligned with the Medical Research Council guidance (MRC) framework for developing complex interventions, especially the initial stages of developing an intervention (i.e. patient feedback) where evidence was provided that supports the value of feedback as expressed by the related stakeholders involved, and also their desire and willingness to be involved in the process again. Different encountered barriers were also identified with facilitators that could improve the process. Therefore, the following is proposed to be considered in future studies:

1. Investigate and understand more about the different types of consultations hospital pharmacists conduct and its relevance to the questionnaire's items. This could be done by doing qualitative work with hospital pharmacists to explore their views in further details about the items of the ISQ and whether it needs further adjustment while considering the different consultations they conduct.

2. Explore the views of hospital pharmacy managers regarding patient feedback, the process for feedback collection as indicated by the findings of this thesis, and what support they can provide to facilitate the process and help pharmacists improve. Explore also their views about the use of a third person to facilitate feedback collection and who would it be.

3. Follow the MRC framework in intervention development and complete the process by next modelling the intervention to a behaviour theory (e.g. the capability, opportunity, and motivation (COM-B) framework of behaviour change), and test and refine the initial draft of the intervention.

4. Conduct more studies to investigate the validity and reliability of the ISQ.

5. Collect patient feedback on hospital pharmacists' consultations at least two different times to identify whether feedback has an impact to encourage pharmacists to make any changes. This can be done on multiple sites. Feedback to be collected from at least 28 patients per pharmacist to ensure validity and reliable feedback reports. A before-and-after study design can be employed to help investigate the impact of patient feedback.

6. Investigate the feasibility of collecting patient feedback from other pharmacy settings, such as community pharmacy, and pharmacists at GP practices.

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Exploring the use of patient feedback in pharmacy consultations

Volume 2 of 2

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Submitted for the degree of Doctor of Philosophy

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Appendices

Appendix 1-A Systematic review protocol

Patient feedback tools to enhance consultation skills of healthcare professionals: a systematic review

1 BACKGROUND

Consultations between healthcare professionals and patients represent one of the foundation blocks to an effective healthcare system, where good interaction between both parties has been shown to enhance several outcomes of therapy including adherence and patient satisfaction (Butler et al., 1996, Safran et al., 1998, Kinnersley et al., 1999, Maly et al., 1999, Svensson et al., 2000, Bredart et al., 2005). Poor consultations have been shown to be one of the leading causes of increased patient complaints and malpractice suits (Avery, 1985, Lester and Smith, 1993, Wofford et al., 2004, Coulter, 2006, Parliamentary Office of Science and Technology, 2005). In the UK, the focus by the NHS has been directed towards enhancing the quality of interaction between physicians and their patients (Department of Health, 2000). This was emphasised by the British Medical Association (BMA) and the General Medical Council (GMC) when they stated the quality of the physician's professional work should be assessed at regular intervals, thus supporting continuous improvement (Brownlea, 2001, General Medical Council, 2012b), "Doctors should seek feedback from both colleagues and patients at least once every five years, and it should form part of the discussion at annual appraisals" (General Medical Council, 2019a).

There are numerous ways in which healthcare professionals' consultations can be assessed, these include self-assessment (Kim et al., 2002, Symons et al., 2009), assessments by assessors (Howells et al., 2010), peers (Ramsey et al., 1993, Norcini, 2003, Campbell et al., 2008), parents of pediatric patients (Street and Richard, 1992, Espinel et al., 2014), real patients (Greco et al., 1998, Greco et al., 2001a, Espinel et al., 2014, Stausmire et al., 2015), and sometimes a combination of these methods can be used to provide a more holistic evaluation (Wood et al., 2004, Kamangar et al., 2016, Vinod and Lonergan, 2013). However, amongst all of the above methods, collecting feedback from patients is probably the most suitable in assessing consultation skills of healthcare professionals (Baker, 1990). Patients, as customers

of the healthcare system, are capable of providing reliable data that can give an insight over things not usually measured by other conventional methods (Labarere et al., 2001, Bredart et al., 2005), as well as providing more attention over shortcomings that might not be recognised by healthcare professionals (Zarei, 2015). Significant evidence exists that indicates the efficacy of patient feedback in assessing consultation skills of healthcare professionals (Cope et al., 1986, Delbanco, 1992, Forbes and Brown, 1995, Fidler et al., 1999, Greco et al., 2000, Greco et al., 2003).

Patient feedback can be collected by means of surveys/questionnaires or through conducting interviews (Cleary, 1999, Wensing et al., 2003). Surveys are more commonly used, especially in issues related to consultation behaviour and competencies of healthcare professionals (Wensing and Elwyn, 2003, Overeem et al., 2007). Patients have shown greater preference towards providing feedback rather than having their consultations video or audio taped (Bain and Mackay, 1995). Furthermore, surveys have the advantage as being a cost effective method that can be used to drive quality improvement (Cleary, 1999). They are extensively used in the UK, US and Europe (Handfield-Jones and Kocha, 1999, Luxford et al., 2010). However, the full benefit of patient feedback on consultations can only be realised if it is used to support the individual's professional development. Providing the healthcare professional with ratings made by patients concerning his/her performance can help in identifying strong and weak points of performance that will help in directing the professional to where improvement is needed (Delbanco, 1992, Tasa et al., 1996, Marshall et al., 2000).

Using feedback collected from patients as a tool to enhance consultation behaviour of individual healthcare professionals is not thoroughly studied. Initial searches identified two systematic reviews that investigated this domain (Evans et al., 2007, Reinders et al., 2011). Several feedback tools were identified by both of these reviews, however, although they differed in their search strategy and inclusion/exclusion criteria, both of these studies were focused on assessing consultation skills of physicians only, without considering other healthcare professionals such as pharmacists or nurses. Therefore, we wanted to conduct a systematic review which aims to identify patient feedback tools that have the

potential to assess consultation skills of a healthcare professional during his/her routine practice, and where feedback results are being used to enhance the development of these skills at the individual professional's level.

2 OBJECTIVES

2.1 Aim

To identify patient feedback tools that are designed to assess consultation skills of healthcare professionals, and that have the potential to be used for developing and enhancing those skills at the individual level.

2.2 Objectives

- To describe identified tools in terms of their structure, type of consultation domains covered and questions used.

- To describe the tools in terms of the following characteristics:

1. Tool name.

2. Type of healthcare professionals being assessed and type of patients doing the assessment.

3. Setting where study took place.

4. Time of tool administration.

5. Tool delivery method (individual in charge of delivering tool to patients, concealment methods used, and patient recruitment).

6. Methods used to report patient feedback results to professionals being assessed.

7. Outcomes being reported by different studies reflecting the efficacy of the patient feedback tool used.

3 METHODS

3.1 Criteria for considering studies for this review

3.1.1 Types of studies

For this systematic review, journal articles (including experimental and observational studies) will be considered eligible for inclusion. Other study designs including qualitative studies and reviews (systematic and literature reviews) will be excluded. Only studies written in the English language will be included in this review.

3.1.2 Types of participants

We will target adult patients (≥ 18 years) of both genders to be eligible for inclusion in this review. No restrictions will be given to patient medical condition, healthcare professional being assessed or to working setting.

3.1.3 Types of interventions

Studies that used quantitative patient feedback tools (questionnaires/surveys) to collect patient views about consultation skills of the healthcare professional, and where views obtained were used as an intervention towards enhancing these skills will only be included in this review. Interventions that tend to enhance consultation skills using methods other than questionnaires/surveys, such as training programs or educational teaching sessions will not be included.

3.1.4 Types of outcomes measured

There are no specific outcome measures to be investigated by this systematic review. This review tends to have an overview concerning patient feedback tools available and what is being measured to evaluate their effectiveness.

4 Search methods for identification of studies

4.1 Electronic searches

A search will be conducted systematically by the main researcher in consultation with two other reviewers, to identify published relevant studies focusing on patient

feedback tools dedicated to assessing consultation skills of healthcare professionals. The electronic search will be conducted using the following electronic databases:

- Medline (Ovid).
- EMBASE.
- AMED (via Ebsco)
- Web of Science.
- SCOPUS.
- CINAHL.
- PsycInfo.

A draft search strategy for Medline is provided in Appendix 1, and it will be adapted appropriately to be used with the other databases. Search results will be limited by two filters: English language and publication type journal.

4.2 Searching other resources

4.2.1 Reference searching

The reference lists of all studies acknowledged for final analysis and those of related systematic reviews identified by this search will be inspected for additional, unidentified studies that might be relevant to this review.

4.2.2 Author contact

Authors will be contacted for any missing data.

4.2.3 Grey literature search

A grey literature search will be considered using the same search strategy to identify additional studies that might be useful for this review, it will be conducted using the open grey website (www.opengrey.eu).

4.3 Inclusion and exclusion criteria

4.3.1 Inclusion criteria

To be included, studies must include a patient-feedback tool that meets the following criteria:

1- A quantitative tool (questionnaire / survey) that is self-completed by the patient.

2- Collects feedback from real patients (not simulated or standardised patients), and from adult patients (≥ 18 years old).

3- Assesses consultation skills of the healthcare professional (not students).

4- Assesses face-to-face, direct patient-practitioner interaction, where feedback is collected from patients post-consultation.

5- Has the capacity to provide individual feedback to the healthcare professional being assessed.

6- Has been used in enhancing the individual performance & skills of consultation of the healthcare professional.

4.3.2 Exclusion criteria

Tools will be excluded if they have the following criteria:

1- Qualitative tools that collect feedback from patients though using interviews or group discussions.

2- Collect feedback from pediatric patients, simulated / standardised patients, or from any party other than the patient himself (e.g. parents, family members, peers, colleagues, or staff).

3- Assess consultation skills of students.

4- Assessment collected from patients by using telephone interviews/surveys where questions are being read by an interviewer.

5- Assess general patient's experience or satisfaction with the healthcare service with lack of specificity to consultation skills, and where feedback is given at the organisational and not the individual level.

6- Not used in enhancing the individual performance of the healthcare professional being assessed.

7- Assessment done from several parties including the patient, but where patient input and feedback effect is not distinguished from others.

5 Data Collection and Analysis

5.1 Selection of the studies

Search results will be exported into the reference manager Endnote 7.2.1 for identification and removal of duplicates. The titles and abstracts identified through search strategy will be independently screened by two reviewers to check their eligibility against the inclusion criteria. Full texts of papers identified to be potentially eligible will be retrieved and will be independently screened by two reviewers for inclusion or exclusion. Discrepancies will be resolved by discussion between the reviewers and, where necessary by consulting a third reviewer. *Inter-rater agreement will be measured using Cohen's kappa coefficient.*

A PRISMA flow chart will be presented to summarise the results obtained throughout the full process of screening papers; from stage one (title screening) to the final stage (full text screening), showing numbers of papers identified in each stage as well as the number of duplicates recognised and removed. Reasons for exclusion will be provided in a separate form for studies excluded at both the abstract and the full text screening stages.

5.2 Data Extraction

A data extraction template will be designed specifically to extract data from identified studies. Template design will be guided by the Cochrane Effective Practice and Organisation of Care (EPOC) Review Group data collection checklist to extract the following data from each eligible study where possible:

- General characteristics of the study: tile; authors; publication year; study objective; study design; country of study; study setting; time duration of study; study's ethical approval; and study conclusions.
- Participants' characteristics: sample size of patients and healthcare professionals involved in the study; type of healthcare professionals being assessed; patients' response rate; and patients' ethical approval.
- Characteristics of patient feedback tool: name of tool/instrument; domains of care covered by the tool; tool validation; statements / questions assessing consultation skills; answering scale; tool delivery method, the way feedback results are reported back to the healthcare professional being assessed, and outcome measures indicating tool's efficacy.

Data from each eligible study will be independently extracted by one reviewer and will be independently checked by a second reviewer to verify accuracy and completeness of all data extracted. Disagreements will be resolved by discussion and consensus, or by consulting a third reviewer where necessary.

6 Assessment of risk of bias in included studies

The need for quality assessment of identified studies will be determined once data extraction begins.

7 Strategy for data synthesis

The data will be collated in a qualitative manner and narrative synthesis carried out.

8 Subgroup analysis and investigation of heterogeneity

None planned

Appendices

Appendix 1. Medline search strategy

Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) 1946 to present

#	Searches	Results	Search Type
1	"patient satisfaction".mp.	88999	Advanced
2	"patient participation".mp.	24906	Advanced
3	1 or 2	111483	Advanced
4	"health personnel".mp.	159047	Advanced
5	"health?care practitioner*".mp.	1116	Advanced
6	"health?care personnel".mp.	1159	Advanced
7	"health?care professionals".mp.	13562	Advanced
8	"general practitioner".mp.	17910	Advanced
9	doctor.mp.	50270	Advanced
10	physician.mp.	246425	Advanced
11	nurse*.mp.	348977	Advanced
12	pharmac*.mp.	846056	Advanced
13	4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12	1566860	Advanced
14	"interpersonal skills".mp.	1613	Advanced
15	"communication skills".mp.	8558	Advanced
16	"consultation skills".mp.	200	Advanced
17	"interpersonal relations".mp.	70273	Advanced
18	"professional competence".mp.	24867	Advanced
19	communication.mp.	317327	Advanced
20	competence.mp.	145474	Advanced
21	performance.mp.	822162	Advanced
22	Consult*.mp.	164194	Advanced
23	14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22	1444233	Advanced
24	feedback.mp.	137534	Advanced
25	questionnaire*.mp.	628230	Advanced
26	evaluation.mp.	1516122	Advanced
27	assessment.mp.	1178315	Advanced
28	instrument.mp.	102906	Advanced

29	“evaluation tool”.mp.	1795	Advanced
30	perception.mp.	326987	Advanced
31	survey.mp.	444002	Advanced
32	“performance appraisal”.mp.	4949	Advanced
33	"quality improvement".mp.	36463	Advanced
34	"resident evaluation".mp.	141	Advanced
35	"employee performance appraisal".mp.	4808	Advanced
36	"performance feedback".mp.	1036	Advanced
37	"health care surveys".mp.	31863	Advanced
38	24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37	3650976	Advanced
39	3 and 13 and 23 and 38	6834	Advanced
40	limit 39 to (english language and journal article)	6322	Advanced

Appendix 1-B Database search strategy

Medline search strategy

Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) 1946 to present

#	Searches	Results	Search Type
1	"patient satisfaction".mp.	89133	Advanced
2	("health?care professionals" or "general practitioner" or doctor or physician or nurse* or pharmac*).mp	1466359	Advanced
3	(Feedback or questionnaire* or assessment or instrument or "evaluation tool" or survey or "performance appraisal" or "resident evaluation" or "performance feedback").mp	2158301	Advanced
4	("interpersonal skills" or "communication skills" or "consultation skills" or "professional competence" or competence or consult* or communication).mp	599945	Advanced
5	1 and 2 and 3 and 4	3938	Advanced
6	limit 5 to (English language and journal article)	3629	Advanced

Embase search strategy

Database: Embase 1974 to January 26

#	Searches	Results	Search Type
1	"patient satisfaction".mp.	114711	Advanced
2	("health?care professionals" or "general practitioner" or doctor or physician or nurse* or pharmac*).mp	4172826	Advanced
3	(Feedback or questionnaire* or assessment or instrument or "evaluation tool" or survey or "performance appraisal" or "resident evaluation" or "performance feedback").mp	3657908	Advanced
4	("interpersonal skills" or "communication skills" or "consultation skills" or "professional competence" or competence or consult* or communication).mp	724482	Advanced
5	1 and 2 and 3 and 4	5051	Advanced
6	limit 5 to (English language and journal article)	3255	Advanced

Appendix 1-C Abstract screening tool

Author(s)	Study ID	Title	ID of reviewer	quantitative tool (survey / questionnaire)	Surveys completed by real patients	assess consultation skills of healthcare professional	face-to-face consultation	documented potential or actual feedback to individual healthcare professional	Accepted (yes / No)	Reason for rejection

Appendix 1-D Data extraction tool

Table 1 General characteristics of included studies

Study / Year / Country	Objective	Study design	Study setting	Duration	Ethical approval
					Y/N

Table 2 Characteristics of study participants

Study	Patients' sample size Average age (years), Gender %	Patient recruitment method	Healthcare professional's sample size	Patients per physician	Justification for selected patient sample size	Patients' response rate
					Y / N	

Table 3 General characteristics of patient feedback questionnaire

Study	Questionnaire name and number of items	Space provided for patients' comments	answer scale	Validity	Reliability
		Y / N			

Table 4 Mechanics of patient feedback process

Study	Questionnaire distribution	Questionnaire collection	Anonymity of patient feedback results	Blindness of healthcare professional	Feedback reporting method
			Y / N	Y / N	

Table 5 Impact and conclusions of patient feedback

Study	Follow-up to HCP	Impact of patient feedback

Appendix 2-A Think-aloud (TA) study protocol

Exploring what patients think when answering the Interpersonal Skills Questionnaire (ISQ): a 'think-aloud' study

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Protocol No.	Revision	Date	Investigator's signature	Sponsor's signature
HA-JD-MT-Rev-1	1	1st September 2017	Hiyam Al-jabr	SH

1. Introduction

Patients, as customers of the healthcare system, are considered suitably positioned to give their views on the different aspects of services they receive, including those related to consultations with healthcare professionals (Duffy et al., 2004). Feedback collected from patient can help in identifying poor areas of performance that might not be identified by other means of assessment (Labarere et al., 2001, Bredart et al., 2005, Zarei, 2015). Patient contribution is therefore highly valuable in enhancing health care (Wensing et al., 1998).

Since 2000, patients have been placed at the centre of the NHS agenda (Department of Health, 2000). The NHS has emphasised listening to patients; *"we need to make sure that public, patient and carer voices are at the centre of our healthcare services from planning to delivery"* (NHS England, 2013a, p. 11). Centralising care around the needs and preferences of patients is currently one of the principles that guides the NHS towards providing patient care of high quality (NHS Constitution, 2015).

Patient consultations are conducted by a wide variety of different healthcare professionals and not only by physicians. For pharmacy professionals in particular, recent government agendas will result in an even greater patient facing role in the future (NHS England, 2014, Carter, 2016, Royal Pharmaceutical Society, 2017). The roles and responsibilities of pharmacy professionals have changed dramatically and have been reshaped over recent decades (Holland and Nimmo, 1999, Bond, 2006, Van Mil and Fernandez-Llimos, 2013). In the UK, the development of the pharmacy profession has been marked by key changes that helped in shifting it to become more patient centred. These changes include introducing 'ward pharmacy' during the 1960s, which was later formalised by the Nuffield Report as 'clinical pharmacy' during the 1980s (Child and Cooke, 2003, Hudson et al., 2007), embedding of specialist roles of pharmacists during the 1990s, launching 'supplementary' and later on 'independent pharmacy prescribing' (Cooper et al., 2008, Barnett and McDowell, 2012), and introducing 'consultant pharmacists' during the 2000s (Malson, 2015).

The 'Five Year Forward View' (FYFV) which was published in 2014 by a collaboration between different organisations in England, is setting out the vision for the NHS England (Royal Pharmaceutical Society, 2017). According to the FYFV, several new models of care were developed, where pharmacy input into the multi-disciplinary team is important and highly demanded for the delivery of improved patient care (NHS England, 2014, Royal Pharmaceutical Society, 2017). The FYFV also reflects the need for enhancing the public's understanding regarding the role played by pharmacists in their care (PSNC, 2017).

Currently, pharmacists are increasingly involved in providing patients with direct care (Smith et al., 2013, Jee et al., 2016), including supporting patients to the best use of their medications, detecting early problems that may affect their health, and providing them with help in managing their own health conditions (Smith et al., 2013). One of the latest reports, the Carter Report (2016) highlights the importance of moving hospital pharmacists more into wards and to dedicate at least 80% of their time in performing activities that demand more direct interactions with patients. The report concludes that this will help in enhancing medicine optimization and will drive financial benefits to the NHS (Carter, 2016). In order to perform the different roles successfully and to interact effectively with patients, pharmacy professionals must possess good consultation skills (Jee et al., 2016).

Although consultation skills are considered essential to pharmacy practice (Shah and Chewning, 2006, Mackellar et al., 2007), and has been receiving increased attention, there is still a dearth of research regarding patient feedback of pharmacy professionals' consultations. A systematic review was undertaken to identify the available patient feedback questionnaires that were specifically used to assess and enhance the development of consultation skills of healthcare professionals (Al-Jabr et al., 2018). The findings of the systematic review identified a predominance of physicians as the target healthcare professionals assessed by patients, especially in primary care settings. No single study was identified by the review with any reference to pharmacy profession, which thus represents a clear gap in the literature that requires further investigation.

The systematic review identified sixteen studies describing twelve patient feedback questionnaires that aimed to assess and enhance the development of consultation skills of individual healthcare professionals (Al-Jabr et al., 2018). Questionnaires identified by the review showed variations with respect to their validity and reliability, areas of consultation to assess, their answer scale, and whether or not they dedicate a space for patients' comments. The Doctor Interpersonal Skills Questionnaire (DISQ) (Greco et al., 1999) was one of the questionnaires identified by the review. DISQ has more evidence with respect to its validity and reliability, it does not need a long time to complete, and it dedicates space for patients to write their comments. Both of these characteristics are considered encouraging factors for patients to filling questionnaires (Edwards et al., 2002, Land et al., 2013). Moreover, it uses a 5-point Likert scale (Al-Shawi et al., 2005), which was found easier for patients to use (Baker, 1990), and is associated with greater response variability than a 6-point Likert scale (Ware and Hays, 1988, Greco et al., 2000).

DISQ was originally designed for doctors, especially in primary care settings. It is owned and operated by a private organisation called 'Client-Focused Evaluations Program' (CFEP) and has been converted into a generic questionnaire called the Interpersonal Skills Questionnaire (ISQ) (CFEP UK Surveys). CFEP has been using ISQ in assessing consultation skills of different professionals, including pharmacists, however, it has not yet been evaluated, and no studies have been conducted and published in relation to its use in reference to pharmacy professionals. Therefore, this study aims to use cognitive interviewing research methodology to test whether ISQ is a suitable questionnaire in assessing pharmacy consultations in a secondary care setting.

2. Aims and Objectives

2.2 Aim

- To explore the thinking process of patients while completing ISQ with reference to consultations conducted by pharmacists in a secondary care setting.

2.3 Objectives

The objectives of the think-aloud cognitive interviews are to:

- To assess patients' understanding of the ISQ items.
- To identify items of the questionnaire that were interpreted differently from their main intentions.
- To identify the potential difficulties that patients may encounter while interpreting and answering the ISQ.
- To identify patients' opinions of the ISQ as a tool to be used for assessing consultation skills of pharmacy professionals.

3. Methods

This study is undertaken as part of a PhD research degree. Appropriate ethical and research governance approvals will be received from the Health Research Authority (HRA) before data collection commences.

3.1 Study design

A qualitative exploratory design that employs cognitive interviewing methodology will be used.

3.2 Cognitive Interviewing

Cognitive interviewing is a qualitative research methodology that was developed during the 1980s and it assesses how well questionnaire items meet their intended objectives (Beatty and Willis, 2007). It is a preferred method for pretesting questionnaires (García, 2011), whether new or previously existing questionnaires that are intended to be used within new contexts. Cognitive interviewing is concerned with understanding the thinking process that participants use in interpreting and reasoning their choices, and it helps in identifying difficulties encountered with the questionnaire, thus refining it prior to its use in the actual data collection from a larger scale population (Conrad et al., 1999, Dillman, 2000).

Three methods are employed in cognitive interviewing, including asking the participant some probing questions (concurrently while the participant is completing the questionnaire, or retrospectively); observing participant's behaviours; and directing the participant to Think-Aloud (TA) while he/she completes a questionnaire (Drennan, 2003). Participants in think-aloud interviews are asked to vocalize their thoughts while answering questions (Ericsson and Simon, 1980, Drennan, 2003, Willis, 2005).

3.3 Inclusion & exclusion criteria

3.3.1 Inclusion criteria

The population of interest will be patients at the Norfolk and Norwich University Hospital (NNUH) aged ≥ 18 years old, and who have just had a consultation with a pharmacist.

3.3.2 Exclusion criteria

The following patients will be excluded from the study:

- Patients who are unable to read or write the English language.
- Patients who are deemed not suitable to participate in the study as reported by their pharmacist (e.g. patient unable to walk unaided).

3.4 Participant Recruitment

Convenience sampling will be used in recruiting patients. Participants will be recruited from two clinics in the hospital: the orthopaedic clinic and the respiratory cystic fibrosis outpatient clinic. The orthopaedic clinic is a pre-assessment clinic that is run by a pharmacist (and a

nurse) for patients who are scheduled for surgery within the coming few weeks. The pre-assessment is conducted in a private area as part of the routine work. The pharmacist-patient consultation is composed of discussing the regular medications the patient is taking, identifying any problems encountered by the patient with his/her drug therapy, and providing the patient with the necessary instructions and advice with regard to the surgery that will be performed within the coming few weeks. Similarly, the respiratory cystic fibrosis outpatient clinic is run by a medical team that includes a pharmacist. For infection control purposes, patients at this clinic are usually placed in separate consultation rooms where they will be seen individually by the different healthcare professionals. Similar to the orthopaedic clinic, the pharmacist consultation would also include discussing patient's regular medications and identifying any arising problems patients may have in relation to their drug therapy. In both clinics, a member of the administrative staff usually provide patients in advance with appointment letters before they attend the clinic.

All patients due to attend the clinic (at designated times) will receive an invitation letter (appendix 1) and a Participant Information Sheet (PIS) (appendix 2) together with the appointment letter they usually receive in advance.

At the clinic, following consultation with a pharmacist, the pharmacist will ask the potential participant for his/her interest in taking part in the study, and if interested in participating, the pharmacist will notify the researcher, who will then come and meet the participant. The researcher will wait in the department waiting area until called into the consultation room by the pharmacist. The researcher will then conduct the think-aloud cognitive interview at the designated place. A summary of the participant recruitment process is provided in Figure 1.

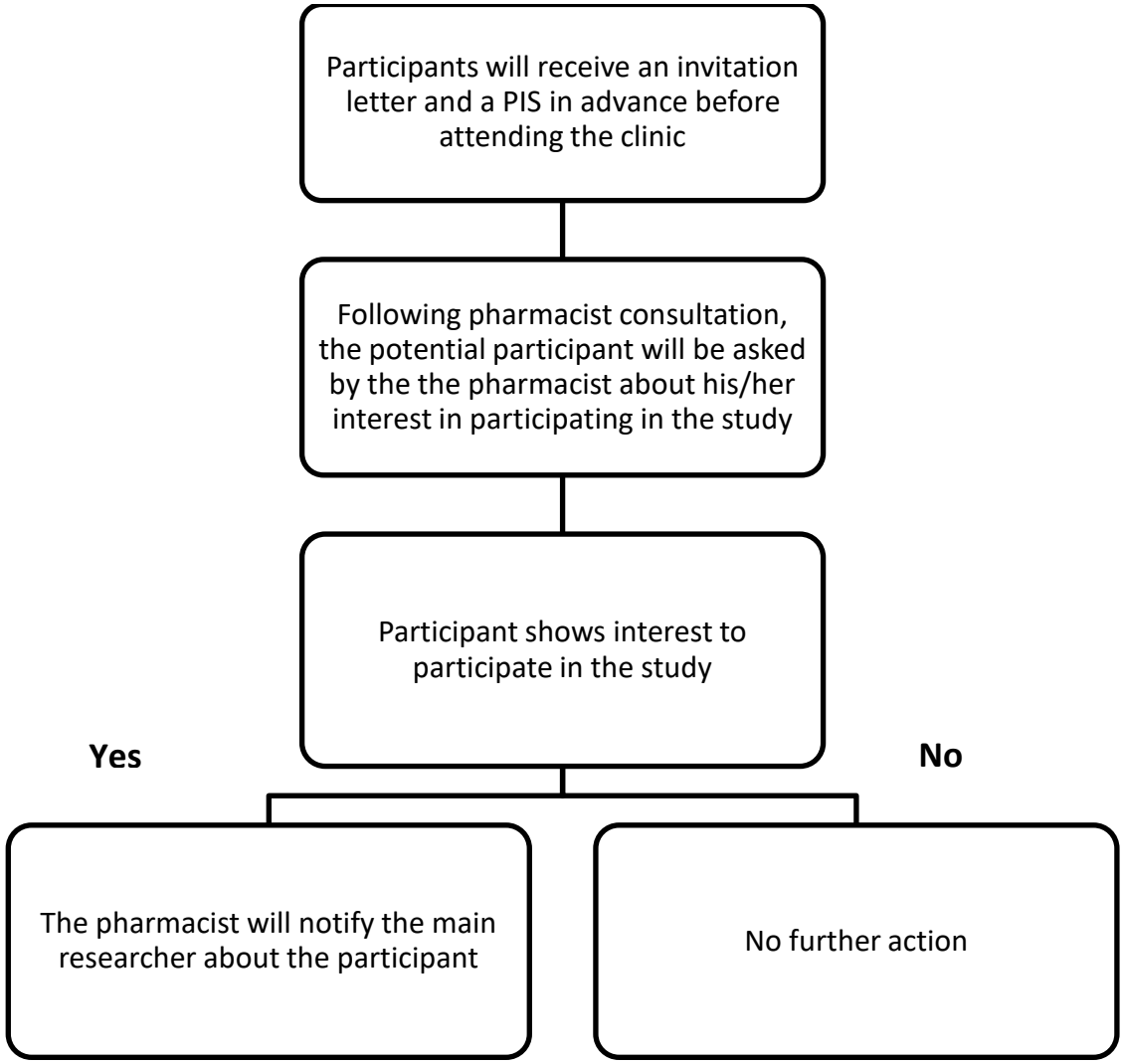


Figure 1 Participant recruitment process

3.5 Sample size

As cognitive interviewing belongs to qualitative research methods, there is no fixed number for the interviews to be conducted, however, the number is generally lower than that needed for quantitative studies, typically lower than 20 interviews (DeMaio et al., 1998). Reaching data saturation, where no new adaptations to the questionnaire are recommended by the interviews is usually used as an indication to stopping the process (Straus and Corbin, 1990). For our study, a total sample size of 10 participants is anticipated to be recruited over multiple rounds of interviews to refine the questionnaire. If, however, several changes were required

to the questionnaire, the number of participants to be recruited may increase up to 20.

3.6 Place of interview

Interviews will be conducted by the main researcher (HA) on a one-to-one basis with each participant. They will be conducted at the Norfolk & Norwich University Hospital, at two different places according to the clinic. At the pre-assessment orthopaedic clinic, following the pharmacist-patient consultation, the participant agreeing to participate in the study will be escorted by the researcher to a booked meeting room that is located near to the orthopaedic clinic (less than two minutes' walk), and will be escorted back to the clinic if necessary.

At the respiratory cystic fibrosis outpatient clinic, patients are usually placed at separate consultation rooms where they will be seen by the different healthcare professionals involved in their care. Professionals move between the rooms to see the patients separately and conduct their individual consultations. At this clinic, the TA interviews will be conducted following the pharmacist's consultation in the patient's consultation room. If, however, a professional wants to speak to the patient participant whilst the interview is being conducted, the researcher will terminate the interview at that point and will leave the room. To avoid collecting feedback from participants that is diluted (or contaminated) by consultations conducted by other professionals, the TA interview will not be resumed and the researcher will take what has already been collected. Each interview will last a maximum of 30 minutes.

3.7 Questionnaire

Participants will be provided with the ISQ, which is a 13-item questionnaire that assesses consultation skills of the healthcare professional, and uses a 5-point Likert scale with the following response options: (1) poor, (2) fair, (3) good, (4) very good, (5) excellent. The questionnaire also allows respondents to give any suggestion regarding how the healthcare professional could improve him/herself. A copy of ISQ is provided in appendix 3. We have gained permission from CFEP to use ISQ in this study, a copy of the permission is provided in appendix 4.

3.8 Data Collection

During each cognitive interview session, the researcher (HA) will guide the participant through the TA procedure. Participant's voice will be recorded during the session, the researcher will observe each participant while completing the questionnaire, and will take some notes.

1. At the beginning of the interview session, participants will be asked to confirm that they have read and understood the information included in the participant information sheet which they have received earlier during, each participant will be allowed to enquire about the process, and if he/she wishes to continue. The participant will be asked to give informed written consent and to provide some data, including age, gender, and type of clinic he/she is attending (appendix 5). Participants will also be reminded that the interview session will be audio-recorded. Once the audio-recording is turned on, participant consent to participate in the study will be confirmed again, verbally by the researcher.

2. Prior to starting the TA process, participants will receive warm-up training. It is recommended for participants to receive such training before becoming engaged with the real TA task (Willis, 1994). The training aims to familiarize participants with the think-aloud method, to clarify any misunderstandings they may have regarding what is required during this process, and also to allow the interviewer to confirm that they are actually capable of thinking aloud. The following warm-up exercise was previously suggested by Willis (1994, p. 7), and was used by several studies (Carbone et al., 2002, Wallen et al., 2002, Chang et al., 2003, Willis, 2005). The same exercise will also be used in this study and it will be provided to participants in a separate warm-up exercise sheet (appendix 6). The warm-up exercise includes the following:

"Try to visualize the place where you live, and think about how many windows there are in that place. As you count up the windows, tell me what you are seeing and thinking about."

Further training may be necessary depending on how well the participant responds to this exercise (Willis, 2005). Once an understanding to the way the TA process should be performed, and participant feels comfortable to start, he/she will be handed a sheet of paper that includes the questionnaire (ISQ) with its corresponding response options.

3. To ensure consistency, the following instructions that were adapted from Gilhooly and Green (1996) and French et al. (2007) will be read out verbatim by the researcher and will also appear with the questionnaire:

"Think-aloud while completing the questionnaire. I would like you to tell me everything you are thinking as you read each question and decide how to answer it. Just act as if you are alone in the room speaking to yourself. Please pretend as if I am not here, so do not ask for my assistance. If you fall silent for a while, I will remind you to "keep talking". If you feel uncomfortable at any stage, please tell me you would like to stop. Finally, remember that it

is the questionnaire, and not you, that is being tested. Do you have any questions before we start?"

Any questions raised by participants at this stage will be dealt by the researcher. The researcher will be sitting facing away from the participant, as recommended by Ericsson and Simon (1984), in order to keep social contact with the participant at minimum, and thus avoid interfering with his/her flow of thoughts (Fonteyn et al., 1993). As the participant begins completing the questionnaire, he/she will not be interrupted, unless falling silent for about 10-15 seconds, in which case he/she will be reminded to 'keep talking'.

4. Once the participant completes the questionnaire, the researcher will use verbal probes to help gain more insights into the thought process and reasoning made by the participant in generating answers to the questionnaire. An interview guide will be used in all interviews, and it will include probing questions, mostly those recommended by Willis (2005). The researcher will also ask spontaneous probing questions as appropriate and will be taking notes during the whole session. A copy of the topic guide is provided in appendix 7.

5. Upon completion of the interview, participant will be thanked for taking part in the study and will be asked for any additional feedback such as identifying whether the questionnaire's items are covering all CSs related to pharmacy consultation. Drinks and refreshments will be provided to participants.

3.9 Data storage

All data collected from participants will remain strictly confidential, and all participants will be coded with a study number. All notes taken by the researcher and audio-recording devices will be securely stored at UEA in a locked cabinet which will only be accessed by the researcher. Audio-recorded data will be downloaded onto a secure, password protected computer at UEA, and files will then be deleted from the audio-recording devices. Participants' personal data will be destroyed following the end of this PhD, whereas research data will be destroyed after 10 years of research publication as per university policy. Principles of the Data Protection Act 1998 will be followed with respect to data storage, processing, and destruction.

3.10 Data Analysis

Participant's answers to the questionnaire will not be analysed as the main aim of this project is to explore their understanding while answering the different items of the questionnaire rather than the ratings they give to each item. Refining a questionnaire was found by Willis

to be suitably achieved by using qualitative written comments rather than by using verbatim transcription and coding (Willis, 2005), however, depending on the data that emerges, audio-recordings could be transcribed verbatim by the main researcher for further in-depth analysis.

Following participant recruitment after each clinic session (up to 4 participants recruited per session), data collected from all sources (audio-recording, handwritten comments, and participants' answers to probing questions) will be analysed to identify whether difficulties are encountered by participants while answering the questionnaire. Subsequent TA rounds will continue until saturation is achieved where nothing new is emerging from the interviews and no new comments are given by participants regarding pharmacy consultations. Findings from all interviews will be presented to the research team to decide whether further rounds are needed or to end the process. Final results will be presented in a report that includes a written summary of problems encountered by participants while filling the questionnaire. The TA cognitive interviewing process is illustrated in Figure 2.

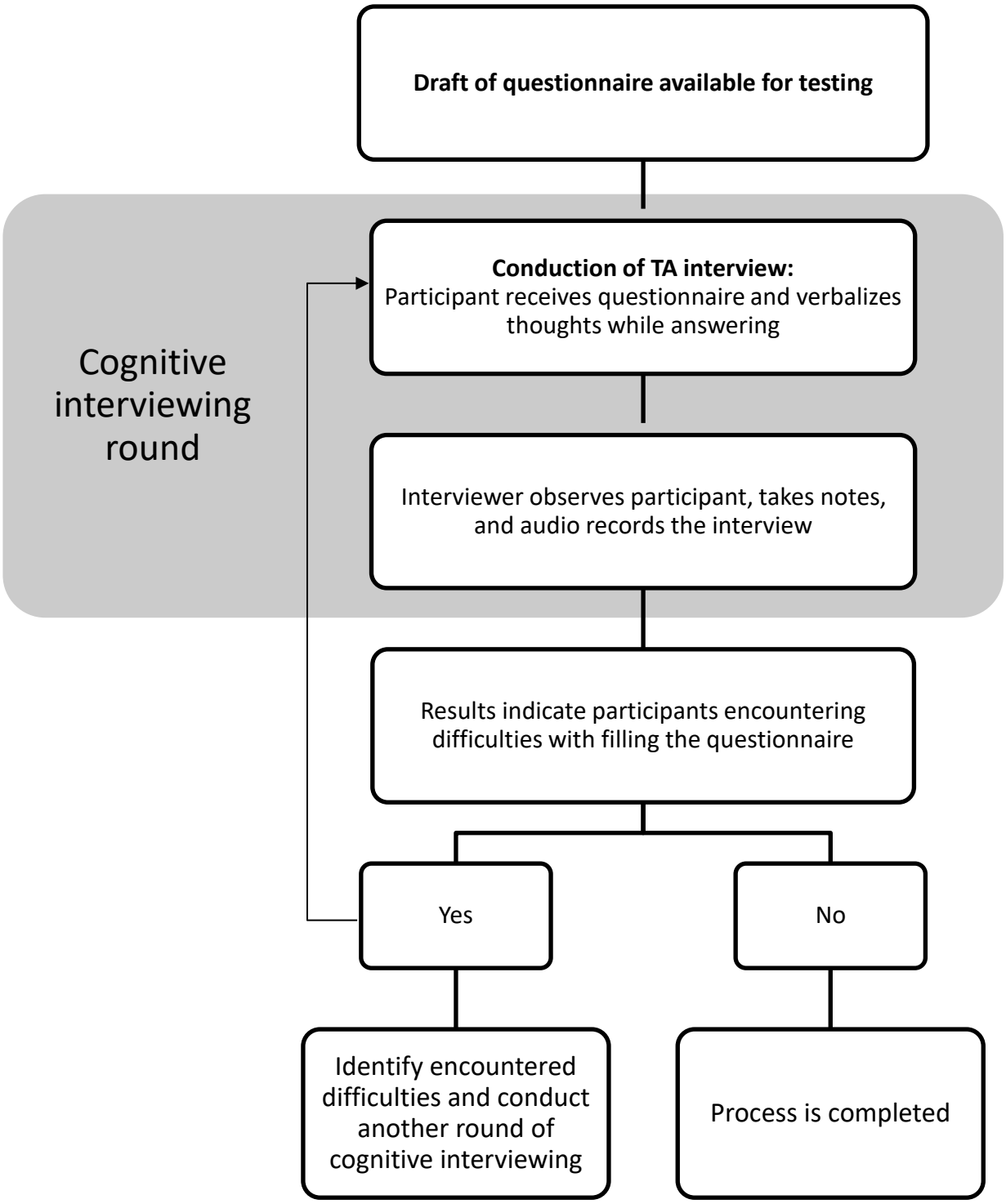


Figure 2 Think-aloud cognitive interviewing process

Appendix 2-B HRA ethical approval

Health Research Authority

Miss Hiyam Al-Jabr

PhD student

Email: hra.approval@nhs.net

University of East Anglia

School of Pharmacy

University of East Anglia

Norwich Research Park, Norwich

NR4 7TJ

15 September 2017

Dear Miss Al-Jabr

Letter of HRA Approval

Study title:	**Exploring what patients think when answering the Interpersonal Skills Questionnaire (ISQ): a 'think-aloud' study**
IRAS project ID:	**226838**
Protocol number:	**HA-JD-MT-Rev-1**
REC reference:	**17/NE/0307**
Sponsor	**University of East Anglia**

I am pleased to confirm that **HRA Approval** has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications noted in this letter.

Participation of NHS Organisations in England

The sponsor should now provide a copy of this letter to all participating NHS organisations in England.

Appendix B provides important information for sponsors and participating NHS organisations in England for arranging and confirming capacity and capability. **Please read *Appendix B* carefully**, in particular the following sections:

- *Participating NHS organisations in England* – this clarifies the types of participating organisations in the study and whether or not all organisations will be undertaking the same activities
- *Confirmation of capacity and capability* - this confirms whether or not each type of participating NHS organisation in England is expected to give formal confirmation of capacity and capability. Where formal confirmation is not expected, the section also provides details on the time limit given to participating organisations to opt out of the study, or request additional time, before their participation is assumed.
- *Allocation of responsibilities and rights are agreed and documented (4.1 of HRA assessment criteria)* - this provides detail on the form of agreement to be used in the study to confirm capacity and capability, where applicable.

Further information on funding, HR processes, and compliance with HRA criteria and standards is also provided.

It is critical that you involve both the research management function (e.g. R&D office) supporting each organisation and the local research team (where there is one) in setting up your study. Contact details and further information about working with the research management function for each organisation can be accessed from www.hra.nhs.uk/hra-approval.

Appendices

The HRA Approval letter contains the following appendices:

- A – List of documents reviewed during HRA assessment
- B – Summary of HRA assessment

After HRA Approval

The document *"After Ethical Review – guidance for sponsors and investigators",* issued with your REC favourable opinion, gives detailed guidance on reporting expectations for studies, including:

- Registration of research
- Notifying amendments
- Notifying the end of the study

The HRA website also provides guidance on these topics, and is updated in the light of changes in reporting expectations or procedures.

In addition to the guidance in the above, please note the following:

- HRA Approval applies for the duration of your REC favourable opinion, unless otherwise notified in writing by the HRA.
- Substantial amendments should be submitted directly to the Research Ethics Committee, as detailed in the *After Ethical Review* document. Non-substantial amendments should be submitted for review by the HRA using the form provided on the HRA website, and emailed to hra.amendments@nhs.net.
- The HRA will categorise amendments (substantial and non-substantial) and issue confirmation of continued HRA Approval. Further details can be found on the HRA website.

Scope

HRA Approval provides an approval for research involving patients or staff in NHS organisations in England.

If your study involves NHS organisations in other countries in the UK, please contact the relevant national coordinating functions for support and advice. Further information can be found at http://www.hra.nhs.uk/resources/applying-for-reviews/nhs-hsc-rd-review/.

If there are participating non-NHS organisations, local agreement should be obtained in accordance with the procedures of the local participating non-NHS organisation.

User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please use the feedback form available on the HRA website: http://www.hra.nhs.uk/about-the-hra/governance/quality-assurance/.

HRA Training

We are pleased to welcome researchers and research management staff at our training days – see details at http://www.hra.nhs.uk/hra-training/

Your IRAS project ID is **226838**. Please quote this on all correspondence.

Yours sincerely

Catherine Adams

Senior Assessor

Email: hra.approval@nhs.net

Copy to: *Mr Samuel Hills, Sponsor's Representative*

Mrs Julie Dawson, Norfolk and Norwich University Hospital NHS Foundation Trust

Appendix A - List of Documents

The final document set assessed and approved by HRA Approval is listed below.

Document	*Version*	*Date*
Covering letter on headed paper [covering letter]		06 September 2017
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Insurance and indemnity letter]	one	04 September 2017
Interview schedules or topic guides for participants [Topic guide]	one	06 September 2017
IRAS Application Form [IRAS_Form_05092017]		05 September 2017
Letter from sponsor [Insurance and Indemnity letter]	one	04 September 2017
Letters of invitation to participant [Invitation letter]	one	06 September 2017
Other [Warm-up exercise]	one	06 September 2017
Other [Permission to use the ISQ]	one	06 September 2017
Other [Details to question A63 of IRAS]		06 September 2017
Other [Response to issues raised]		12 September 2017
Participant consent form [Participant consent form]	one	06 September 2017
Participant information sheet (PIS) [Participant information sheet]	one	06 September 2017
Research protocol or project proposal [Study protocol]	one	06 September 2017
Schedule of Events	one	15 September 2017
Statement of Activities	one	15 September 2017
Summary CV for Chief Investigator (CI) [Chief investigator's CV]	version one	03 July 2017
Summary CV for student [Chief investigator's CV]	version one	03 July 2017
Summary CV for supervisor (student research) [Primary supervisor's CV]	version one	17 July 2017
Summary CV for supervisor (student research) [Secondary supervisor's CV]		30 April 2017
Summary CV for supervisor (student research) [Clinical supervisor's CV]	version one	15 July 2017
Summary, synopsis or diagram (flowchart) of protocol in non technical language [Flowchart of study]	one	06 September 2017
Validated questionnaire [The Interpersonal Skills Questionnaire (ISQ)]		

Appendix B - Summary of HRA Assessment

This appendix provides assurance to you, the sponsor and the NHS in England that the study, as reviewed for HRA Approval, is compliant with relevant standards. It also provides information and clarification, where appropriate, to participating NHS organisations in England to assist in assessing and arranging capacity and capability.

For information on how the sponsor should be working with participating NHS organisations in England, please refer to the, *participating NHS organisations, capacity and capability* and *Allocation of responsibilities and rights are agreed and documented (4.1 of HRA assessment criteria)* sections in this appendix.

The following person is the sponsor contact for the purpose of addressing participating organisation questions relating to the study:

HRA assessment criteria

Section	HRA Assessment Criteria	Compliant with Standards	Comments
1.1	IRAS application completed correctly	Yes	No comments
2.1	Participant information/consent documents and consent process	Yes	No comments
3.1	Protocol assessment	Yes	No comments
4.1	Allocation of responsibilities and rights are agreed and documented	Yes	A statement of activities will act as agreement of an NHS organisation to participate. The sponsor is not requesting and does not expect any other site agreement.

4.2	Insurance/indemnity arrangements assessed	Yes	Where applicable, independent contractors (e.g. General Practitioners) should ensure that the professional indemnity provided by their medical defence organisation covers the activities expected of them for this research study
4.3	Financial arrangements assessed	Yes	No funding is provided to NHS organisations in England as detailed in the Statement of Activities.
Section	**HRA Assessment Criteria**	**Compliant with Standards**	**Comments**
5.1	Compliance with the Data Protection Act and data security issues assessed	Yes	No comments
5.2	CTIMPS – Arrangements for compliance with the Clinical Trials Regulations assessed	Not Applicable	No comments
5.3	Compliance with any applicable laws or regulations	Yes	No comments
6.1	NHS Research Ethics Committee favourable opinion received for applicable studies	Yes	No comments

6.2	CTIMPS – Clinical Trials Authorisation (CTA) letter received	Not Applicable	No comments
6.3	Devices – MHRA notice of no objection received	Not Applicable	No comments
6.4	Other regulatory approvals and authorisations received	Not Applicable	No comments

Participating NHS Organisations in England

This provides detail on the types of participating NHS organisations in the study and a statement as to whether the activities at all organisations are the same or different.
All organisations will be undertaking the same activity (i.e. there is only one 'site-type') as detailed in the protocol. The Chief Investigator or sponsor should share relevant study documents with participating NHS organisations in England in order to put arrangements in place to deliver the study. The documents should be sent to both the local study team, where applicable, and the office providing the research management function at the participating organisation. For NIHR CRN Portfolio studies, the Local LCRN contact should also be copied into this correspondence. For further guidance on working with participating NHS organisations please see the HRA website. If chief investigators, sponsors or principal investigators are asked to complete site level forms for participating NHS organisations in England which are not provided in IRAS or on the HRA website, the chief investigator, sponsor or principal investigator should notify the HRA immediately at hra.approval@nhs.net. The HRA will work with these organisations to achieve a consistent approach to information provision.

Confirmation of Capacity and Capability

This describes whether formal confirmation of capacity and capability is expected from participating NHS organisations in England.
Participating NHS organisations in England **will be expected to formally confirm their capacity and capability to host this research**. • Following issue of this letter, participating NHS organisations in England may now confirm to the sponsor their capacity and capability to host this research, when ready to do so. How capacity and capacity will be confirmed is detailed in the *Allocation of responsibilities and rights are agreed and documented (4.1 of HRA assessment criteria)* section of this appendix. • The Assessing, Arranging, and Confirming document on the HRA website provides further information for the sponsor and NHS organisations on assessing, arranging and confirming capacity and capability.

Principal Investigator Suitability

This confirms whether the sponsor position on whether a PI, LC or neither should be in place is correct for each type of participating NHS organisation in England and the minimum expectations for education, training and experience that PIs should meet (where applicable).
A Principal Investigator is not required at the participating site as the CI is responsible for research activities however a Local Collaborator is requested to facilitate access to sites and shadowing of Pharmacists. GCP training is not a generic training expectation, in line with the HRA statement on training expectations.

HR Good Practice Resource Pack Expectations

This confirms the HR Good Practice Resource Pack expectations for the study and the pre-engagement checks that should and should not be undertaken

No Honorary Research Contracts, Letters of Access or pre-engagement checks are expected for local staff employed by the participating NHS organisations. Where arrangements are not already in place, research staff not employed by the NHS host organisation undertaking any of the research activities listed in the research application would be expected to obtain a Letter of Access based on standard DBS checks and occupational health clearance.

Other Information to Aid Study Set-up

This details any other information that may be helpful to sponsors and participating NHS organisations in England to aid study set-up.
The applicant has indicated that they do not intend to apply for inclusion on the NIHR CRN Portfolio.

Appendix 2-C Participant's invitation letter (TA study)

Project: Exploring what patients think when answering the Interpersonal Skills Questionnaire (ISQ): a 'think-aloud' study

Invitation to participate in research

The School of Pharmacy at the University of East Anglia (UEA) is conducting a project at the Norfolk and Norwich University Hospital (NNUH). The project is part of a doctoral degree and is being undertaken by the lead researcher, and it includes conducting individual interviews with patients following a consultation with a pharmacist.

Please see the enclosed Participant Information Sheet (PIS) and you may have the opportunity to participate in the study when you attend the clinic. This letter is being sent to you by the NNUH. The research team at UEA have no access to your medical records and will not know which patients have received this letter and PIS.

If you have any questions at any point please feel free to contact Hiyam Al-Jabr by email (h.al-jabr@uea.ac.uk) or by telephone (01603591996).

Thank you for your help,

Hiyam Al-Jabr

Research Pharmacist

School of Pharmacy

University of East Anglia,

Norwich, NR4 7TJ

Appendix 2-D Participant information sheet (TA study)

University of East Anglia

Norfolk and Norwich University Hospitals NHS Foundation Trust

Participant Information Sheet

Project: Exploring what patients think when answering the Interpersonal Skills Questionnaire (ISQ): a 'think-aloud' study

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and decide if you wish to take part. If you do want to take part now, but change your mind later, you can pull out of the study at any time. Feel free to ask any questions and talk to others before you make your decision.

Thank you for reading this.

What is the purpose of the study?

This study aims to gain a better understanding of what people think about while they answer the Interpersonal Skills Questionnaire (ISQ) with respect to consultations conducted by a pharmacy professional.

Who will conduct the study?

This study will be conducted by Hiyam Al-Jabr, a doctorate student at the School of Pharmacy – University of East Anglia (UEA).

Why is the study being conducted?

This study forms part of a PhD that looks at developing pharmacy consultation skills. The study intends to identify whether the ISQ could be a useful tool to develop consultation skills of hospital pharmacists. We want to check how well the ISQ meet its intended objectives in relation to pharmacy consultations and that it reflects topics perceived to be important by patients.

Who we are looking for?

We are looking for patients attending the orthopaedic pre-assessment clinic or the respiratory cystic fibrosis outpatient clinic. Participants must be ≥ 18 years old, capable of reading and understanding the English language and have had a consultation with the pharmacist at the clinic.

Do I have to take part?

You do not have to take part. If you have a consultation with a pharmacist at the clinic, he/she might ask you for your interest in participating in the study. However, it is up to you to decide whether or not to take part in the study.

What will happen to me if I agree to take part?

If you decide to participate you will be referred to the main researcher to conduct the study. The researcher will ask you to sign a consent form, and to complete some questions that describe yourself, including age and gender. You will be then asked to complete ISQ whilst thinking aloud, which means that you need to speak your thoughts out loud whilst reading and answering a questionnaire. After completing the questionnaire, you will be asked few questions by the researcher to help her gain a better understanding of your thought process. You will also be asked for any feedback and suggestions regarding the questionnaire. To help us ensure we capture all the information, we would like to audio-record the process.

Where will the interview be conducted?

This depends on which clinic you are attending, if you are attending the respiratory outpatient clinic, the interview will be conducted in the patient's consultation room, during the time slot scheduled for the clinic, and if you are attending the orthopaedic pre-assessment clinic, you will be directed by the main researcher to a booked meeting room that is located near to the clinic to conduct the interview. The interview will be conducted following your consultation with the pharmacist and it will take up to 30 minutes in total.

What are the risks of taking part in the study?

There are no risks of taking part in the study, although the time taken to fill in the questionnaire could be considered a disadvantage.

What are the benefits of taking part in the study?

There are no direct benefits from taking part in this study, however, you may find the project interesting and enjoy answering the questions. Future studies could use the questionnaire in enhancing consultation skills of pharmacy professionals when interacting with their patients and thus improving the quality of care given to them.

Will I be compensated for taking part?

There will be no compensation for taking part in the study. However, refreshments will be provided during the interview.

What will happen if I don't want to carry on with the study?

You have the right to withdraw from the study at any time. If you decide to withdraw, you will be asked whether the data you provided can still be kept and analysed, if you say no, your data will be deleted from the study. Withdrawal from the study will not affect the ordinary course of your medical care or treatment.

How will the information be kept confidential?

All personal identifiable information will be kept anonymous and strictly confidential. The audio recording of your interview might be transcribed verbatim by the main researcher, using a secure, password protected computer at UEA. The research team may listen to the audio recording and may also see the anonymised transcripts of your interview, however, they will not be able to link it to you. All data collected will be stored on confidential university computers and hard-copies will be kept in a locked filing cabinet at the School of Pharmacy at UEA. The consent form will be destroyed confidentially after at the end of the researcher's PhD.

What happens when the study ends?

As the study is part of a PhD, the results will be used to help inform subsequent projects. The researcher intends to publish the results, however, all data and quotations used will be anonymised before being published by using pseudonyms or patient codes.

Who is organising and funding the research?

The research is organised and funded by the University of East Anglia.

Who has reviewed the study?

This study has been reviewed and approved by the NHS Health Research Authority.

What if there is a problem?

We do not expect you to experience any problem by taking part in this study. If you have any concerns about this study, please contact the main researcher; Hiyam Al-jabr, or her supervisor, Dr. James Desborough. For complaints about the research process or the researcher, you can contact Professor Mark Searcey, the Head of the School of Pharmacy at the University of East Anglia. Alternatively, you may wish to contact the Research and Development Office at the Norfolk and Norwich University Hospital. Contact details can be found below.

Principal researcher: Miss Hiyam Al-jabr 01603 59 1996, h.al-jabr@uea.ac.uk

Study supervisor Dr. James Desborough: 01603 59 3413

Head of School of Pharmacy Professor Mark Searcey: 01603 59 2026

Research and Development Office at NNUH: 01603 28 6286

Thank you for taking the time to read this information sheet

Appendix 2-E Participant's consent form (TA study)

University of East Anglia

Norfolk and Norwich University Hospitals NHS Foundation Trust

Participant consent form

Project: Exploring what patients think when answering the Interpersonal Skills Questionnaire (ISQ): a 'think-aloud' study

If you wish to take part, please initial each box and complete the details at the bottom of the form.

1. I confirm that I have read and understood the participant information sheet dated September 2017 version one and have had the opportunity to ask questions. ☐
2. I agree to participate in the above study. The study includes filling a questionnaire whilst thinking aloud. ☐
3. I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving any reason and without my medical care being affected. ☐
4. I understand that if I choose to withdraw from the study, my data will not be kept and used in the study unless I agree. ☐
5. I am willing to allow the interview to be audio-recorded for the purposes of analysis and possible publication. ☐

How old are you in years? ----------

What is your gender? ☐ Female ☐ Male ☐ Other

Which clinic you are attending? ☐ Respiratory CF outpatient clinic.

☐ Orthopaedic pre-assessment clinic

_____	_____	_____
Name of participant	Date	Signature
_____	_____	_____
Name of person taking consent	Date	Signature

Appendix 2-F The Interpersonal Skills Questionnaire (ISQ)

Interpersonal Skills Questionnaire

You can help improve the quality of care for patients

- **The would welcome your honest feedback**
- **The will not be able to identify your personal response**
- **Any comments you make will be included in the feedback report but all attempts will be made to remove information that could identify you.**

Please mark the box like this ☑ with blue or black ball-point pen. If you change your mind just cross out your old response and make your new choice.

When giving your feedback, please only consider the consultation you have had today.

	Please rate the following based on your visit today	***Poor***	***Fair***	***Good***	***Very Good***	***Excellent***
1	**My overall satisfaction with this visit to the pharmacist is**	☐	☐	☐	☐	☐
2	**The warmth of the pharmacist's greeting to me was**	☐	☐	☐	☐	☐
3	**On this visit, I would rate the pharmacist's ability to really listen to me as**	☐	☐	☐	☐	☐
4	**The pharmacist's explanations of things to me were**	☐	☐	☐	☐	☐
5	**The extent to which I felt reassured by this pharmacist was**	☐	☐	☐	☐	☐
6	**My confidence in this pharmacist's ability is**	☐	☐	☐	☐	☐
7	**The opportunity the pharmacist gave me to express my concerns or fears was**	☐	☐	☐	☐	☐
8	**The respect shown to me by this pharmacist was**	☐	☐	☐	☐	☐
9	**The amount of time given to me for this visit was**	☐	☐	☐	☐	☐
10	**This pharmacist's consideration of my personal situation in deciding a treatment or advising me was**	☐	☐	☐	☐	☐
11	**The pharmacist's concern for me as a person on this visit was**	☐	☐	☐	☐	☐
12	**The extent to which the pharmacist helped me to take care of myself was**	☐	☐	☐	☐	☐
13	**The recommendation I would give to my friends about this pharmacist would be**	☐	☐	☐	☐	☐

The pharmacist would appreciate any suggestions as to how he/she could improve:

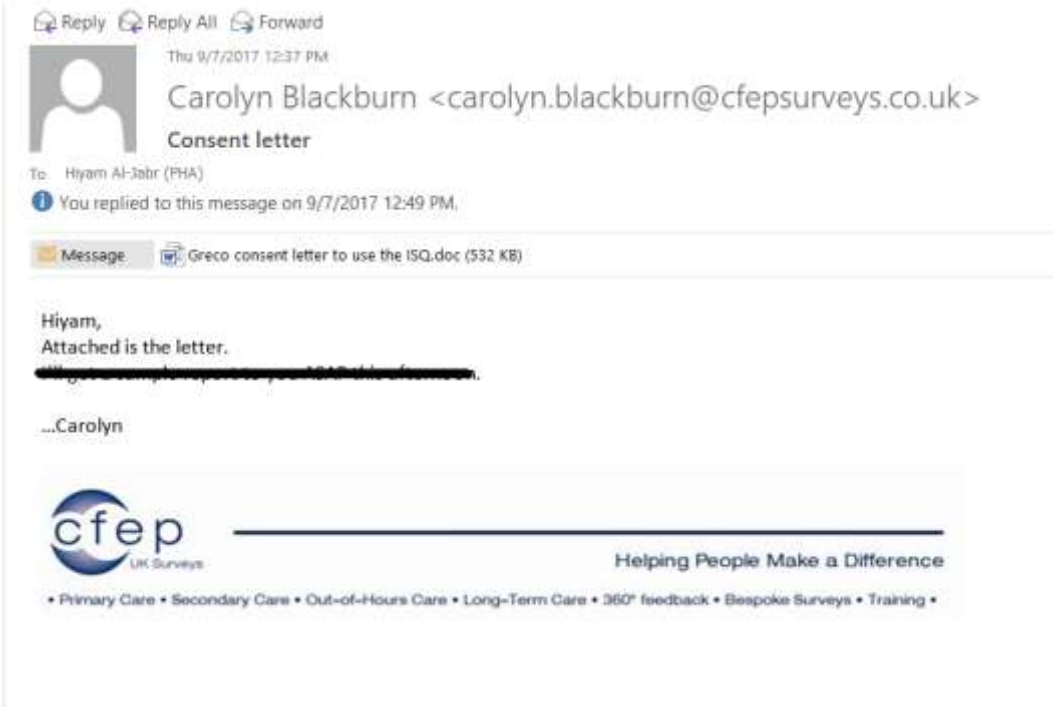
The following questions provide us only with general information about the range of people who have responded to this survey. This information will not be used to identify you and will remain confidential.

How old are you in years? ☐ **Under 25** ☐ **25-59** ☐ **over 60**

Are you ☐ **Female** ☐ **Male**

Is this the first time you have seen this pharmacist? ☐ Yes ☐ No

Appendix 2-G Permission to use ISQ



Reply Reply All Forward

Thu 9/7/2017 12:37 PM

Carolyn Blackburn <carolyn.blackburn@cfepsurveys.co.uk>

Consent letter

To Hiyam Al-Jabr (PHA)

You replied to this message on 9/7/2017 12:49 PM.

Message Greco consent letter to use the ISQ.doc (532 KB)

Hiyam,
Attached is the letter.
[redacted].

...Carolyn

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Hiyam Al-Jabr (PHA)
School of Pharmacy
University of East Anglia
Norwich

1 Northleigh House
Thorverton Road
Exeter
EX2 8HF

t 01392 823 766

e info@cfepsurveys.co.uk
w www.cfep.co.uk

Dear Hiyam Al-Jabr,

Below are details of my consent for you to use CFEP's Interpersonal Skills Questionnaire as part of your research into patient feedback for pharmacy consultations.

I give permission for Hiyam Al-Jabr to use the Interpersonal Skills Questionnaire (ISQ) as an instrument for Pharmacists. It will be used as a part of her PhD.

I understand that the PhD will test the feasibility and validity of using the ISQ with pharmacists in secondary care, and I agree to its use for this purpose.

The ISQ and resulting report is the property of CFEP, and will remain so if there are modifications to the instrument during the course of the PhD.

I do not give permission for any survey-providing company or organisation other than CFEP to produce a report resulting from the ISQ, or to make a profit from the ISQ.

Permission is subject to the relevant ethical review and clearance to be gained by Hiyam Al-Jabr's proposal.

CFEP – UK Surveys should be given credit where due for any dissemination of the study's findings.

Yours sincerely,

Dr Michael Greco

(Executive Director, CFEP and Associate Professor, School of Medicine, Griffith University)

Appendix 2-H Warm-up exercise (TA study)

University of East Anglia

Norfolk and Norwich University Hospitals NHS Foundation Trust

Think-aloud warm-up exercise sheet

Project: Exploring what patients think when answering the Interpersonal Skills Questionnaire (ISQ): a 'think-aloud' study

This is a warm-up exercise that aims to familiarize you with the "think-aloud" process. We would like you to read the following task and think-aloud when answering it. What we mean by think-aloud is that we want you to speak your thoughts out loud as comfortably as you can. Once the exercise is done and you feel ready we would like to start the real task.

The warm-up exercise is:

"Try to visualize the place where you live, and think about how many windows there are in that place. As you count up the windows, tell me what you are seeing and thinking about."

Appendix 2-I Interview topic guide (TA study)

University of East Anglia

Norfolk and Norwich University Hospitals NHS Foundation Trust

Think-Aloud topic guide

Project: Exploring what patients think when answering the Interpersonal Skills Questionnaire (ISQ): a 'think-aloud' study

Before recording	• Introduce self; name and role • Prior to starting: ask participant to complete and sign consent forms, and complete the demographic information sheet • Declare the aim of the think-aloud study: To explore what patients think about when they answer the ISQ • Inform participant that the session will be audio recorded • Confirm that all data collected during the session will be treated confidentially, responses will be stored in an anonymous format, and participant name will not appear in any report • The session may last up to 30 minutes • Train participant to think-aloud using the warm-up exercise • Read instruction before starting the actual think-aloud task
Preparation	• Refreshments • Recorder • Notebook • Blue or black-ball pencil pens • Participant consent forms • Participant information sheets • Warm-up exercise sheets • ISQ

Observation field notes	
Questionnaire	**Notes**
1. My overall satisfaction with this clinician is	
2. The warmth of the clinician's greeting to me was	
3. I would rate the clinician's ability to really listen to me as	
4. The clinician's explanations of things to me were	
5. The extent to which I felt reassured by the clinician was	
6. My confidence in this clinician's ability is	
7. The opportunity the clinician gave me to express my concerns or fears was	
8. The respect shown to me by this clinician was	
9. The amount of time given to me by this clinician was	
10. This clinician 's consideration of my personal situation in deciding a treatment or advising me was	
11. The clinician 's concern for me as a person was	
12. The extent to which the clinician helped me to take care of myself was	
13. The recommendation I would give to my friends about this clinician would be	
The clinician would appreciate any suggestions as to how he/she could improve:	

Suggested probing questions (adapted from (Willis, 2005, García, 2011) **(questions will be selected in accordance with participant's TA session)**
• What does the term "X" mean to you? (Question no.) • Can you repeat that question in your own words? (Question no.) • How did you arrive at that answer? (Question no.) • Was that easy or hard to answer? (Question no.) • I noticed that you have hesitated. Tell me what you were thinking. (Question no.) • What were you thinking about when you answered question x? (Question no.) • Was it easy or hard to answer that question? (Question no.) • Is your answer among the response choices? (Question no.) • How did you remember that? (Question no.) • Do you think it would be hard for other people to answer that question / the questionnaire? (Question no.)

Appendix 2-J General description of participants and TA sessions

Round one: participants number one to four
Participant-1 (P1) – 12 minutes
A 25 years old male participant attending the CF respiratory clinic. P1 received prior consultations by the CF pharmacist undergoing the assessment. The TA session was conducted in the presence of a family member. P1 provided good reasoning throughout his thinking process to most items of the ISQ, with minimal probing used at the end. No difficulties were encountered in answering the ISQ, or in its relation to pharmacy consultations. P1 found the ISQ to be a comprehensible questionnaire, and did not expect other people to find difficulty answering it.
Participant-2 (P2) – 9 minutes
A 69 years old male participant recruited from the pre-assessment orthopaedic clinic. This was the first time for P2 to receive consultation from the pharmacist undergoing the assessment. P2 answered most questions of the ISQ quickly without providing sufficient thinking aloud, retrospective probing was thus needed, where P2 gave more explanations to what he was thinking. No major difficulties were encountered by P2 with the ISQ or with its reference to pharmacy consultations. P2 also found the ISQ to be an easy and straight forward questionnaire.
Participant-3 (P3) – 7 minutes
A 29 years old male participant attending the CF respiratory clinic. P3 received prior consultations by the CF pharmacist whom he was assessing. P3 provided good thinking aloud while answering the ISQ, although some questions were answered quickly. Retrospective probing was used to obtain more clarification. No major difficulties were also encountered by P3 in answering any item of the ISQ. P3 also considered the ISQ to be a straight forward questionnaire and easy to understand.
Participant-4 (P4) – 31 minutes
A 62 years old male participant attending the pre-assessment orthopaedic clinic. This was the first time for P4 to receive a consultation by the pharmacist undergoing the assessment. P4 did very well during the think-aloud process, and he provided good reasoning for each item of the ISQ. However, participant expressed some hesitation when answering certain questions (7 and 11), and he reread one question (11) twice before assigning an answer to it. Retrospective probing was used to obtain more clarification behind P4 hesitation and question rereading. Nonetheless, no major problems were identified by the TA process of P4.
Round two: participants number five e to six

Participant-5 (P5) – 8 minutes
An 87 years old female participant recruited from the pre-assessment orthopaedic clinic. P5 received consultation from the pharmacist undergoing the assessment for the first time. The TA session was conducted in the presence of a family member. P5 answered all items of the ISQ quickly without giving sufficient thinking process, and retrospective probing was thus used. P5 expressed little difficulty answering the questionnaire whilst thinking aloud. However, no major problems were indicated by P5 when answering the ISQ with respect to pharmacy consultations. The ISQ was considered easy to answer and P5 did not expect other people to have difficulty answering it.
Participant-6 (P6) – 12 minutes
A 29 years old female participant recruited from the CF respiratory clinic. P6 received prior consultations by the CF pharmacist. The last part of the interview (following completing the ISQ) was conducted in the presence of family members. P6 answered most questions without providing sufficient thinking aloud, and she expressed hesitation to some questions, retrospective probing was thus conducted. P6 expressed several times following the TA session of having strange feelings about the process, as it felt weird of answering and thinking aloud at the same time, and that she was thinking about what to say with every question.
Round three: participants number seven to eight
Participant-7 (P7) – 8 minutes
A 24 years old female participant recruited from the orthopaedic pre-assessment clinic. P7 received consultation for the first time by the pharmacist undergoing the assessment. The interview was conducted in the presence of family members of P7. P7 did well in providing good reasoning to some items of the ISQ, some other items were answered quickly without showing difficulty in understanding what the question was referring to. Retrospective probing was also conducted at the end of the TA session. P7 did not express difficulties with understanding the ISQ or with its relation to assessing pharmacy consultations.
Participant-8 (P8) – 15 minutes
A 60 years old female participant who was attending the pre-assessment orthopaedic clinic. P8 did very well in providing sufficient thinking aloud for all items of the ISQ. No problems were shown by P8 in understanding or answering any question, although she reread some questions twice (10 and 12), upon probing she justified this as a way to help

her to better digest the question and understand it; *"sometimes you need to reread a question to make it go in".*

At the retrospective probing session, P8 expressed difficulty recalling what she was thinking when she was answering one of the ISQ items; *"I don't know, now I'm reading that back I don't know really what I'm thinking".*

Appendix 3-A Feasibility study protocol

Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)

Principal investigator

Hiyam Al-Jabr
PhD Student, School of Pharmacy, University of East Anglia

Research Supervisors

Dr James Desborough
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Protocol No.	Revision	Date	Investigator's signature	Sponsor's signature
ISQFS-Rev-1	1	05/02/2018	Hiyam Al-jabr	SH

1. Introduction

Patient feedback has been used since the 1980s by different healthcare organisations for the purpose of enhancing the quality of health care (Vingerhoets et al., 2001). In the UK, enhancing the quality of healthcare is a major focus of the NHS, and since 2002, patient feedback has been increasingly contributing to assessing healthcare in England (Brookes and Baker, 2017). Putting patients at the centre of the healthcare system, enabling them to voice their needs and shaping services around these needs represents an important aspect of the NHS England's business plan for 2016/17 that targets providing better services to patients (NHS England, 2016).

Feedback can be collected from patients using different qualitative and quantitative methods, such as conducting interviews (face-to-face or phone interviews), and/or by using surveys/questionnaires (Ziebland et al., 2013, Department of Health, 2009). It can be collected in different settings, at different times, and it can be collected immediately following care delivery, or sometimes (days-months) later (Ziebland et al., 2013). Feedback is sometimes collected for assessing healthcare services at a general level (Grogan et al., 1995, Ramsay et al., 2000, Greco et al., 2003, Greco et al., 2004, Mead et al., 2008, Potiriadis et al., 2008, Reeves et al., 2013, Murante et al., 2014), or to assess specific services or practices, such as consultation skills (CSs) of healthcare professionals (Baker, 1990, Meredith and Wood, 1996, Petrasch et al., 1997, Morales et al., 1999, Mercer and Howie, 2006, Campbell et al., 2008, Mercer et al., 2008, Ferranti et al., 2010, Hamasaki et al., 2011, Lown et al., 2015, Stausmire et al., 2015).

Literature provides evidence that improvements in practitioners' CSs can be driven by patient feedback. A systematic review was conducted to identify studies that focused on collecting feedback from patients and then using the collected feedback to enhance CSs of practitioners being assessed (Al-Jabr et al., 2018). Sixteen studies were identified by the systematic review, and findings showed that providing practitioners with individualised reports constructed from patients' feedback helped in translating data collected from patients into a meaningful enhancement tool. Patient feedback was welcomed by the majority of practitioners participating in the included studies of the systematic review, and many practitioners used the results of their feedback to enhance their CSs, such as increasing the explanations they give to patients regarding their treatment and medication side effects (Fidler et al., 1999), and increasing more quality time given to patients during consultations (Greco and Pocklington, 2001). However, the majority of studies identified by this systematic review were targeting physicians as the practitioners to be assessed by patients, and only two studies included other healthcare professionals, these were nurses and occupational therapists (Greco et al., 2001b, Violato et al., 2009).

Patient feedback has been thoroughly used with physicians across different countries in developing their practice, including Australia, Canada, the Netherlands, United Kingdom (UK), and the United States (US) (Al-Jabr et al., 2018). In the UK, Patient feedback plays a role in the revalidation process that all physicians are required to undertake every five years to show that their practice is concordant with the principles listed in Good Medical Practice (General Medical Council, 2013) and thus helps them in retaining their licence (General Medical Council, 2012a, Wright et al., 2012).

To date, no tools were published in relation to assessing consultation skills of pharmacy professionals and the effect feedback may have on enhancing their consultations. Therefore, it is important that an assessment tool is valid and reliable, and can be used with this professional group appropriately. An initial think-aloud study was previously conducted (Al-Jabr et al., 2019) to explore the thinking process of patients while responding to the Interpersonal Skills Questionnaire (ISQ) which was identified as the most evidence based tool from the systematic review (Al-Jabr et al., 2018) to test in pharmacy professionals. No major problems were identified by using the ISQ to collect patient feedback in reference to pharmacy consultations in secondary care, therefore, the aim of this study is to test the feasibility of using the ISQ in collecting patient feedback from hospital pharmacist consultations. Through this process we intend to explore the views of pharmacists regarding the use of patient feedback in assessing their CSs, to explore their views to the individual reports constructed from patient feedback and the potential impact reports may have on their CSs, and to identify methods of questionnaire administration that were utilised by pharmacists included in this study. The study also intends to explore the views of patients regarding their participation in assessing CSs of their pharmacists. We hope that the study will help in informing the implementation of patient feedback for hospital pharmacy practice.

2. Aims and objectives

2.1. Aims

- To examine the feasibility of using the ISQ in collecting patient feedback to assess CSs of hospital pharmacists.

2.2. Objectives

- To determine whether collecting patient feedback on CSs of hospital pharmacists is feasible.
- To summarize patient feedback provided to pharmacists.
- To explore the views of pharmacists about pharmacy consultations, the use of patient feedback in assessing CSs, and the ISQ as an assessment tool.
- To explore the different methods employed by pharmacists with respect to questionnaire administration.

- To assess the feasibility of providing pharmacists with individualised reports constructed from their patients' feedback.
- To examine the perceived impact that patient feedback reports could have on pharmacists.
- To identify methods that will help in enhancing the practicality of collecting patient feedback within pharmacy practice at the hospital.
- To explore the views of patients regarding their experience with giving feedback to pharmacy consultations.
- To identify what patients would like to happen as a result of their feedback.
- To identify factors that might encourage or discourage patients from giving their feedback.

3. Methods

3.1. The Client Focused Evaluations Program (CFEP) UK surveys

The CFEP UK surveys is a company that was established in 1995. It is concerned with collecting patient and colleague feedback, analysing data and generating feedback reports to various healthcare professionals, including doctors, nurses, dentists, pharmacists and occupational health therapists (CFEP UK Surveys), with the aim of providing these professionals with tools that will help in enhancing their everyday performance. The ISQ intended to be used in this study is actually owned by the CFEP and has been adapted from a previously designed questionnaire called the Doctor Interpersonal Skills Questionnaire (DISQ), merely by replacing the word 'doctor' with 'pharmacist'.

The CFEP generates questionnaires for practitioners to be given out to individuals (e.g. patients and/or colleagues) to give their assessment. For this study, questionnaires labelled with pharmacists' reference numbers will be generated to be administered for patients to complete. Completed questionnaires will then be collected and sent en-masse to the CFEP which will analyse collected feedback and use it in writing individualised reports to each pharmacist, providing useful information to be used for self-development (CFEP UK Surveys). The CFEP will also provide an anonymised aggregated report to all pharmacists involved in the assessment process. Results will be presented in these reports in the form of tables and graphs. Calculations in the report will include:

- Individual & group mean scores,
- Number of patients answering each statement,
- Mean score for each statement,

Demographics of patients assessing each pharmacist will also be included in the report, in addition to showing some of patients' comments that were written in the

questionnaire, while removing details that could identify specific patients. Individual reports will be sent to each pharmacist privately and confidentially. A sample of the CFEP report is provided in appendix-1. An abbreviated form of the report (with a frequency distribution table for patient's ratings and comments) will be issued instead if the minimum number of patients per pharmacist was not achieved (see section 3.5. for sample size).

In terms of data protection, all CFEP activities are within the scope of the Data Protection Act 1998 (CFEP UK Surveys). A copy of the "Patient Confidentiality, Data Protection & Ethical Considerations" followed by the CFEP is provided in appendix 2.

Dr. Michael Greco, the executive director of the CFEP and the author of the ISQ has agreed for it to be used in this study. However, since the ISQ is a property of the CFEP, the CFEP requested that it is their own and sole right to analyse collected data and produce reports to the assessed pharmacists. A copy of consent letter to use the ISQ is provided in appendix-3.

3.2. Study design

A mixed-methods approach will be used in this feasibility study. The study will be conducted in three phases, the first two phases will run simultaneously:

Phase-1: Collection of patient feedback in reference to pharmacists' consultations using the ISQ.

Phase-2: Conducting semi structured interviews with a sample of patients who took part in phase-1.

Phase-3: Conducting semi structured interviews with pharmacists who were assessed in phase-1.

3.3. Study location

This is a single-centre study that will be conducted at the Norfolk and Norwich University Hospital (NNUH). This is a teaching hospital located in Norwich, UK with a capacity of 1,200 beds. The study will be conducted between February and November 2018.

3.4. Participants

3.4.1. Pharmacists

The inclusion criteria for pharmacists in this study includes pharmacists who have patient-facing roles and who conduct patient consultations.

For the purpose of this study, pharmacy consultation will be defined as any conversation taking place between the pharmacist and his/her patient that intends

to discuss something, answer patient's enquiries, explain the use of new medical device or administration of medicine(s), provide patient with advice, reviewing patients list of medication or for any other reason that will eventually help both parties (pharmacist and patient) in designing a treatment plan that will derive the desired outcomes of therapy. This definition will be used in guiding the selection of pharmacists for the study.

The clinical supervisor (RS) who is part of the pharmacy team at the NNUH will be the gatekeeper for this study, and will be approached by the main researcher to circulate an email to pharmacists at the NNUH to invite them to take part in the study (appendix-4). The email will be attached with a "Participant Information Sheet" (PIS) (appendix-5) and will include a link to complete an online "Expression of Interest Form" (EIF) (hosted by Microsoft® Forms – University of East Anglia's official recommended forms platform in compliance with the new GDPR) (a sample of the EIF is provided in Appendix-21). Pharmacists who are interested in taking part in the study will be asked to complete and submit the online EIF. After two weeks, a reminder email will be sent to pharmacists if no response has been received.

The research team will then use purposive sampling to select participants meeting the inclusion criteria from the initial pool of pharmacists showing interest while considering the following characteristics to obtain a sample of maximum diversity:

1- Gender. 2- Years of qualification. 3- Clinical areas worked in.

Pharmacists agreeing to participate in the study will receive an email (Appendix-22) inviting them to an information session, the email will be attached with an online form (hosted by Microsoft® Forms – University of East Anglia's official recommended forms platform in compliance with the new GDPR) that asks about their availability to arrange for the session held by the main researcher prior to commencing the study (sample of this form is provided in appendix-6).

The main researcher will then arrange for a time to conduct the information session at the NNUH at a time convenient to pharmacists. Pharmacists will receive an email notifying them about the time and place for the information session. The session is intended to explain the 'gold standard' method for collecting feedback from patients as derived from the findings of a recent systematic review (Al-Jabr et al., 2018). A summary of the 'gold standard' method is provided in appendix-7 and will be given to pharmacists. At the information session, other options of questionnaire administration will be discussed with pharmacists since the 'gold standard" method was derived from studies that were mostly conducted with doctors, and challenges could be faced with respect to pharmacy consultations.

At the end of the information session, pharmacists who are still interested in participating in the study will be asked to sign a "Study Consent Form" (appendix-8).

Pharmacists will also be asked to complete and sign an application form for the CFEP (appendix-9). The main researcher will collect these forms and will send it by email to the CFEP so as to generate several copies of the ISQs labelled with pharmacists' reference numbers. The CFEP will then send the generated questionnaires, alongside sealed envelopes (return envelopes addressed to CFEP) and ballot boxes (one box for each pharmacist) to the main researcher to be distributed to pharmacists. Pharmacists will use the ISQs in the first phase of the study, which includes administering ISQs to patients meeting the inclusion criteria (details for phase 1 are described in section 4.1). The CFEP application fees and financial costs of the ISQs will all be covered by the research team.

If however some pharmacists at the end of the information session wish not to continue, no action will be taken and the research team will purposively select other participants. The new pharmacists will also be provided with the same information session at times convenient to them. This process will continue until the desired number of pharmacists needed for the study is achieved, informed consents are obtained and application forms are signed. A summary for pharmacist recruitment for the study is provided in Figure 3.

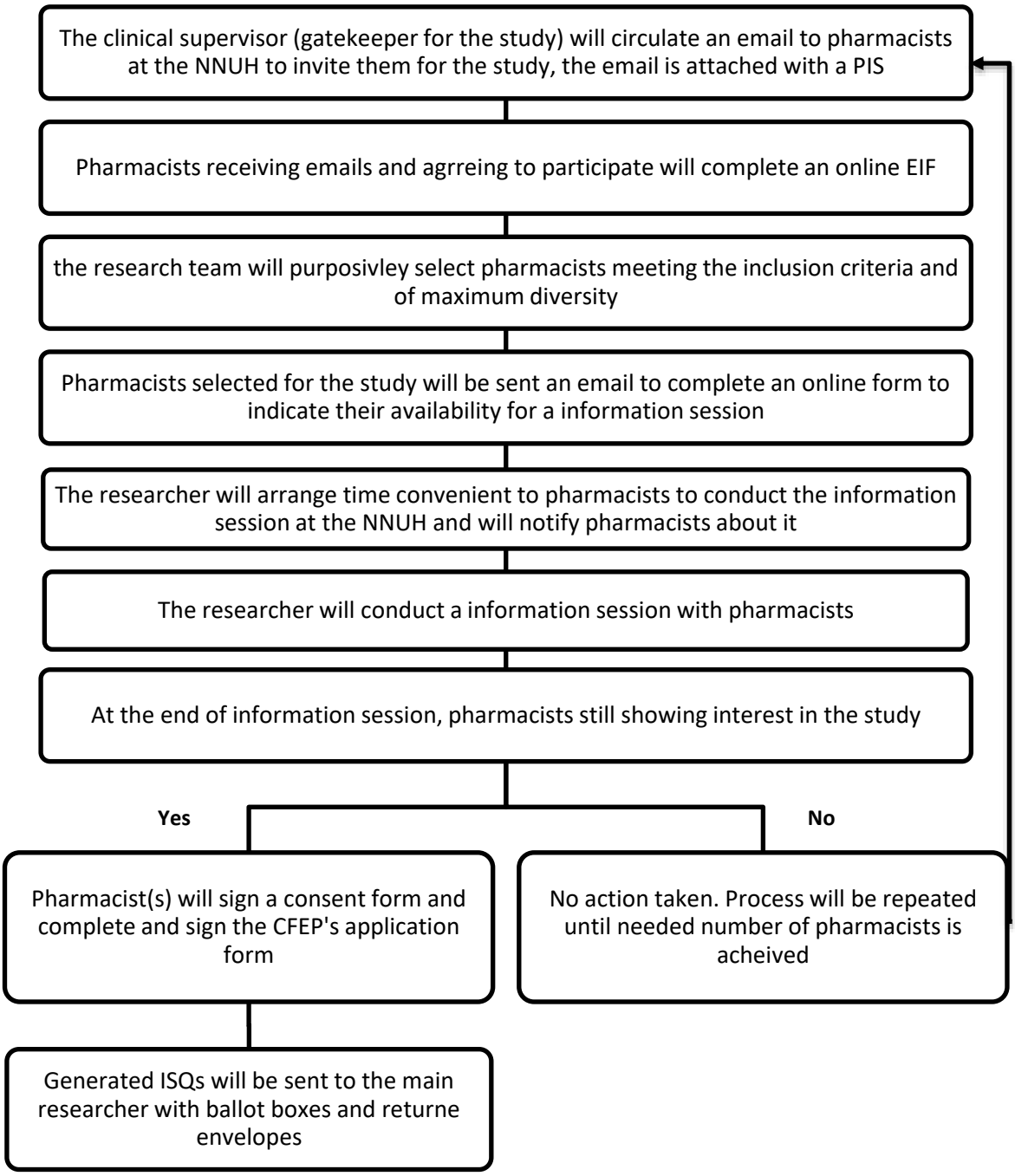


Figure 3 Pharmacists' recruitment process

3.4.2. Patients

3.4.2.1. Inclusion criteria

Patients meeting the following criteria will be considered eligible for inclusion in the study:

- Outpatients attending clinic at the NNUH.
- Inpatients most likely to be discharged within the coming four days to their own homes (as predicted by their pharmacists).
- Patients ≥ 18 years old.
- Patients within one hour of a consultation with a pharmacist (see section 3.3.1 for consultation definition).

3.4.2.2. Exclusion criteria

Patients will be excluded from the study if they meet the following criteria:

- Patients who cannot communicate using the English language (reading & writing).
- Patients reported by their pharmacists to be not suitable for inclusion (e.g. have cognitive impairment).

3.5. Sample size

With respect to the number of pharmacists to be included in the whole study, the research team has decided to conduct the study with a 10% sample of the pharmacists' population at the NNUH. There are 59 pharmacists working at the NNUH, and therefore, six pharmacists will be recruited to be included in the study (in phases 1 and 3).

As for patients participating in phase 1 (i.e. completing the ISQ), to get a full patient feedback report, patient sample size will be between 28-40 patients per pharmacist. According to the CFEP, to make sure that 25 responses are reached for each question of the ISQ (while covering for possible item non-response by some participants), at least 28 returned questionnaires are needed. The CFEP also indicated that their previous experience with collecting feedback from patients, a maximum of 40 questionnaires distributed is enough to get 28 completed ISQs while taking into account non-returned questionnaires, thus a sample size of 28-40 patients per pharmacist will be help to generate a report with statistically reliable results (C. Blackburn, personal communication, December 22, 2017).

With respect to the second phase of the study (i.e. conducting interviews with patients), 1-3 patients per pharmacist will be recruited (maximum 18 patients). This will be guided by reaching data saturation, when no new themes are emerging from patients' interviews.

3.6. Questionnaire

The tool that will be used in this study for assessing CSs of hospital pharmacists is the ISQ. It is a 13-items questionnaire that is answered using a 5-point Likert scale ranging from 1 = poor to 5 = excellent, and which takes less than five minutes to complete. The ISQ also has a qualitative element where extra space is dedicated to allow patients write comments or suggestions regarding how a practitioner can improve his/her consultation. The availability of such space will help patients (respondents) to give their views over things not covered in the questionnaire, thus, making feedback more useful (Peterson, 2000). A copy of the ISQ is provided in appendix-10.

As mentioned earlier, the ISQ is owned by the CFEP and was adapted from the DISQ by replacing the word 'doctor' with 'pharmacist'. A think-aloud cognitive interviewing study was conducted to pre-test the use of the ISQ within the context of hospital pharmacy consultations to identify whether problem(s) exist when collecting patient feedback (Al-Jabr et al., 2019). No major problems were identified by the study that necessitated changing the questionnaire, thus, the ISQ is considered a potentially suitable tool to be feasibility tested for assessing CSs of pharmacy professionals.

Patient feedback will be sought immediately (no more than one hour) following patient's consultation by the pharmacist, when the encounter is still fresh in their minds, thus making the collected feedback more effective and useful (Department of Health, 2009). To protect patients' anonymity and confidentiality, no patient identifiable data will be recorded on the questionnaire (i.e. name, or date of birth), the only sociodemographic data collected from patients on the questionnaire will be age, gender, and whether they are seeing the pharmacist undergoing the assessment for the first time or not.

4. Data Collection

4.1. Phase 1: Questionnaire administration and collection

Patient feedback will be collected in the first phase of this study. Various methods of questionnaire administration were identified (Burford et al., 2009), where questionnaires are administered either by the practitioner himself or by a third person (e.g. nurse). Pharmacists participating in the study will be advised to use the method(s) they perceive appropriate for questionnaire administration with respect to where they conduct their consultations (on the wards or in clinics), and in light of the "gold standard' method of questionnaire administration that was previously explained (see section 3.4.1). Pharmacists will be provided with a "Questionnaire administration form" (appendix-11) to be completed by whoever administers the questionnaire to patient (either the pharmacist himself or the third person), in order to keep a record of the method(s) used, besides collecting other useful data that will

be used in the analysis. To protect pharmacist's anonymity and ensure organised methods of data collection, the main researcher will give each pharmacist a reference number and will label questionnaire administration forms for the different pharmacists with their reference numbers. All completed questionnaire administration forms will be requested to be placed in the marked box that will also be used for collecting the completed ISQs.

With respect to patient recruitment, eligible patients meeting the inclusion criteria will be initially approached by either the pharmacist or the third person (depending on the method used for questionnaire administration) to ask for their interest in taking part in the study. Patients showing interest will be handed a copy of the ISQ to complete immediately (no more than one hour) following their consultation with the pharmacist. At the same time of administering ISQs to patients, patients will also be invited to phase-2 of the study (see section 4.2. for details). Each patient will be instructed to complete the ISQ in reference to the consultation he/she has just had with the pharmacist, and for the purpose of protecting their anonymity and confidentiality, to place the completed ISQ in the provided envelope and return it back (either by themselves or can ask any of the staff to do it for them) to the marked box located at an easily accessible site (e.g. at nursing station or reception desk). Patients with mobility difficulty can ask any of the staff to place their envelopes in the marked box on their behalf. Outpatients recruited from clinics will be asked to complete the ISQ and return it before leaving the hospital setting. Questionnaire administration process is summarized in Figure 4.

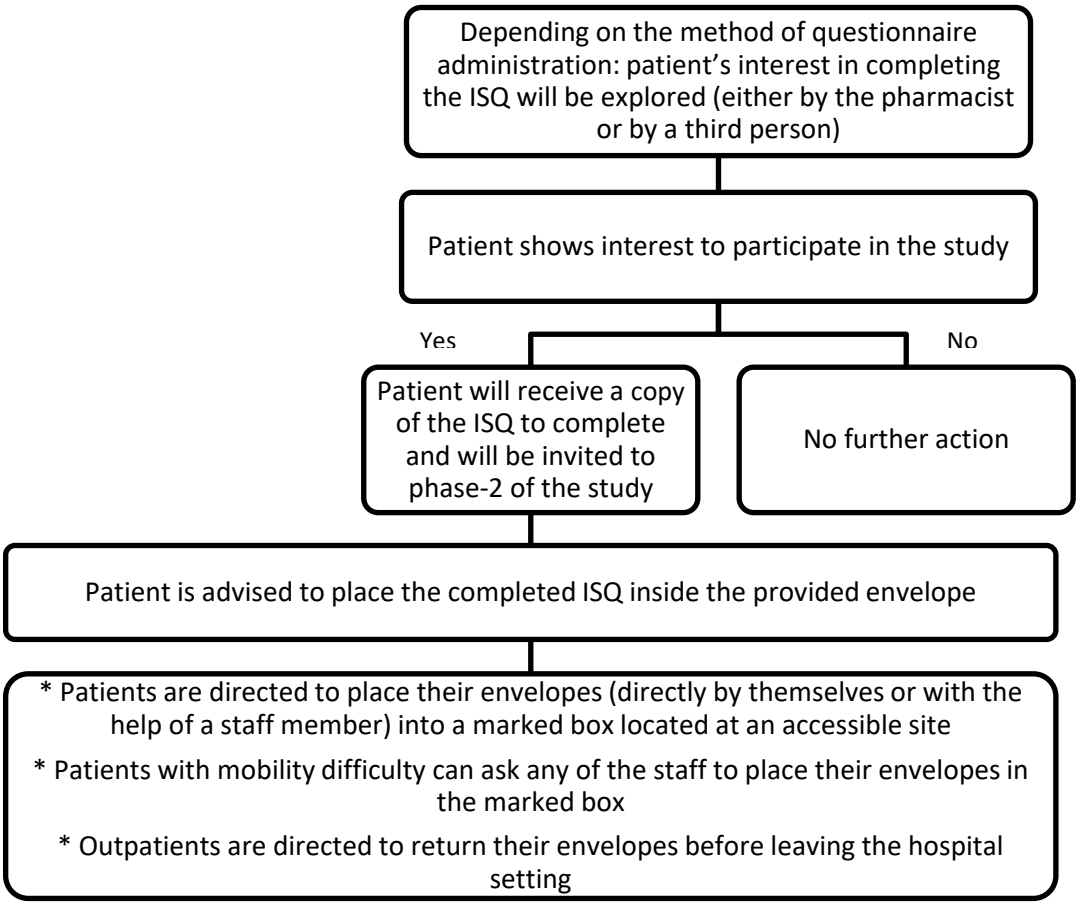


Figure 4 Questionnaire administration process

To ensure data security, following the end of a pharmacist working day, pharmacists will be requested to store the boxes overnight in a secure place, (e.g. in the 'drug room' available on the ward or at main pharmacy). Pharmacists will be instructed to inform the ward/clinic team about the study, and will leave them a note to return any collected envelope(s) from patients to the marked box that is stored at the designated secure place.

4.1.1. Start and end points for phase 1

Start point of phase 1 of the study: This phase will start once each pharmacist is provided with his/her own batch (40 copies) of the ISQs, sealed envelopes, a marked box, several copies of the questionnaire administration form, and guidelines for questionnaire administration. Pharmacists can then start with the process of questionnaire administration to patients.

Following the start of this phase, the main researcher will go frequently to the NNUH to collect the completed questionnaires and questionnaire administration forms for each pharmacist (documents will be collected in separate files to keep each pharmacist's data together). All collected documents will then be transferred immediately to UEA and completed ISQs will be placed into enveloped addressed to CFEP and will be stored securely at UEA in a locked filing cabinet until the end of this phase.

End points of phase 1: Once 28 envelopes are returned in the box for each pharmacist, the main researcher will notify the pharmacist to terminate the process of questionnaire administration, otherwise the process will be terminated once the pharmacist has given out all his/her 40 copies of the ISQs to patients, or when a 100 patients were asked to participate in the study (while talking into account patients who will decline to complete the ISQ and take part in the study), or following three months from starting (first day of administering questionnaires to patients). The starting and end points of this phase of the study is summarized in Figure 5.

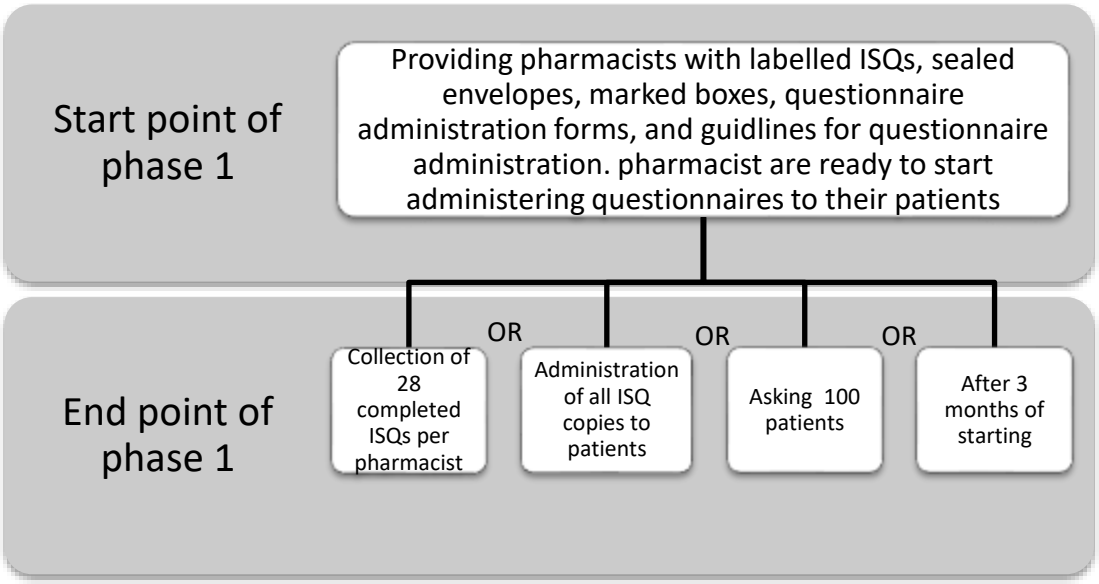


Figure 5 Start and end points of phase 1 of the study

All completed questionnaires for each pharmacist will be collected by the main researcher and sent en-masse to the CFEP using large, pre-paid envelopes provided beforehand for this purpose; one large envelope will be used to send the completed ISQs for each pharmacist. The completed questionnaires for all pharmacists will be posted at the same time to the CFEP. As described in section 3.1, the CFEP will analyse data collected for each pharmacist and write individualised reports. Reports will then be sent to main researcher to be circulated to each pharmacist by email (password

protected email) privately and confidentially. An aggregated report for all pharmacists participating in the study will also be generated by the CFEP and will be sent to the main researcher. Pharmacists will be contacted to conduct phase-3 of the study one month following the receipt of their patient feedback reports. The process of data collection for phase 1 of the study is summarized in Figure 6.

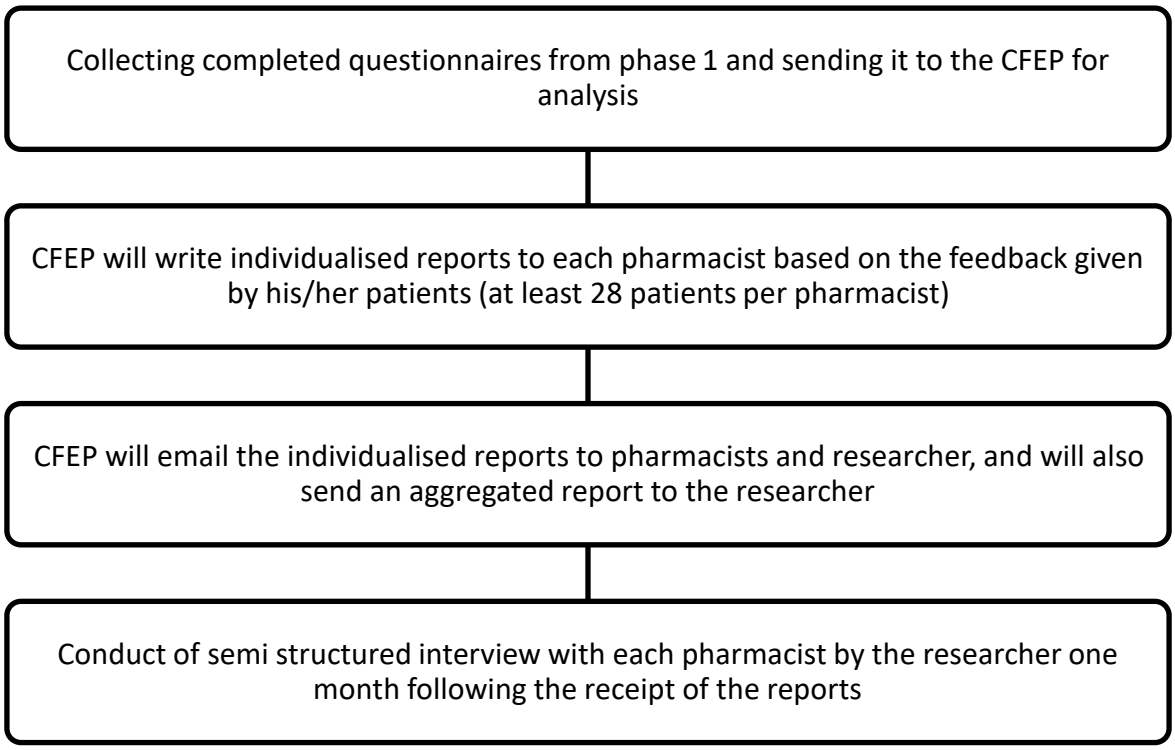


Figure 6 Data collection

4.2. Phase 2: Semi structured interviews with patients

This phase of the study will include conducting semi structured interviews with a sample of patients who were involved in assessing pharmacists in phase 1. At time the ISQs are being administered to patients, patients will also receive an invitation letter (appendix-12) to participate in phase-2 of the study. The invitation letter provides a brief description behind conducting the interviews and will be attached with an "Interview Expression of Interest Form" (IEIF) (appendix-13) for patients to complete if they are interested. The IEIF will collect various data from patients, e.g. patient's name, whether inpatient or outpatient, name of ward/clinic, address (home address, and postal code). The collected data will help the main researcher to arrange a time to contact patients, besides helping in easily locating inpatients to be approached by the main researcher while they are still in the hospital to talk to them more about the study. All patients will be instructed to place their completed IEIF in

the same envelope that contains the completed ISQ, to seal it and have it returned to the marked box. It will be clarified to patients from the start that they can choose to complete the ISQ without feeling obligated to take part in phase 2, in which case they can return the completed ISQ in the sealed envelope and ignore all the other documents if not interested.

As described earlier in section 4.1.1, envelopes will be collected frequently by the main researcher. These envelopes will contain the completed ISQs and possibly the IEIFs. All collected documents will be transferred to UEA where the main researcher will open the envelopes for one pharmacist at a time to separate the completed ISQs from the IEIF (if available). Each completed ISQ will then be placed in the sealed envelope provided by the CFEP, whereas the IEIF will be collected and used by the main researcher to arrange for contacting patients for phase-2 of the study. This step was considered (i.e. the collection of the completed ISQ and IEIF from each patient in one envelope and then separating them later by the main researcher) for two reasons; firstly to facilitate inviting patients to phase-2 of the study without increasing the workload on pharmacists or the third person, and secondly to avoid the risks that could be associated with some patients who might mistakenly place their IEIF together with the completed ISQ in the same envelope that will be sent to the CFEP, thus the research team found this step necessary to maintain patients' confidentiality and anonymity.

The collected IEIF will help the main researcher to identify patients showing interest in phase-2 and it will be coded with pharmacists' reference numbers to help in recruiting 1-3 patients per pharmacist. Patients who will not continue with the study will receive a "Thank you – Regret letter" (by post) (appendix-14), whereas those who will continue will receive a Participant Information Leaflet (PIL) (appendix-15) and a consent form 24-48hrs following the receipt of their IEIFs. For outpatients, these documents will be sent to them by post using the address given in the IEIF. Outpatients will be contacted by the main researcher two days following sending these documents (PIL, consent form and a prepaid envelope) to identify if they are still interested in taking part and if so to arrange for the telephone interview. At the time of the interview, verbal consent to the study will be obtained over the phone for outpatients for each statement of the consent form, and outpatients will be reminded to sign the consent form and post it back to the main researcher using the prepaid envelope following the interview. A copy of "outpatient consent form" is provided in appendix-16. The process for outpatient recruitment is summarized in Figure 7.

As for inpatients, they will be approached by the main researcher to be provided with the PIL and an "inpatient consent form" (appendix-17). Inpatients will be asked to sign the consent form in case they decide to take part in the study, and to place it in

the provided sealed envelope that is addressed to the main researcher to be returned to the main pharmacy via the internal mail system at the NNUH. Signed consent forms will enable checking inpatients' discharge so that not be contacted while they are still in the hospital. This will be conducted by the clinical supervisor who will then notify the main researcher about patients discharge. Inpatients who will remain in the hospital 4 days following completing the ISQ will not continue with the study, since the duration of time between completing the ISQ and conducting the interview will be prolonged and might influence patients' recall of experience (recall bias). On the other hand, inpatients who will continue with the study will then be contacted 24hrs following their discharge to arrange for the interview. The process for inpatient recruitment for phase-2 is summarised in Figure 8.

When contacting patients to arrange for the interview, in case no one responded to the phone call, a phone message will be left if possible, notifying the patient about phoning him/her again at certain time and day. A maximum of three trials of phone calls will be conducted in two consecutive days at three different times: morning, afternoon, and evening, if however no response was achieved after these three trials, the nonresponding patient will be removed out of the study and will not be contacted again.

To maintain patient confidentiality, the main researcher will conduct telephone interviews privately at UEA, and each patient will be asked from the start if he/she feel happy to proceed with the interview. The main researcher will also ensure patients that the transcripts of their interviews will be anonymised and that their personal data will not appear on any report coming out of the study.

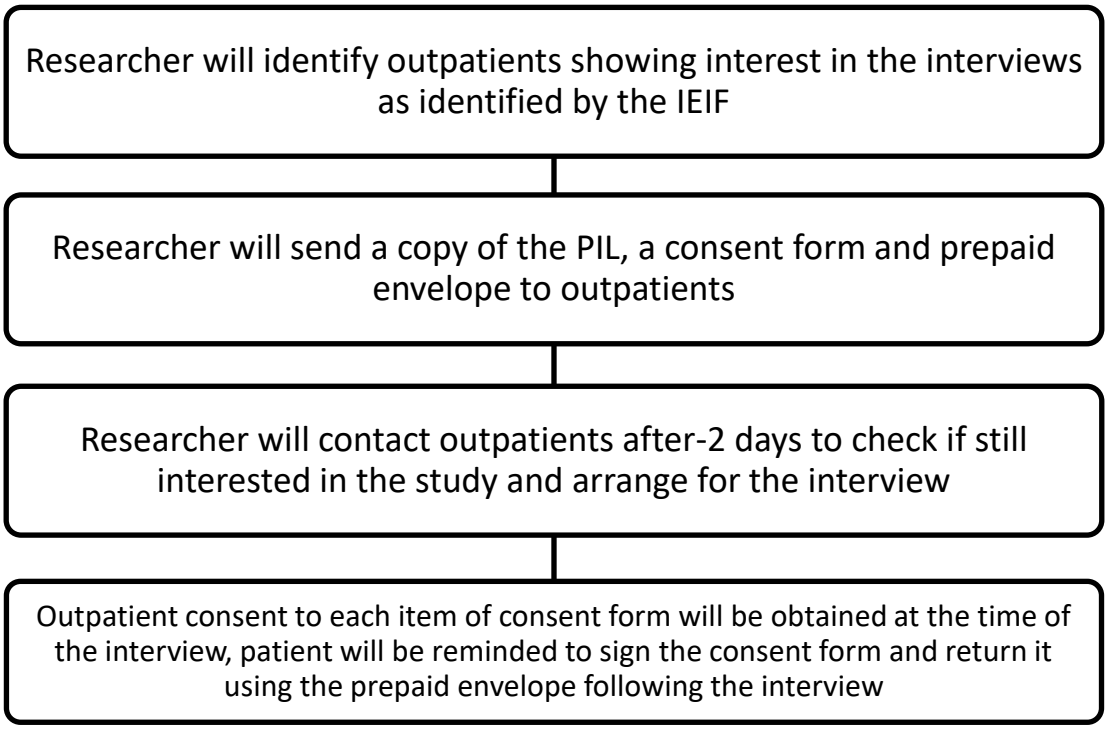


Figure 7 Outpatients recruitment process for interviews

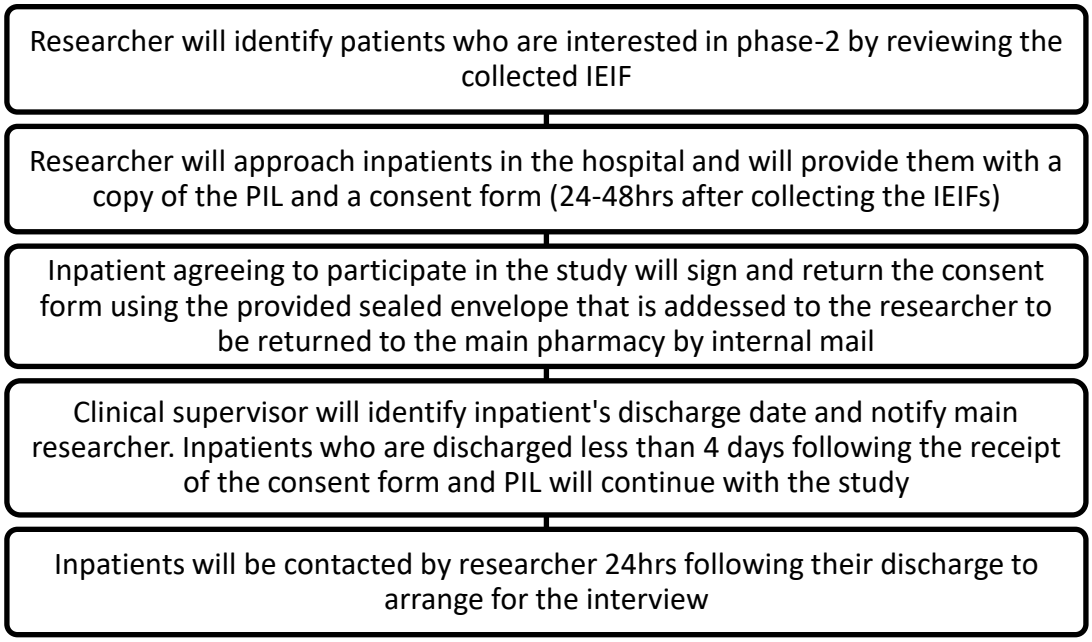


Figure 8 Inpatient recruitment process for phase 2

Phase-2 of the study will include interviewing patients to explore their experience with giving feedback to their pharmacists. Main areas of discussion in the interview will include exploring the following:

1. Perceptions about consultation with the pharmacist.

2. Experience with feedback process.

3. Desire to see things happening as a result of feedback,

4. Barriers and motivators to participate again in providing feedback.

An interview topic guide was developed in accordance with study aims, objectives and feasibility measures, along with reviewing literature and through consultations with the research team. A copy of the interview topic guide is provided in appendix-18. Interviews will be conducted over the phone by the main researcher, are expected to last up to 45 minutes, and they will be audio recorded and transcribed. Patients will be offered a £10 amazon voucher as a thank you for their participation which will be sent to them by post 24hrs following the telephone interview.

4.3. Phase-3: Conducting semi structured interviews with pharmacists

This phase of the study will include conducting semi structured interviews with pharmacists who participated in phase 1. Interviews will be conducted with each pharmacist one month following the receipt of patient feedback reports. The following areas represent the main topics of discussion in the interview:

1. Perceptions about patient consultations.

2. Perceptions about patient feedback.

3. Used methodology for questionnaire administration.

4. Reflections to feedback report.

5. Suggestions for process improvement.

An interview topic guide was developed in accordance with study aims, objectives and feasibility measures, along with reviewing literature and through consultations with the research team. A copy of the interview topic guide is provided in appendix-19. Interview consent forms (appendix-20) will be completed by each pharmacist at the time of the interview.

Interviews will be conducted by the main researcher, are expected to last up to 1 hour, and they will be audio recorded and transcribed. Interviews will take place

either at the NNUH or at the University of East Anglia (UEA), whichever pharmacist choose at a time convenient to each pharmacist. The main researcher will liaise with each pharmacist to arrange for a suitable date, time and place for interview to be held. Refreshments will be provided during the interview.

5. Data analysis

5.1. Quantitative data collection and analysis

Patient feedback will be analysed by the CFEP and will be presented in the reports that pharmacists will receive. A copy of these reports and an aggregated copy for the whole group will also be sent to the main researcher. Details about the report are provided in section 3.1.

Three sources will be providing data to the main researcher following the completion of the first phase of the study; demographic data collected from the pharmacists' consent forms, data collected from the questionnaire administration forms, and the CFEP patient feedback reports (individualised and aggregated reports).

Data analysis that will be conducted by the main researcher will include the following:

1. A descriptive statistics of the demographics of the study population:

- For the whole study: Pharmacist sample will be described in terms of their age, gender, years of registration as a pharmacist in the UK, NHS band, and their area of specialisation in the hospital.

-For phase 1: Patient sample will be described in terms of their age, gender and whether this is the first time they see the pharmacist. Description will be provided for each pharmacist and for all pharmacists.

- For phase 2: Patient sample will be described in terms of their age, gender, and whether inpatients or outpatients. Description will be provided for each pharmacist and for all pharmacists.

2. Data collected using the questionnaire administration form will be analysed to identify the following:

- The number of ISQs given out by each pharmacist to achieve the 28 completed ones.
- Patients' response rate for each pharmacist and for all pharmacists.
- The number of patients not agreeing to complete the questionnaire (and if possible reasons for rejection) for each pharmacist and for all pharmacists.

- The different types and numbers of methodologies used by each pharmacist and by all pharmacists in questionnaire administration.
- The duration of time it took to collect the needed number of completed questionnaires (depending from where and by whom data were collected) for each pharmacist and for all pharmacists.

3. Data provided from the CFEP reports (individualised and aggregated reports) will be used to obtain the following:

- Describing patient response rate for each pharmacist and for all pharmacists in terms of patient demographics: age, gender, and whether this is the first time they see the pharmacist.
- Describing patient response rate for each pharmacist in terms of pharmacist demographics: site where questionnaires were collected (name of ward or clinic), NHS band, and years of experience (age and gender).
- Identifying CSs that received highest ratings for each participating pharmacist and for all pharmacists.
- Identifying CSs that received lowest ratings for each pharmacist and for all pharmacists.

5.2. Qualitative data collection and analysis

Audio-recordings of interviews (patients' and pharmacists' interviews) will be transcribed verbatim by the main researcher and a transcriber assistant. Patient interviews will be transcribed and analysed separately from pharmacists' interviews. The accuracy, clarity and reliability of transcriptions will be verified by listening to the recordings and comparing it with the transcripts, this will be conducted by the main researcher and/or a member of the research team. All transcripts will be then anonymised, participating pharmacists will be referred to as Pharmacist-1, Pharmacist-2, etc. As for participating patients, they will be referred to as P-1-1, with the first number referring to the order of patient interviewed and the second number referring to pharmacist code (pharmacist who was assessed by this patient), e.g. P-1-1 refers to the first interview conducted with patient assessing pharmacist-1. Data generated from interviews will be coded and thematically analysed (Braun and Clarke, 2006) by the main researcher to identify common emerging themes that are related to interview questions. Coding will be done either manually by using a 'scissors and paste' technique, or by using NVivo® software. Coded transcripts will be checked by another member of the research team to ensure appropriate and consistent coding process. Final themes and findings of patients' interviews and of pharmacists' interviews will be presented to members of the research team for review and discussion, and they will be supported by anonymised quotes from the different participants.

The results of this study will help in exploring the experiences of pharmacists and patients with the patient feedback process and hopefully in identifying better way(s) of implementing this process within the context of hospital pharmacy.

6. Data storage

6.1. CFEP data storage

All CFEP activities are compliant with Data Protection Act 1998, and all of its staff are continuously updated by different methods on their responsibilities towards data protection and confidentiality (CFEP UK Surveys).

With respect to paper questionnaires collected for each pharmacist, the CFEP will shred these questionnaires within six weeks of receiving them. Survey data will be stored by the CFEP, in addition to storing the contact details of each pharmacist (unless requested to be removed). No identifiable information will leave the CFEP's data storage system (which is encrypted, high tier, ISO 27001 standard). Nobody outside the CFEP will have access to this data (bar criminal investigation/court order type of access, which overrules all data protection law). A copy of the "Patient Confidentiality, Data Protection & Ethical Considerations" followed by the CFEP is provided in appendix 2.

6.2. Data storage by researcher:

All data collected from participants (patients and pharmacists) from both phases of the study will remain strictly confidential, and as described above, all participants will be coded with a study number. All notes taken by the main researcher, and data collected from patients and pharmacists, and interview transcripts will be securely stored at UEA in a locked filing cabinet. Audio recorded data will be downloaded onto a secure, password protected computer at UEA, and files will then be deleted from the audio recording devices. The recordings will be anonymously transcribed on the University computer and once checked for accuracy by a member of the research team will be deleted. No personal data of participants will appear on any reports and/or publications coming out from the study. Participants' personal data will be destroyed following the end of this PhD, whereas research data will be destroyed after 10 years of research publication as per university policy. Principles of the Data Protection Act 1998 will be followed with respect to data storage, processing, and destruction.

Appendix 3-B Ethical approval of feasibility study

Ymchwil Iechyd a Gofal Cymru
Health and Care Research Wales

NHS
Health Research Authority

Miss Hiyam Al-Jabr

School of Pharmacy
University of East Anglia

Norwich Research Park, Norwich, UK

NR4 7TJ

Email: hra.approval@nhs.net
Research-permissions@wales.nhs.uk

31 May 2018

Dear Miss Al-Jabr

Study title:	**Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)**
IRAS project ID:	**240348**
Protocol number:	**ISQFS-Rev-1**
REC reference:	**18/LO/0599**
Sponsor	**University of East Anglia**

I am pleased to confirm that **HRA and Health and Care Research Wales (HCRW) Approval** has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications received. You should not expect to receive anything further relating to this application.

How should I continue to work with participating NHS organisations in England and Wales? You should now provide a copy of this letter to all participating NHS organisations in England and Wales*, as well as any documentation that has been updated as a result of the assessment.

*'In flight studies' which have already started an SSI (Site Specific Information) application for NHS organisations in Wales will continue to use this route. Until 10 June 2018, applications on either documentation will be accepted in Wales, but after this date all local information packs should be shared with NHS organisations in Wales using the Statement of Activities/Schedule of Events for non-commercial studies and template agreement/ Industry costing template for commercial studies.

Following the arranging of capacity and capability, participating NHS organisations should **formally confirm** their capacity and capability to undertake the study. How this will be confirmed is detailed in the "*summary of assessment*" section towards the end of this letter.

You should provide, if you have not already done so, detailed instructions to each organisation as to how you will notify them that research activities may commence at site following their confirmation of capacity and capability (e.g. provision by you of a 'green light' email, formal notification following a site initiation visit, activities may commence immediately following confirmation by participating organisation, etc.).

It is important that you involve both the research management function (e.g. R&D office) supporting each organisation and the local research team (where there is one) in setting up your study. Contact details of the research management function for each organisation can be accessed here.

How should I work with participating NHS/HSC organisations in Northern Ireland and Scotland?

HRA and HCRW Approval does not apply to NHS/HSC organisations within the devolved administrations of Northern Ireland and Scotland.

If you indicated in your IRAS form that you do have participating organisations in either of these devolved administrations, the final document set and the study wide governance report (including this letter) has been sent to the coordinating centre of each participating nation. You should work with the relevant national coordinating functions to ensure any nation specific checks are complete, and with each site so that they are able to give management permission for the study to begin.

Please see IRAS Help for information on working with NHS/HSC organisations in Northern Ireland and Scotland.

How should I work with participating non-NHS organisations?

HRA and HCRW Approval does not apply to non-NHS organisations. You should work with your nonNHS organisations to obtain local agreement in accordance with their procedures.

What are my notification responsibilities during the study?

The document "*After Ethical Review – guidance for sponsors and investigators*", issued with your REC favourable opinion, gives detailed guidance on reporting expectations for studies, including: Registration of research

- Notifying amendments
- Notifying the end of the study

The HRA website also provides guidance on these topics, and is updated in the light of changes in reporting expectations or procedures.

I am a participating NHS organisation in England or Wales. What should I do once I receive this letter?

You should work with the applicant and sponsor to complete any outstanding arrangements so you are able to confirm capacity and capability in line with the information provided in this letter.

The sponsor contact for this application is as follows:

Name: Mr Samuel Hills

Tel: 01603592994

Email: Samuel.Hills@uea.ac.uk

Who should I contact for further information?

Please do not hesitate to contact me for assistance with this application. My contact details are below.

Your IRAS project ID is **240348**. Please quote this on all correspondence.

Yours sincerely

Kevin Ahmed

Assessor

Telephone: 0207 104 8171

Email: hra.approval@nhs.net

Copy to: *Mr Samuel Hills, Sponsor Contact, University of East Anglia*

Mrs Julie Dawson, R&D Contact, Norfolk and Norwich University Hospital NHS Foundation Trust

List of Documents

The final document set assessed and approved by HRA and HCRW Approval is listed below.

Document	*Version*	*Date*
Covering letter on headed paper		22 February 2018
Covering letter on headed paper		30 April 2018
Evidence of Sponsor insurance or indemnity (non NHS Sponsors only) [Confirmation of Sponsor and Insurance and Indemnity Letter]		20 February 2018
HRA Schedule of Events	1.0	31 May 2018
HRA Statement of Activities	1.0	31 May 2018
Interview schedules or topic guides for participants [Appendix 18 - Patients]	1	21 February 2018
Interview schedules or topic guides for participants [Appendix 19 - Pharmacists]	1	21 February 2018
IRAS Application Form [IRAS Form 21022018]	240348/1180018/37/267	21 February 2018
Letters of invitation to participant [App 21 Pharmacist Expression of Interest]	1	30 April 2018
Letters of invitation to participant [App 4 Study invitation email to Pharmacists]	3	30 April 2018
Letters of invitation to participant [Appendix 12 - Patient Invitation Letter]	1	21 February 2018
Letters of invitation to participant [App 13 Interview Expression of Interest]	2	30 April 2018
Non-validated questionnaire [ISQ]	2	30 April 2018
Other [Appendix 11 - Questionnaire Administration and Collection Form]	2	26 February 2018
Other [Chief Investigator CV: Hiyam Al-Jabr]	2	03 July 2017
Other [CV: Michael Twigg]	2	30 April 2017
Other [Summary of Supervisory Team's Comments on the Study]	1	26 February 2018
Other [App 1 CFEP Pharmacist Sample report]	2	30 April 2018
Other [Appendix-22 Confirmation email]	1	30 April 2018
Other [Appendix 2 - CFEPs Ethical Consideration]	1	21 February 2018
Other [Appendix 3 - CFEP Consent Letter]		09 July 2017
Other [Appendix 6 - Invitation to an Information Session]	1	21 February 2018
Other [Appendix 7 - Guidelines for Questionnaire Administration]	1	21 February 2018
Other [Appendix 9 - CFEP Application Form]	1	21 February 2018
Other [Appendix 14 - Thank You - Regret Letter]	1	21 February 2018
Participant consent form [Appendix 8 - Pharmacist Study Consent Form]	1	21 February 2018
Participant consent form [Appendix 20 - Pharmacists Interview]	1	21 February 2018
Participant consent form [Appendix 16 - Outpatient Interview]	1	21 February 2018
Participant consent form [Appendix 17 - Inpatient Interview]	1	21 February 2018

Participant information sheet (PIS) [Pharmacists]	3	30 April 2018
Participant information sheet (PIS) [Appendix-15 Participant Information Leaflet]	3	30 April 2018
Research protocol or project proposal	3	30 April 2018
Summary CV for supervisor (student research) [James Desborough]	1	17 July 2017
Summary CV for supervisor (student research) [Robin Saadvandi]		27 July 2017
Summary, synopsis or diagram (flowchart) of protocol in non technical language [Flowchart]	1	21 February 2018
Validated questionnaire [Appendix 10 - Interpersonal Skills Questionnaire]	Rev 2.2 * date received *	21 February 2018

6 Summary of assessment

The following information provides assurance to you, the sponsor and the NHS in England and Wales that the study, as assessed for HRA and HCRW Approval, is compliant with relevant standards. It also provides information and clarification, where appropriate, to participating NHS organisations in England and Wales to assist in assessing, arranging and confirming capacity and capability.

7 Assessment criteria

Section	Assessment Criteria	Compliant with Standards	Comments
1.1	IRAS application completed correctly	Yes	No Intellectual Property will be generated by this study.
2.1	Participant information/consent documents and consent process	Yes	No comments
3.1	Protocol assessment	Yes	No comments
4.1	Allocation of responsibilities and rights are agreed and documented	Yes	The sponsor has submitted the HRA Statement of Activities and intends for this to form the agreement between the sponsor and study sites. The sponsor is not requesting, and does not require any additional contracts with study sites.
4.2	Insurance/indemnity arrangements assessed	Yes	No comments
4.3	Financial arrangements assessed	Yes	No application for external funding has been made. No study funding will be provided to sites, as detailed at Schedule 1 of the Statement of Activities.

5.1	Compliance with the Data Protection Act and data security issues assessed	Yes	No comments
5.2	CTIMPS – Arrangements for compliance with the Clinical Trials Regulations assessed	Not Applicable	No comments
Section	**Assessment Criteria**	**Compliant with Standards**	**Comments**
5.3	Compliance with any applicable laws or regulations	Yes	No comments
6.1	NHS Research Ethics Committee favourable opinion received for applicable studies	Yes	No comments
6.2	CTIMPS – Clinical Trials Authorisation (CTA) letter received	Not Applicable	No comments
6.3	Devices – MHRA notice of no objection received	Not Applicable	No comments
6.4	Other regulatory approvals and authorisations received	Not Applicable	No comments

Participating NHS Organisations in England

This provides detail on the types of participating NHS organisations in the study and a statement as to whether the activities at all organisations are the same or different.
The Chief Investigator or sponsor should share relevant study documents with participating NHS organisations in England and Wales in order to put arrangements in place to deliver the study. The documents should be sent to both the local study team, where applicable, and the office providing the research management function at the participating organisation. Where applicable, the local LCRN contact should also be copied into this correspondence. If chief investigators, sponsors or principal investigators are asked to complete site level forms for participating NHS organisations in England and Wales which are not provided in IRAS, the HRA or HCRW websites, the chief investigator, sponsor or principal investigator should notify the HRA immediately at hra.approval@nhs.net or HCRW at Research-permissions@wales.nhs.uk. We will work with these organisations to achieve a consistent approach to information provision.

8 Principal Investigator Suitability

This confirms whether the sponsor position on whether a PI, LC or neither should be in place is correct for each type of participating NHS organisation in England and the minimum expectations for education, training and experience that PIs should meet (where applicable).
A Principal Investigator should be appointed at study sites. GCP training is not a generic training expectation, in line with the HRA statement on training expectations.

9 HR Good Practice Resource Pack Expectations

This confirms the HR Good Practice Resource Pack expectations for the study and the pre-engagement checks that should and should not be undertaken
Where arrangements are not already in place, network staff (or similar) undertaking any of the research activities listed in A18 of the IRAS form would be expected to obtain a Letter of Access based on standard DBS checks and occupational health clearance would be appropriate.

10 Other Information to Aid Study Set-up

This details any other information that may be helpful to sponsors and participating NHS organisations in England to aid study set-up.
The applicant has indicated that they do not intend to apply for inclusion on the NIHR CRN Portfolio.

Appendix 3-C Feasibility study invitation email to pharmacists

Dear pharmacist,

My name is Hiyam Al-Jabr, I am a PhD student at the School of Pharmacy at the University of East Anglia. As part of my PhD, I am conducting a study about using patient feedback on hospital pharmacists' consultation skills. The study will be conducted in three phases, phase 1 includes collecting feedback from a number of patients who have just had a consultation with a pharmacist using the Interpersonal Skills Questionnaire (ISQ), phase-2 includes conducting individual interviews with a sample patients involved in phase 1, and phase-3 includes conducting individual interviews with pharmacists undergoing the assessment. The study aims to examine the feasibility of using the ISQ in collecting patient feedback with respect to pharmacy consultations in the hospital.

As a pharmacist working at the Norfolk and Norwich University Hospital (NNUH), I would like to invite you to consider taking part in this study. The attached "Participant Information Sheet" provides all the necessary details you would like to know about the study.

If you are interested in participating, please complete the online "Expression of Interest Form"
(which you can access using google chrome)
https://forms.office.com/Pages/ResponsePage.aspx?id=lYdfxj26UUOKBwhl5djwkN93L_3ZVylMstgLK ehLoeZUME1VUUc1WTFLSjZBQ0pVRkhIWUNYNkIzWS4u and submit it by [date two weeks from sending this email]. If you have any questions at any point please feel free to contact me by email (h.al-jabr@uea.ac.uk) or by telephone (01603591996). I look forward to hearing from you.

Thank you for your time,

Kind regards,

Hiyam Al-Jabr

Research Pharmacist | School of Pharmacy | Faculty of Science

University of East Anglia, Norwich Research Park, Norwich, NR4 7TJ

Tel: +44(0) 1603 591996 | Email: h.al-jabr@uea.ac.uk

Appendix 3-D Participant Information Sheet (PIS) [for pharmacists]

University of East Anglia

Norfolk and Norwich University Hospitals NHS Foundation Trust

Participant Information Sheet

Project: Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and decide if you wish to take part. Feel free to ask any questions and talk to others before you make your decision.

Thank you for reading this.

Why is the study being conducted?

This study forms part of a PhD conducted by Hiyam Al-Jabr, a doctorate student at the School of Pharmacy – University of East Anglia (UEA). The study aims to examine the feasibility of using the ISQ in collecting patient feedback with respect to pharmacy consultations in the hospital.

Who we are looking for?

We are looking for pharmacists with patient-facing roles who conduct consultations with patients in any setting in the hospital. For this study, a consultation would involve any conversation between the pharmacist and his/her patient that intends to discuss something, answer patient's enquiries, explain the use of new medical device or administration of medicine(s), provide patient with advice, reviewing patients list of medication or for any other reason that will eventually help in achieving the desired outcomes of therapy.

Do I have to take part?

No. You do not have to take part. You received this information sheet because you meet our inclusion criteria, however, it is up to you to decide whether or not to participate.

How will the study be conducted?

If you are interested in participating, we would like you to complete an online "Expression of Interest form": https://forms.office.com/Pages/ResponsePage.aspx?id=lYdfxj26UUOKBwhl5djwkN93L_3ZVylMstgLKehLoeZUME1VUUc1WTFLSjZBQ0pVRkhIWUNYNkIzWS4u. If enrolled for the study,

you will receive an email from the main researcher to invite you for an information session which will be held at a time convenient to you and to other pharmacists enrolled in the study (the session will be held at NNUH). The information session will further discuss the study and explain the gold-standard method for questionnaire administration, and it will last between 30-45 minutes. Following the session, if you wish to continue, we would like you to sign a consent form and an application form for the study. The study will be conducted in three phases. Phase 1 includes collecting feedback from patients using the ISQ with respect to the consultation they have just had with you. You will be provided with you own pack of the ISQ (40 copies) to be administered to patients. The ideal method for questionnaire administration will be discussed at the information session (e.g. by a third person such as a nurse), however, it is up to you to decide the approach that suits your practice. Phase 1 will end once 28 completed ISQs are returned, or all 40 copies of the ISQ are given out, or when 100 patients are being asked to participate, or after three months of starting, whichever comes first. Throughout phase 1, the researcher will frequently collect documents returned in the marked box, until the study is terminated. Completed ISQs will be then be posted in sealed envelopes to a private company; the 'Client-Focused Evaluations Program' (CFEP) which owns the questionnaire and that will analyse the collected data and write an individualised report based on your patients' feedback. The report will be sent to you privately, and for the purpose of this PhD, a copy of your report will also be sent to the researcher. Once you receive the report, it is up to you to decide the next appropriate course of action based on your feedback, we will explore that in phase 3. Phase-2 of the study will run simultaneously with phase 1 and will include conducting interviews with a sample of patients to explore their views with patient feedback process. At the same time the ISQ is administered, patient should also receive an invitation letter attached with an "Interview Expression of Interest Form" (IEIF) to phase 2.
Phase-3 of the study will be conducted one month after you have received your feedback report, and it will include conducting one-to-one interview with the researcher. The interview will last up to one hour. To help us ensure we capture all the information, the interview will be audio-recorded.

What should I do as a participant in this study?

You will be expected to do the following:

1. Attend an information session for the study.

2. Administer (either you or the third person) ISQs to a maximum of 40 patients immediately (no more than one hour) following your consultation, together with an invitation letter and an IEIF to invite patients to phase 2.

3. Instruct patient to return completed documents (ISQ ± IEIF) in the provided sealed envelope to the marked box.

4. Keep a record of methods used for ISQ administration by completing the "Questionnaire administration form".

5. Store the marked box overnight in a secure place.

6. Read the individualised report constructed from your patient feedback.

7. Attend a private interview with the researcher (phase 3) to explore your views regarding:

a. Perceptions about patient consultations;

b. Perceptions about patient feedback;

c. Used methodology for questionnaire administration;

d. Reflections to feedback report;

e. Suggestions for process improvement.

What will happen if I don't want to carry on with the study?

You have the right to withdraw from the study at any time. If you decide to withdraw at phase 1, the collected patient feedback data will not be withdrawn and will be used in the analysis. However, if you decide to withdraw at phase 3, transcribed interview data collected from you will be kept and analysed.

Where and when will the interview be conducted?

The interview for phase-3 will be conducted either at the NNUH or at UEA, whichever you choose at a time convenient to you. The main researcher will liaise with you to arrange for the time and place to conduct the interview.

What are the risks of taking part in the study?

There are no risks of taking part in the study. However, the study duration time and the tasks required for you to conduct throughout the study could be considered burdensome.

Will I be compensated for taking part?

There will be no compensation for taking part in the study. However, lunch will be provided during the information session, and refreshments will be provided during the interview of phase 3.

What are the benefits of taking part in the study?

You will benefit from receiving an individualised report that will be constructed from your patients' feedback. The report may help you identify your consultation skills, highlight your strengths, and direct you to areas of consultation that need further attention and improvement. You can use the report to design an action plan for enhancing your consultation performance. Additionally, your views about the whole process will help in identifying better ways of implementing the use of patient feedback within pharmacy consultation in a hospital setting, a general benefit for other pharmacists.

How will the information be kept confidential?

The activities conducted by the CFEP are fully within the scope of Data Protection Act 1998 (https://www.cfepsurveys.co.uk/Terms/DataProtection). Personal data collected by the CFEP will be your name, gender, year of registration as a pharmacist in the UK, and your work address. The CFEP will shred the completed ISQs within six weeks of receiving them. Questionnaire data will be stored by the CFEP, in addition to storing your contact details. No identifiable information will leave the CFEP's data storage system. Nobody outside the CFEP will have access to this data. Personal data collected by the researcher are the same as those collected by the CFEP, in addition to collecting your current NHS band, and area of specialisation in the hospital. The audio recording of your interview will be anonymously transcribed verbatim either by the researcher or a transcriber assistant using a secure, password protected computer at UEA, and once checked for accuracy by a member of the research team, audio recordings will be deleted. Hard-copies of all data (consent forms, interview transcripts, copy of your patient feedback report) will be kept in a locked filing cabinet at the School of Pharmacy at UEA only accessed by members of the research team. Principles of the Data Protection Act 1998 will be followed with respect to data storage, processing, and destruction.

What happens when the study ends?

As the study is part of a PhD, the results will be used to help inform subsequent projects. The researcher intends to publish the results, however, all data and quotations used will be anonymised before being published by using participant reference codes.

Who has reviewed the study?

The North of Scotland (2) Research Ethics Committee has reviewed the study.

What if there is a problem?

We do not expect you to experience any problem by taking part in this study. If you have any concerns, please contact the main researcher; Hiyam Al-Jabr, or her supervisor, Dr. James Desborough. For complaints about the research process or the researcher, you can contact Professor Mark Searcey, the Head of the School of Pharmacy at the University of East Anglia. Alternatively, you may wish to contact the Research and Development Office at the Norfolk and Norwich University Hospital. Contact details are:

Principal researcher: Miss Hiyam Al-Jabr 01603 59 1996, h.al-jabr@uea.ac.uk
Study supervisor Dr. James Desborough: 01603 59 3413
Head of School of Pharmacy Professor Mark Searcey: 01603 59 2026
Research and Development Office at NNUH: 01603 289808

Thank you for taking the time to read this information

Appendix 3-E Pharmacist's Expression of Interest Form (EIF)

University of East Anglia

Norfolk and Norwich University Hospitals NHS Foundation Trust

Pharmacist expression of Interest form

Project: Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)

Thank you for expressing an interest in taking part in this study. Please complete this online form and submit it by [date two weeks from sending this email].

Please state your name (First name - Surname)	
Please state your gender	☐ Male ☐ Female ☐ Other ☐ Prefer not to say
How old are you in years?	
Please state your area of specialisation at the hospital (e.g. respiratory pharmacist, orthopaedic pharmacist, etc) If you are newly qualified pharmacist please write "rotational pharmacist" and specify your current area of rotation	
Please write down your NNUH Email address	

Appendix 3-F Guidelines for questionnaire administration

University of East Anglia

Norfolk and Norwich University Hospitals NHS Foundation Trust

Guidelines for questionnaire administration

Dear pharmacist,

Thank you for agreeing to participate in the study, the following are guidelines to help you with questionnaire administration to patients in phase 1, in addition to inviting patients to phase 2. We would like you to follow these guidelines (as appropriate) when administering the Interpersonal Skills Questionnaire (ISQ) to each patient immediately (no more than one hour) following your consultation. The guidelines are:

1- Patient recruitment to completing questionnaires is ideally carried out by a third person (e.g. receptionist). You are allowed to recruit some patients for the study by yourself. Introduce the study (either you or the third person) to each patient meeting the inclusion criteria (outpatients and inpatients ≥ 18 years old, inpatients expected to be discharged within the coming four days) following your consultation.

2- Administer a copy of the ISQ to patients agreeing to participate, together with an invitation letter and an "Interview Expression of Interest Form" (IEIF) for phase 2. Explain to patients that they can only choose to complete the ISQ without feeling obligated to take part in phase-2 if not interested.

3- Keep a record of the method(s) used for questionnaire administration by completing the "Questionnaire administration form".

4- Continue with the process of questionnaire administration until 28 completed ISQs are returned, or the 40 copies of ISQ are given out, or after three months from the starting, whichever comes first.

5- Direct patients to place the completed questionnaire (with the IEIF if interested in phase 2) in the provided sealed envelope and then return it back (either by themselves or with the help of any of the staff) into the marked box located at an accessible location. Patients with mobility problems can ask any of the staff to place their envelopes in the marked box. Outpatients should be encouraged to return their completed ISQs before leaving the hospital.

6- Store the marked box overnight in a secure place (e.g. drug room or at main pharmacy).

7- Notify the ward/clinic staff to return any questionnaire collected from patients after you left to the marked box that is stored at a secure area which they can access.

Thank you for your cooperation

Appendix 3-G Study consent form [for pharmacists]

University of East Anglia

Norfolk and Norwich University Hospitals NHS Foundation Trust

Study Consent Form

Project: Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)

If you wish to take part, please initial each box and complete the details at the bottom of the form

1. I confirm that I have read and understood the participant information sheet dated April 2018 version 3 and have had the opportunity to ask questions.	☐
2. I understand that the above mentioned study is composed of three phases, and I will be taking part in phases 1 and 3. Phase 1 includes collecting feedback from patients using the ISQ following my consultation, and phase 3 includes being interviewed by the researcher to explore my views and perceptions regarding the patient feedback process. I agree to participate in both phases.	☐
3. I agree to allow my patient feedback data to be sent to a private company (the Client-Focused Evaluations Programme (CFEP)) to be analysed and used in writing an individualised report constructed from my patients feedback. I understand that the CFEP follows the rules and regulations of the Data Protection Act 1998 and that my data are protected and kept confidential.	☐
4. I agree to allow the researcher to receive a copy of my patient feedback report from the CFEP.	☐
5. I understand that the personal details collected by the CFEP and by the researcher will be stored securely and will not be shared with any third party.	☐
6. I understand that my participation is voluntary and that my consent to participate can be withdrawn at any time.	☐
7. I understand that all data collected from both phases will be anonymised and my name will not appear on any publication coming out from this study.	☐
8. I understand that if I was not able to continue with the study for any reason, the data that is already collected will be kept and used for analysis and publication and no further data will be collected from me.	☐
9. I understand that all data collected from both phases will be kept securely at the University of East Anglia.	☐

_____	_____	_____
Name of pharmacist	Date	Signature
_____	_____	_____
Name of person taking consent	Date	Signature

Appendix 3-H CFEP application form

CFEP UK Surveys
1 Northleigh House Thorverton Road Matford Business Park Exeter
EX2 8HF
t: 01392 927005
enquiries@cfepsurveys.co.uk**Error! Hyperlink reference not valid.**

Application: Interpersonal Skills Questionnaire Secondary Care

About the Pharmacist

Name:	(Dr/Mr/Mrs/Ms/Miss)
Organisation Name:	
Address Including postcode:	
Gender:	M/F
Year of Registration (if known):	

Please indicate your permission for Hiyam Al-Jabr (PHA – Student, UAE) to provide your personal details (as given above) to CFEP UK surveys for the purpose of this survey.

All personal details will be held under secure (ISO 27001 certified) conditions and can only be used for the purposes of:
Providing results / reports to Hiyam Al-Jabr.
Contributing to CFEP's aggregate data at an anonymous level. For example, the construction of a benchmark).
CFEP's Ethics and Confidentiality document available on request.

All survey material will be supplied to Hiyam Al-Jabr.
All results and data will be supplied to Hiyam Al-Jabr, to be used in accordance with her protocol.

Signed

Name

Appendix 3-I Copy of ISQ with pharmacist specific label

Interpersonal Skills Questionnaire

0819a «Barcode»

«Pharmacist's reference number»

You can help improve the quality of care for patients

- The pharmacist would welcome your honest feedback
- The pharmacist will not be able to identify your personal responses
- Any comments you make will be included in the feedback report but all attempts will be made to remove information that could identify you.

Please mark the box like this ☒ with a blue or black ball point pen. If you change your mind just cross out your old response and make your new choice.

When giving your feedback, please only consider the consultation you have had today.

	Please rate the following based on your visit today	Poor	Fair	Good	Very good	Excellent
1	My overall satisfaction with this visit to the pharmacist is	☐	☐	☐	☐	☐
2	The warmth of the pharmacist's greeting to me was	☐	☐	☐	☐	☐
3	On this visit I would rate the pharmacist's ability to really listen to me as	☐	☐	☐	☐	☐
4	The pharmacist's explanations of things to me were	☐	☐	☐	☐	☐
5	The extent to which I felt reassured by this pharmacist was	☐	☐	☐	☐	☐
6	My confidence in this pharmacist's ability is	☐	☐	☐	☐	☐
7	The opportunity the pharmacist gave me to express my concerns or fears was	☐	☐	☐	☐	☐
8	The respect shown to me by this pharmacist was	☐	☐	☐	☐	☐
9	The amount of time given to me for this visit was	☐	☐	☐	☐	☐
10	This pharmacist's consideration of my personal situation in deciding a treatment or advising me was	☐	☐	☐	☐	☐
11	The pharmacist's concern for me as a person on this visit was	☐	☐	☐	☐	☐
12	The extent to which the pharmacist helped me to take care of myself was	☐	☐	☐	☐	☐
13	The recommendation I would give to my friends about this pharmacist would be	☐	☐	☐	☐	☐

The pharmacist would appreciate any suggestions as to how he/she could improve:

The following questions provide us only with general information about the range of people who have responded to this survey. This information will not be used to identify you and will remain confidential.

How old are you in years? ☐ Under 25 ☐ 25-59 ☐ Over 60

Are you: ☐ Female ☐ Male

Is this the first time you have seen this pharmacist? ☐ Yes ☐ No

Thank you for your time and assistance

Rev2.2
IRAS number: 240348

Appendix 3-J CFEP ethical considerations

Patient Confidentiality, Data Protection & Ethical Considerations

General

- CFEP has ISO 27001 information security and ISO 9001 data quality certification.
- CFEP is obliged to keep any information it receives confidential at all times and is required to comply with the Data Protection Act 1998 and the common law duty of confidence. This applies to any members of CFEP staff will have access to patient information.
- All members of staff sign a confidentiality agreement and are bound by this agreement under their Terms of Employment.*
- All paper questionnaires will be destroyed (by means of shredding) by CFEP after they have been scanned.
- CFEP's data (survey results) do not identify any individual patient**.
- There are rare occasions where a patient may specifically ask that an issue is addressed to the Practice/Group/Organisation (for example, where a patient sends a letter to CFEP seeking specific answers from a doctor). Where this is the case, CFEP asks the patient for consent in order for the information in the letter to be given to the Practice/Group/Organisation.

Survey Code of Practice

- CFEP will supply survey material designed to ensure that the following statements are adhered to: (NHS Code of Practice).

- '*That patients are made aware that the information that they give will be used and what it will be used for*.'

- '*That patients are aware that they have a choice as to whether or not they give information*.'

- CFEP-supplied survey material will include written guidance (for exit surveys) and letters/letter templates (for postal surveys) in order for these patient requirements to be met.

- The questionnaire is provided with a sealable envelope and a sealed ballot box with an envelope-sized slot to receive the questionnaires.

- The sealed ballot boxes are returned to CFEP for data processing.

- The questionnaires do not identify any patient. If a patient has written a comment on the questionnaire which may identify them, this comment is either excluded or 'anonymised' by trained CFEP processors.

- Where data is kept by CFEP for the secondary purpose of audit or service evaluation, the NHS Code of Conduct and GDPR (operational from 25th May 2018) are adhered

to. This means that a data subject (the clinician being surveyed) will be asked for explicit permission at the start of the survey process.

- Where data is kept by CFEP for the secondary purpose of audit or service evaluation, this information contributes to aggregate data used as part of a wider analysis of overall trends and benchmarks. Analysis is at a 'high' anonymous level of (for example) region or type of clinical service.

- In order to adhere to the GDPR (operational from 25th May 2018), no data subject's details (name, email address, postal address, phone number – business details included), will be exchanged between CFEP and any other party without the explicit permission of that data subject.

- CFEP email uses TLS encryption or password protection in the exchange of any sensitive data (for example, a complaint received about a clinician).

- The Caldicott Principles are adhered to.

Security

- Once entered or scanned, all questionnaires are destroyed by secure means (such as shredding).

- All data (survey results) will be generated within the CFEP office only.

- All data are stored on secure servers.

- Very sensitive information comes under a single management resource, whereby only one member of staff may 'release' information.

- All information received about clinicians, health workers, administration staff or patients for the purpose of survey administration can only be used for that purpose. This information (examples would be a clinician's direct telephone number/extension or a practice manager's email address) cannot be used for any further purpose without that person's permission.

* By signing this agreement staff confirm that:-
they will make every effort to protect information in their care
they will maintain all information in a confidential manner
they will not discuss any information to anyone who is not working on the project
they will not discuss or reveal any information to anyone who does not work for CFEP
All CFEP staff understand that failure to comply with the above will result in termination of their employment and that legal action may be taken.
Specific staff may be asked to sign separate confidentiality agreements for any information they may take out of the office or for specific projects with specific confidentiality issues.

**Surveys are occasionally which are required to identify patients. These are subject to a specific agreement and code.

Appendix 3-K Questionnaire administration form

University of East Anglia

Questionnaire administration & collection form

Norfolk and Norwich University Hospitals NHS Foundation Trust

Project: Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)

Please complete this form by ticking the appropriate box each time a questionnaire is being given to a patient.

Please state the date: _ _ _ _ _ _ _ _ _ _ _ _ _ _

Pharmacist's ID number ( )

Patient no.	Patient agrees to complete the questionnaire	Patient's gender	Area of hospital where patient was recruited	Questionnaire administration method	Please tick which third person has helped with questionnaire administration (if applicable)
1	☐ Yes ☐ No, reason for rejection (if given) _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _	☐ Male ☐ Female	☐ Ward ☐ Clinic Specify location: _ _ _ _ _ _ _ _ _ _ _ _ _ _	☐ By myself (pharmacist) ☐ By a third person	☐ Nurse ☐ Receptionist ☐ Healthcare Assistant (HCA) ☐ Pharmacy technician ☐ other, specify _ _ _ _ _ _ _ _ _ _
2	☐ Yes ☐ No, reason for rejection (if given) _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _	☐ Male ☐ Female	☐ Ward ☐ Clinic Specify location: _ _ _ _ _ _ _ _ _ _ _ _ _ _	☐ By myself (pharmacist) ☐ By a third person	☐ Nurse ☐ Receptionist ☐ Healthcare Assistant (HCA) ☐ Pharmacy technician ☐ other, specify _ _ _ _ _ _ _ _ _ _
3	☐ Yes ☐ No, reason for rejection (if given) _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _	☐ Male ☐ Female	☐ Ward ☐ Clinic Specify location: _ _ _ _ _ _ _ _ _ _ _ _ _ _	☐ By myself (pharmacist) ☐ By a third person	☐ Nurse ☐ Receptionist ☐ Healthcare Assistant (HCA) ☐ Pharmacy technician ☐ other, specify _ _ _ _ _ _ _ _ _ _
4	☐ Yes ☐ No, reason for rejection (if given) _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _	☐ Male ☐ Female	☐ Ward ☐ Clinic Specify location: _ _ _ _ _ _ _ _ _ _ _ _ _ _	☐ By myself (pharmacist) ☐ By a third person	☐ Nurse ☐ Receptionist ☐ Healthcare Assistant (HCA) ☐ Pharmacy technician ☐ other, specify _ _ _ _ _ _ _ _ _ _
5	☐ Yes ☐ No, reason for rejection (if given) _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _	☐ Male ☐ Female	☐ Ward ☐ Clinic Specify location: _ _ _ _ _ _ _ _ _ _ _ _ _ _	☐ By myself (pharmacist) ☐ By a third person	☐ Nurse ☐ Receptionist ☐ Healthcare Assistant (HCA) ☐ Pharmacy technician ☐ other, specify _ _ _ _ _ _ _ _ _ _

Appendix 3-L Patient invitation letter to phase-2 of feasibility study

Project: Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)

Invitation to participate in research

The School of Pharmacy at the University of East Anglia (UEA) is conducting a project with patients attending the Norfolk and Norwich University Hospital (NNUH). The project is part of a doctoral degree undertaken by Miss Hiyam Al-Jabr and looks at interviewing some patients to explore their experience with giving feedback to pharmacists.

The interview will be conducted over the phone and it will last between 30-45 minutes. You will receive a £10 amazon voucher as a thank you for taking part in the study. If you are interested, please complete the attached "Interview Expression of Interest Form" (IEIF) to help us provide you with more details about the study. Inpatients who complete the IEIF will be approached by the main researcher to discuss the study and to be provided with a "Participant Information Leaflet" and a consent form. Outpatients will be sent the information leaflet and consent form by email or by post (based on their preference). The data collected by the IEIF will be securely stored at UEA in a locked filling cabinet and will only be accessed by members of the research team.

The research team at UEA have no access to your medical records and will not know who has received this letter. If you have any questions at any point please feel free to contact Hiyam Al-Jabr by email (h.al-jabr@uea.ac.uk) or by telephone (01603591996).

Thank you for your time reading this,

Hiyam Al-Jabr

Research Pharmacist

School of Pharmacy, University of East Anglia,, Norwich, NR4 7TJ

Appendix 3-M Interview Expression of Interest Form (IEIF) [for patients]

Project: Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)
Interview Expression of Interest form

Dear participant,

Thank you for showing interest in this study. To help us contact you appropriately and provide you with study details, we would like you to complete the following table:

1. Name	
2. Are you an: ☐ Inpatient (admitted to the hospital) Please specify name of ward you are admitted to _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Please provide your hospital number_ ☐ Outpatient (attending an outpatient clinic) Please specify name of clinic you are attending _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _	
3. Telephone number	
4. Home address (including post code)	_ Post code: _

Please place this in the envelope with your completed questionnaire, seal the envelope and return it to the marked box

P ( )

Appendix 3-N Thank you - Regret letter

Project: Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)

Thank you – Regret email

Dear Sir/Madam,

Thank you for showing interest in participating in the above research project, unfortunately, you have not been selected to participate in this study on this occasion.

Once again we appreciate your interest and hope you will continue to get involved in research in the future.

Yours sincerely,

Hiyam Al-Jabr

Research Pharmacist | School of Pharmacy | Faculty of Science
University of East Anglia, Norwich Research Park, Norwich, NR4 7TJ
Tel: +44(0) 1603 591996 | Email: h.al-jabr@uea.ac.uk

Appendix 3-O Participant Information Leaflet (PIL) [for patients]

University of East Anglia

Norfolk and Norwich University Hospitals NHS Foundation Trust

Participant Information Leaflet

Project: Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and decide if you wish to take part. Feel free to ask any questions and talk to others before you make your decision.

Thank you for reading this.

Why is the study being conducted?

This study forms part of a PhD conducted by Hiyam Al-Jabr, a doctorate student at the School of Pharmacy – University of East Anglia (UEA). Earlier this week (or last week) you completed a questionnaire titled: "Interpersonal Skills Questionnaire" to assess consultation skills of your pharmacist, we are interested in exploring your experience with providing your feedback.

Who we are looking for?

We are looking for outpatients and inpatients (who are expected to be discharged from the hospital within the coming 4 days) and who have assessed a pharmacist's consultation by completing the interpersonal skills questionnaire.

Do I have to take part?

No. You do not have to take part. You have been considered for this study because you meet our inclusion criteria, however, it is up to you to decide whether or not to take part in the study.

How will the study be conducted?

The study will include conducting a telephone interview with a researcher to explore your experience with providing feedback. The following areas will be covered in the interview:

1. Perceptions about pharmacist's consultation;
2. Patient feedback experience;
3. Desires to see change(s) following the feedback;
4. Barriers and motivators to participate again in providing feedback.

The interview will last between 30-45 minutes. To help us ensure we capture all the information, the interview will be audio-recorded.

If you are an inpatient, we would like you to complete the associated consent form and place it in the provided envelope that is addressed to be returned to the main pharmacy. The researcher's clinical supervisor (who is also a pharmacist who works at the NNUH) will follow your discharge and notify it to the researcher, so that not to contact you while you are in the hospital. 24 hrs following your discharge, if you were selected for the study, you will receive a call from the researcher to identify whether you are still interested in the study and to arrange for the interview at a time convenient to you.

If you are an outpatient and were selected to continue with the study, the researcher will give you a call 2 days after sending this document to ask if you are still interested and to arrange for the interview at a time convenient to you. If you agree to take part, we would like you to read the attached consent form, and at the time of the interview, the researcher will obtain your verbal consent to each statement of the consent form, and will ask you to sign the consent form and post back to researcher following the interview using the prepaid envelope provided to you.

If you are not selected to continue with the study, you will receive a "Thank you-Regret letter" notifying you of that. Please note that if no response was obtained to the phone call, the researcher will leave a phone message if possible. A maximum of three trials of phone calls will be conducted in two consecutive days at three different times: morning, afternoon, and evening, if however no response was achieved, the researcher will not contact you again about the study.

What are the benefits of taking part in the study?

There are no direct benefits from taking part in this study. However, your opinions and views about the process will help in understanding how patients feel about giving feedback

to their pharmacists and it might play a role in informing the design of a useful method for patient feedback process, a benefit that will ultimately help pharmacists in enhancing their consultation skills, thus improving consultations provided to patients.

What are the risks of taking part in the study?

There are no risks of taking part in the study.

Will I be compensated for taking part?

Yes, all participants will receive a £10 amazon voucher. The voucher will be posted to you 24hrs following your interview.

What will happen if I don't want to carry on with the study?

You have the right to withdraw from the study at any time. If you decide to withdraw, you will be asked whether the data you provided can still be kept and analysed, if you say no, your data will be deleted from the study. Withdrawal from the study will not affect the ordinary course of your medical care or treatment.

How will the information be kept confidential?

The audio recording of your interview will be anonymously transcribed verbatim either by the researcher or a transcriber assistant using a secure, password protected computer at UEA, and once checked for accuracy by a member of the research team, audio recordings will be deleted. Hard-copies of all data (consent form, expression of interest form, interview transcripts) will be kept in a locked filing cabinet at the School of Pharmacy at UEA only accessed by members of the research team. Principles of the Data Protection Act 1998 will be followed with respect to data storage, processing, and destruction.

What happens when the study ends?

As the study is part of a PhD, the results will be used to help inform subsequent projects. The researcher intends to publish the results, however, all data and quotations used will be anonymized before being published by using patient reference codes.

Who has reviewed the study?

The North of Scotland (2) Research Ethics Committee has reviewed the study.

What if there is a problem?

We do not expect you to experience any problem by taking part in this study. If you have any concerns about this study, please contact the main researcher; Hiyam Al-Jabr, or her supervisor, Dr. James Desborough. For complaints about the research process or the researcher, you can contact Professor Mark Searcey, the Head of the School of Pharmacy at the University of East Anglia. Alternatively, you may wish to contact the Research and Development Office at the Norfolk and Norwich University Hospital. Contact details can be found below.

Principal researcher: Miss Hiyam Al-Jabr 01603 59 1996, h.al-jabr@uea.ac.uk

Study supervisor Dr. James Desborough: 01603 59 3413

Head of School of Pharmacy Professor Mark Searcey: 01603 59 2026

Research and Development Office at NNUH: 01603 289808

Thank you for taking the time to read this information

Appendix 3-P Outpatient consent form

University of East Anglia

Norfolk and Norwich University Hospitals NHS Foundation Trust

Outpatient Interview Consent Form

Project: Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)

If you wish to take part, please initial each box and complete the details at the bottom of the form.

1. I confirm that I have read and understood the participant information sheet dated April 2018 version 3 and have had the opportunity to ask questions.	☐
2. I agree to participate in the above study which includes a telephone interview by the researcher to explore my experience regarding the feedback process.	☐
3. I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving any reason and without my medical care being affected.	☐
4. I understand that if I choose to withdraw from the study, my data will not be kept and used unless I agree.	☐
5. I am willing to allow the interview to be audio-recorded for the purpose of analysis and for anonymised quotations to be used in any publication coming out of this study.	☐
6. I understand that everything I say will be anonymised and will be kept securely at UEA.	☐

_____	_____	_____
Name of participant	Date	Signature

_____	_____	_____
Name of person taking consent	Date	Signature

P ( )

Appendix 3-Q Inpatient consent form

University of East Anglia

Norfolk and Norwich University Hospitals NHS Foundation Trust

Inpatient Interview Consent Form

Project: Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)

If you wish to take part, please initial each box and complete the details at the bottom of the form.

1. I confirm that I have read and understood the participant information sheet dated April 2018 version 3 and have had the opportunity to ask questions.	☐
2. I agree to participate in the above study which includes a telephone interview by the researcher to explore my experience regarding the feedback process.	☐
3. I give permission for the clinical pharmacist at the hospital to notify the researcher of when I am going to be discharged, so that not to be contacted by the researcher while I'm still in the hospital.	☐
4. I agree to receive a call from the researcher 24 hours following my discharge to arrange for the time for my interview	☐
5. I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving any reason and without my medical care being affected.	☐
6. I understand that if I choose to withdraw from the study, my data will not be kept and used unless I agree.	☐
7. I am willing to allow the interview to be audio-recorded for the purpose of analysis and for anonymised quotations to be used in any publication coming out of this study.	☐
8. I understand that everything I say will be anonymised and will be kept securely at UEA.	☐

_____	_____	_____
Name of participant	Date	Signature
_____	_____	_____
Name of person taking consent	Date	Signature

P ( )

Appendix 3-R Patient interview topic guide

University of East Anglia

Norfolk and Norwich University Hospitals NHS Foundation Trust

Patients' interview Topic Guide

Project: Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)

Before recording Introduction	• Introduce self; name and role • Declare the aim of the study: To explore patient's experience with patient feedback process in enhancing pharmacists' consultation skills • Inform participant that the session will be audio recorded • It's important to remember when answering and discussing questions that there are no right or wrong answers, just be yourself and speak as honestly as possible • Confirm that all data collected during the session will be treated confidentially, responses will be stored in an anonymous format, and participant name will not appear in any report • The session should take no more than 45 minutes • Obtain verbal consent from outpatient to each statement written in the consent from. • Are there any questions before we begin? **Start recording**	**Preparation** - Dictaphone x2 - Spare batteries - Notebook

Background	• Icebreaker question:
	  ○ Collect demographic data from participant: age (in years) and gender.
	  ○ Just in a few sentences, would you tell me why you volunteered to participate in the study?
	  ○ What interests you about the research project?	

Main Questions	Potential probes	Notes
1. What do you think about the consultation you have had with pharmacist you assessed? What was good about the pharmacist's consultation you have assessed? What was not so good about the pharmacist's consultation you have assessed?	What do you think of the ISQ as a tool to assess pharmacy CSs? - Relevance to pharmacy CSs.	Patients' perceptions.
2. Tell me about your experience with patient feedback. Who gave you the ISQ? How did you return your completed ISQ to the marked box? Concerns, worries, anonymity	- Describe any concerns or worries you might have encountered during the process? - What do you think could have been done differently when collecting your feedback?	Used methodology. Patient's experience. Response bias (social desirability bias). Concerns or worries.
3. What would you like to see happening as a result of this feedback?		
4. If collecting feedback from patients to pharmacy consultations becomes frequent, will you be encouraged to give your feedback again? Why/why not?		Motivators and barriers to giving feedback.
Closing statement Please take a moment to reflect on the discussion Is there anything you feel we should have talked about and haven't? Are there any comments you would like to add? Thank you for your time.		

Appendix 3-S Pharmacist's colleague/peer/line manager - Study invitation email

Dear [name],

My name is Hiyam Al-Jabr, I am a PhD student at the School of Pharmacy at the University of East Anglia. As part of my PhD, I am conducting a study about using patient feedback on hospital pharmacists' consultation skills. The study aims to examine the feasibility of using the Interpersonal Skills Questionnaire (ISQ) in collecting patient feedback with respect to pharmacy consultations in the hospital.

One of the pharmacists participating in the study mentioned discussing his/her feedback report with you, therefore, I would like to invite you to a face-to-face interview to explore your views about patient feedback and the feedback report. The interview will take up to 30 minutes and will be conducted at the NNUH. The attached "Participant Information Sheet" provides all the necessary details you would like to know about the study.

If you are interested in the study, please respond back to this email notifying me of a time to conduct the interview that is convenient to you. A follow-up email will be sent within the next two weeks if no response was received.

If you have any questions at any point please feel free to contact me by email (h.al-jabr@uea.ac.uk) or by telephone (01603591996). I look forward to hearing from you.

Thank you for your time,

Kind regards,

Hiyam Al-Jabr

Research Pharmacist | School of Pharmacy | Faculty of Science

University of East Anglia, Norwich Research Park, Norwich, NR4 7TJ

Tel: +44(0) 1603 591996 | Email: h.al-jabr@uea.ac.uk

Appendix 3-T Pharmacist's colleague/peer/line manager participant information Sheet

Participant Information Sheet

Project: Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and decide if you wish to take part. Feel free to ask any questions and talk to others before you make your decision. Thank you for reading this.

Why is the study being conducted?

This study forms part of a PhD conducted by Hiyam Al-Jabr, a doctorate student at the School of Pharmacy – University of East Anglia (UEA). The study aims to examine the feasibility of using the ISQ in collecting patient feedback with respect to pharmacy consultations in the hospital.

Who we are looking for?

We are looking for pharmacist's colleague/peer/line manager with whom the pharmacist who took part in the study discussed his/her patient feedback report.

Do I have to take part?

No. You do not have to take part. You have been contacted because the pharmacist mentioned discussing his/her feedback report with you, thus we are interested in exploring your views, however, it is up to you to decide whether or not to participate.

How will the study be conducted?

If you agree to take part, I would like to conduct a face-to-face interview with you at a time and place that is appropriate and convenient to you. Prior to starting the interview, you will be asked to sign a consent form. The interview will explore your views about patient feedback regarding consultation skills of pharmacists, the patient feedback report, its value and possible uses. The interview will last up to 30 minutes. To help us ensure we capture all the information, the interview will be audio-recorded.

Where and when will the interview be conducted?

The interview will be conducted at the NNUH at a time convenient to you. The main researcher will liaise with you to arrange for the time and place to conduct the interview.

What will happen if I don't want to carry on with the study?

You have the right to withdraw from the study at any time, and you will be asked whether we can use any of data we collected from you prior to your withdrawal.

What are the risks of taking part in the study?

There are no risks of taking part in the study, however, transcribed interview data collected from you will be kept and analysed.

Will I be compensated for taking part?

There will be no compensation for taking part in the study.

What are the benefits of taking part in the study?

There are no direct benefits from taking part in this study, your views however will be helpful in identifying what other colleagues/peers/line managers would think about the process, and the feedback report.

How will the information be kept confidential?

The audio recording of your interview will be anonymously transcribed verbatim either by the researcher or a transcriber assistant using a secure, password protected computer at UEA, and once checked for accuracy by a member of the research team, audio recordings will be deleted. Hard-copies of all data (consent forms, interview transcripts) will be kept in a locked filing cabinet at the School of Pharmacy at UEA only accessed by members of the research team. Principles of the General Data Protection Regulations 2018 will be followed with respect to data storage, processing, and destruction.

What happens when the study ends?

As the study is part of a PhD, the results will be used to help inform subsequent projects. The researcher intends to publish the results, however, all data and quotations used will be anonymised before being published by using participant reference codes.

Who has reviewed the study?

The London-Stanmore Research Ethics Committee has reviewed the study.

What if there is a problem?

We do not expect you to experience any problem by taking part in this study. If you have any concerns, please contact the main researcher; Hiyam Al-Jabr, or her supervisor, Dr. James Desborough. For complaints about the research process or the researcher, you can contact Professor Mark Searcey, the Head of the School of Pharmacy at the University of East Anglia. Alternatively, you may wish to contact the Research and Development Office at the Norfolk and Norwich University Hospital. Contact details are:

Principal researcher: Miss Hiyam Al-Jabr 01603 59 1996, h.al-jabr@uea.ac.uk

Study supervisor Dr. James Desborough: 01603 59 3413

Head of School of Pharmacy Professor Mark Searcey: 01603 59 2026

Research and Development Office at NNUH: 01603 289808

Thank you for taking the time to read this information

Appendix 3-U Pharmacist's interview topic guide

University of East Anglia

Norfolk and Norwich University Hospitals NHS Foundation Trust

Pharmacist's Interview Topic Guide

Project: Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)

Before recording Introduction	• Prior to starting: complete consent forms and offer refreshments • Introduce self; name and role • Declare the aim of the study: To explore pharmacists' experience with patient feedback process in enhancing their consultation skills • Inform participant that the session will be audio recorded • It's important to remember when answering and discussing questions that there are no right or wrong answers, just be yourself and speak as honestly as possible • Confirm that all data collected during the session will be treated confidentially, responses will be stored in an anonymous format, and participant name will not appear in any report • The session should take no more than 1 hr • Are there any questions before we begin? **Start recording**	**Preparation** - Dictaphone x2 - Spare batteries - Consent forms - Notebook - Paper and pens - Participant's email (for reference) - Refreshments

Background	• Confirm current status of participant
	  ○ "Can you please confirm your name for the recording?"
	  ○ Collect demographic data from participant: age (in years), gender, year of registration as a pharmacist in the UK, current NHS band, and area of specialization at the hospital.
	• Icebreaker question:
	  ○ Just in a few sentences, would you tell me why you volunteered to participate in the study?	

Main Questions	Additional questions	Notes
1. Tell me about your thoughts of conducting consultations with patients? Likes / dislikes		Perceptions
2. How do you normally get feedback to your consultation? Feelings about using patient feedback Views about ISQ as an assessment tool		Perceptions. Acceptability.
3. Can you please describe the method(s) you used for questionnaire administration? Use of third person Encountered barriers	- Do you think that the method used for questionnaire administration might have influenced patients' ratings? How? Why do you think so? - How do you think barriers could be overcome to facilitate a better implementation of the process in the future? - On what basis you selected your patients to give feedback? (Consecutive?)	Methods. Barriers. Social desirability.
4. Tell me what happened when you received your report. Ease of reading and understanding Usefulness to ID strengths and weaknesses Discuss results with others, who, why? Planned changes	- What changes did you do or plan to do following reading your report? If no changes conducted/planned ask why?	Ease and usefulness of report. Planned changes.
5. What would you do differently if you are going to use patient feedback again? Facilitators Need to discuss results with someone	- Whom do you recommend to discuss your report with? Why? When do you think it should take place? - What do you think about the role of patient feedback in pharmacy revalidation?	Process implementation. Facilitators.
Closing statement Please take a moment to reflect on the discussion Is there anything you feel we should have talked about and haven't?		

Appendix 3-V Pharmacist's colleague/peer or line manager interview topic guide

University of East Anglia

Norfolk and Norwich University Hospitals NHS Foundation Trust

Participant's Interview Topic Guide

Project: Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)

Before recording Introduction	• Prior to starting: complete consent forms • Introduce self; name and role • Declare the aim of the study: To explore feasibility of using the ISQ in collecting patient feedback to assess CSs of hospital pharmacists. • Inform participant that the session will be audio recorded • It's important to remember when answering and discussing questions that there are no right or wrong answers, just be yourself and speak as honestly as possible • Confirm that all data collected during the session will be treated confidentially, responses will be stored in an anonymous format, and participant name will not appear in any report • The session should take no more than 30 minutes • Are there any questions before we begin? **Start recording**	**Preparation** - Dictaphone x2 - Spare batteries - Consent form - Notebook - Paper and pens

Background	• Confirm current status of participant
	  ○ "Can you please confirm your name for the recording?"
	  ○ Collect demographic data from participant: age (in years), gender, relationship to pharmacist participating in the study.	

Main Questions	Additional questions	Notes
1. Tell me what do you think about collecting patient feedback regarding CSs of pharmacists? Role of patient feedback	How do you think patient feedback tools could be used/integrated in the usual practice of the pharmacist? How do you think it should be administered?	Perceptions.
2. How did the pharmacist introduce the patient feedback report to you? How did you learn about the report?	In a formal meeting or informal/friendly chat?	Context of discussing report with someone else.
3. What do you think about the value of this report? **- To pharmacists undergoing the assessment?** **- To patients?** **- To you as a colleague/peer/or line manager?**	- How do you think the report could be used? - Do you think this process / feedback report could drive changes to practice? Why? Why not? How?	Perceptions. Usefulness of the report.
4. How do you think the report could be used if there was a negative feedback?	- What kind of support can you provide to the pharmacist based on your role (as a colleague/peer/ or line manager)? (thing you can do to help pharmacist improve areas with negative feedback)	Support.
5. What do you think about using the report as part of the pharmacist's appraisal / or for formal revalidation process?		
Closing statement Please take a moment to reflect on the discussion Is there anything you feel we should have talked about and haven't? Thank you for your time, the findings will be shared with you once the report has been completed		

Appendix 3-W Pharmacist's interview consent form

University of East Anglia

Norfolk and Norwich University Hospitals NHS Foundation Trust

Pharmacist's Interview Consent Form

Project: Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)

If you wish to take part, please initial each box and complete the details at the bottom of the form.

1. I confirm that I have read and understood the participant information sheet dated April 2018 version 3 and have had the opportunity to ask questions. ☐
2. I agree to participate in the above study. The study includes conducting a face-to-face individual interview with the researcher to investigate my views and perceptions regarding the patient feedback process. ☐
3. I understand that my participation is voluntary and that my consent to participate can be withdrawn up until the point when the interviews are transcribed and analysed. ☐
4. I am willing to allow the interview to be audio-recorded for the purpose of analysis and for anonymised quotations to be used in any publication coming out of this study. ☐
5. I understand that everything I say will be anonymised and will be kept securely at the University of East Anglia (UEA). ☐

_____	_____	_____
Name of participant	Date	Signature
_____	_____	_____
Name of person taking consent	Date	Signature

Appendix 3-X Pharmacist's colleague/peer or line manager interview consent form

University of East Anglia

Norfolk and Norwich University Hospitals NHS Foundation Trust

Participant's Interview Consent Form

Project: Patient feedback on hospital pharmacists' consultation skills: A feasibility study using the Interpersonal Skills Questionnaire (ISQ)

If you wish to take part, please initial each box and complete the details at the bottom of the form.

3. I confirm that I have read and understood the participant information sheet dated January 2019 Version 1 and have had the opportunity to ask questions. ☐
4. I agree to participate in the above study. The study includes conducting a face-to-face individual interview with the researcher to investigate my views and perceptions regarding the pharmacist's patient feedback process and report. ☐
3. I understand that my participation is voluntary and that my consent to participate can be withdrawn up until the point when the interviews are transcribed and analysed. ☐
6. I am willing to allow the interview to be audio-recorded for the purpose of analysis and for anonymised quotations to be used in any publication coming out of this study. ☐
7. I understand that everything I say will be anonymised and will be kept securely at the University of East Anglia (UEA). ☐

_____	_____	_____
Name of participant	Date	Signature
_____	_____	_____
Name of person taking consent	Date	Signature

Appendix 3-Y Validated patient feedback report

Private and Confidential

[redacted]

Interpersonal Skills Questionnaire
Patient Feedback Report

[redacted]

November 2018

1 Northleigh House
Thorverton Road
Matford Business Park
Exeter
EX2 8HF

t: 01392 927005
f: 01392 927230

e: enquiries@cfepsurveys.co.uk
w: www.cfepsurveys.co.uk

[redacted]

23 November 2018

Dear [redacted]

Please find enclosed your report outlining your feedback from the Interpersonal Skills Questionnaire (ISQ). The results have been illustrated in tables with associated benchmarks where applicable. Please see the important notes regarding how the benchmarks were generated. Supporting documents have been provided to help you in the interpretation and understanding of your results.

Your survey resulted in the return of 30 patient (ISQ) questionnaires. Please note that in order to generate a full report with reliable and meaningful results, and associated benchmarks, a minimum of 28 returned patient questionnaires is required. If less than this number was returned then you will receive an abbreviated report for that element. In the eventuality that 5 or less patient or colleague questionnaires are returned no report will be issued for that survey component.

The report should provide you with a clear reflection of the feedback from your patients. It is worth spending time to assimilate the detail to obtain the best understanding of your feedback.

In order to enable us to improve our services we would be grateful if you could complete a feedback form using the following link: http://www.cfepsurveys.co.uk/questionnaires/feedback/default.aspx?psid=225286

Please contact the office on 01392 927005 or reports@cfepsurveys.co.uk if you require further information about your results.

I hope the report provides you with a basis for reflection and useful feedback for future appraisal.

Yours sincerely

CFEP UK Reports Team

ISQ Patient Feedback Report: Contents

cfep

4816/17681/30

ISQ Patient Feedback Report: Introduction

The Interpersonal Skills Questionnaire (ISQ) has been used in the UK for well over 10 years and is trusted by doctors who want to know how patients viewed their consultations. Published validation studies (concerning doctors - Please see the 'Publications' page on www.cfepsurveys.co.uk), have established the ISQ to be a reliable and sensitive tool; accurately measuring patient satisfaction in designated areas and sensitive to change.

This report outlines the information that has been collected and analysed from a sample of your patients. Please note that in order to generate a report with statistically meaningful and reliable results, illustrating scores and benchmarks, a minimum of 28 returned questionnaires is required. If less than this number was returned, you will receive an abbreviated report which comprises a frequency distribution table of your patients' ratings and their comments. Full explanation on how to interpret this information can be found in the supporting documents at the end of this report. We hope that this report will offer you clear guidance for your professional development.

The questionnaire is NOT VALIDATED by the GPHc at present for revalidation.

Benchmarks

Benchmarks are provided in the report to give you a sense of how you are performing in relation to other practitioners who have completed the surveys. They are not intended to imply any 'minimum standard' that pharmacists are expected to achieve.

We do not currently have benchmark data available from pharmacists specifically, so the benchmarks provided in this report are based on doctors working within a secondary care setting who have completed the ISQ questionnaire with CFEP. As such they may not be totally representative of your personal situation and have been included for guidance only.

In case they are more useful as a comparison, we have also included benchmark data from doctors working in primary care settings, and nursing and health professionals working in a primary care setting. This benchmark data can be found towards the back of this report in the Appendices section.

Your feedback

From the report you will be able to clearly pinpoint areas where you did well and also those areas where you may feel that improvements may be needed. The frequency distribution table illustrates the spread of your ratings and can provide an at-a-glance picture of your patients' perception of any given area of performance and the scoring tables allow you to make comparisons with other participating practitioners. It is advisable to take time to assimilate all the feedback and to avoid scanning the report and noting specific scores or comments on which too much emphasis can be placed. The 'reflection guide and review record' may help with this.

Support for reflection

The 'reflection guide and review record' provides a few suggestions as to what to look at in your report and space to write a few notes prior to your meeting with your appraiser. This has been designed to make your report more relevant to appraisal and enable you to present it as part of your portfolio evidence if desired.

A 'guide to report interpretation' has been provided at the end of your report which explains the tables and charts in a clear step by step format, should this be required.

Use of data from your report

The data in your report will be held in accordance with the requirements of the Data Protection Act and the GDPR. Your anonymised data will be aggregated with data from all other participating doctors, and may be used in the generation of national performance benchmarks and contribute to scientific literature.
In most circumstances, the feedback report is entirely confidential and would not be shared with anyone else unless specifically requested by the named professional on the report or without their prior knowledge.
The main exceptions to this would be:
- Where a specific request has been made by the named professional that their supporting medical colleague (SMC) is to receive a copy of the report.
- Where there is a pre designated arrangement and agreement between the participating pharmacists and an academic institution (such as a university).
- Where there is a pre designated arrangement with the named professional's organisation/commissioner/appraisal system, or similar, for them to receive a copy of the report (of which the named professional should have been notified by the relevant body prior to survey).

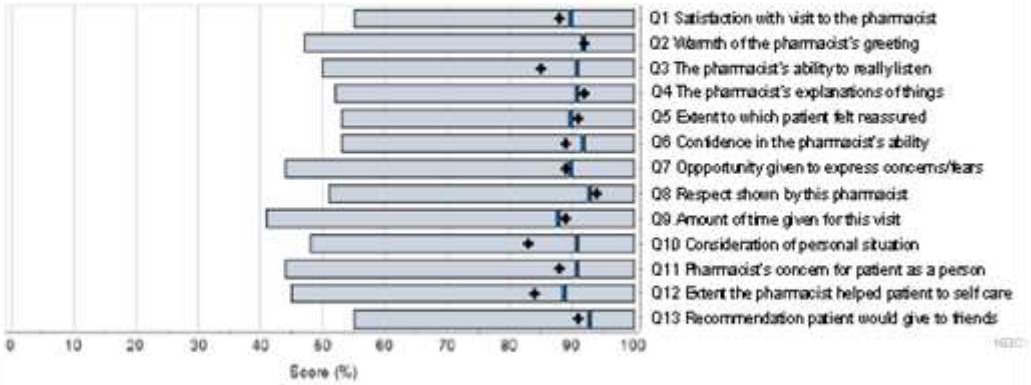
However, in addition to this, in the unlikely event where instances of potential professional misconduct or significantly low scores have been identified or where patient safety may be affected, the feedback will be referred to our Survey Director and the professional's overarching employer/contracting organisation may be contacted and results disclosed as appropriate (information to this extent is provided in the guidelines on our online portal, acceptance of which was acknowledged during the initial stages of the survey process).

cfep

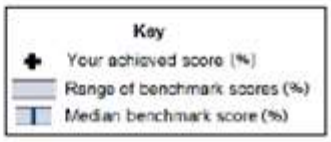
ISQ Patient Feedback Report: Graphical overview of results

The graph below provides a graphical summary of your results. It illustrates your achieved patient feedback scores for each question within the questionnaire together with the median benchmark score. These overlay the range of scores incorporated in the benchmark data (please see important notes about the benchmark data on page 2 of your report). This chart should enable you to be able to visually compare your scores for each question and also provide you with a sense of how you are performing in relation to other practitioners who have completed the surveys.

Patient feedback



Benchmarks are based on data from 1,297 surveys completed by doctors working in secondary care settings between January 2013 and December 2017 with 28 or more returned questionnaires.



If achieved score for any question is not illustrated please refer to relevant scoring tables in your report for clarification.

cfep

48169/176818/308

Your patient feedback

November 2018*

*Date patient questionnaires were received by CFEP.

4816/176818/308

ISQ Patient Feedback Report

Number of patients providing feedback: 30

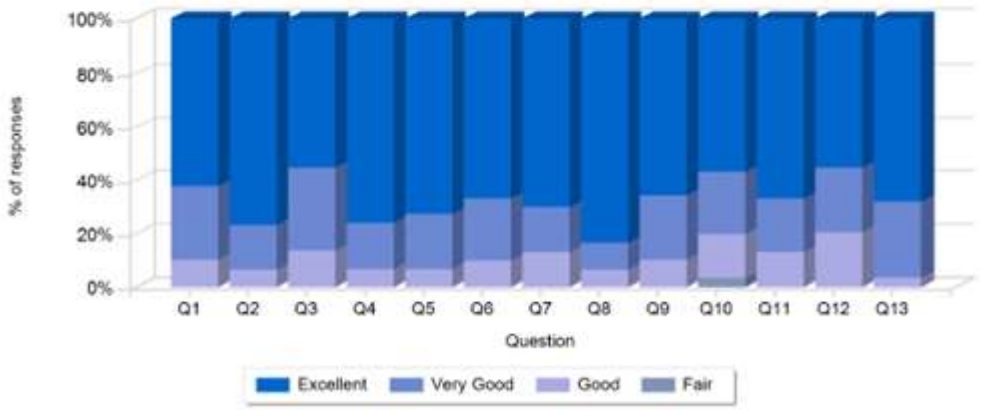
Your patient feedback

Table 1.1: Distribution and frequency of ratings

	Poor	Fair	Good	Very Good	Excellent	Blank / Spoilt
Q1 Satisfaction with visit to the pharmacist	0	0	3	8	18	1
Q2 Warmth of the pharmacist's greeting	0	0	2	5	23	0
Q3 The pharmacist's ability to really listen	0	0	4	9	16	1
Q4 The pharmacist's explanations of things	0	0	2	5	22	1
Q5 Extent to which patient felt reassured	0	0	2	6	21	1
Q6 Confidence in the pharmacist's ability	0	0	3	7	20	0
Q7 Oppportunity given to express concerns/fears	0	0	4	5	21	0
Q8 Respect shown by this pharmacist	0	0	2	3	25	0
Q9 Amount of time given for this visit	0	0	3	7	19	1
Q10 Consideration of personal situation	0	1	5	7	17	0
Q11 Pharmacist's concern for patient as a person	0	0	4	6	20	0
Q12 Extent the pharmacist helped patient to self care	0	0	6	7	16	1
Q13 Recommendation patient would give to friends	0	0	1	8	19	2

Blank/spoilt responses are not included in your mean percentage score analysis.

Graph 1.1: Percentage distribution and frequency of ratings



Please note blank/spoilt responses have not been incorporated in this graphical representation.

ISQ Patient Feedback Report

Number of patients providing feedback: 30

Your patient feedback

Table 1.2: Your mean percentage scores and benchmarks

Benchmarks based on all doctors working within secondary care

	Your mean score (%)	Benchmark data (%)*				
		Min	Lower Quartile	Median	Upper Quartile	Max
Q1 Satisfaction with visit to the pharmacist	88	55	87	90	93	100
Q2 Warmth of the pharmacist's greeting	93	47	88	92	95	100
Q3 The pharmacist's ability to really listen	85	50	88	91	94	100
Q4 The pharmacist's explanations of things	92	52	88	91	94	100
Q5 Extent to which patient felt reassured	91	53	86	90	93	100
Q6 Confidence in the pharmacist's ability	89	53	88	92	95	100
Q7 Oppportunity given to express concerns/fears	89	44	86	90	93	100
Q8 Respect shown by this pharmacist	94	51	90	93	96	100
Q9 Amount of time given for this visit	89	41	84	88	92	100
Q10 Consideration of personal situation	83	48	87	91	94	100
Q11 Pharmacist's concern for patient as a person	88	44	87	91	94	100
Q12 Extent the pharmacist helped patient to self care	84	45	84	89	92	100
Q13 Recommendation patient would give to friends	91	55	89	93	95	100

*Benchmarks are based on data from 1,297 surveys completed by doctors working in secondary care settings between January 2013 and December 2017 with 28 or more returned questionnaires.

Please note the reliability of your patient feedback will be reduced if less than 28 patient responses per question is achieved. In the event that there are less than 5 valid patient responses for any question, this score will not be illustrated.
See score explanation for percentage score calculation and quartile information.

Median or 'middle' value: the numerical value cutting the data in half – above and below this value lie the highest and lowest 50% of the mean percentage score values of all benchmarked doctors respectfully.

Important notes about this benchmark data

- Benchmarks are provided in the report to give you a sense of howyou are performing in relation to other practitioners who have completed these surveys. They are not intended to imply any 'minimum standard' that participants are expected to achieve.
- The benchmark data relate to doctors working in a variety of secondary care settings and may not be totally representative of your personal situation.

ISQ Patient Feedback Report

Number of patients providing feedback: 30

Your patient demographics

Table 1.3: Your patient demographics and associated mean percentage scores

	Number of responses	Your mean score (%)	Benchmark data (%) Min	Lower Quartile	Median	Upper Quartile	Max
Age							
Under 25	0	–	-	-	-	-	-
25 - 59	7	94	48	87	91	95	100
60+	23	88	57	87	91	94	100
Blank	0	--	-	-	-	-	-
Gender							
Female	14	90	51	87	91	94	100
Male	16	88	48	87	91	94	100
Blank	0	–	-	-	-	-	-
Is this the first time you have seen this pharmacist?							
Yes	27	90	51	86	91	94	100
No	2	--	-	-	-	-	-
Blank	1	–	-	-	-	-	-

*Benchmarks are based on data from 1,297 surveys completed by doctors working in secondary care settings between January 2013 and December 2017 with 28 or more returned questionnaires.
Please note the reliability of your patient feedback will be reduced if less than 28 patient responses per category is achieved. In the event that there are less than 5 patient responses in any category, this score will not be illustrated.
See score explanation for percentage score calculation and quartile information.
-- Score not provided
- Benchmark data not available

Median or 'middle' value: the numerical value cutting the data in half – above and below this value lie the highest and lowest 50% of the mean percentage score values of all benchmarked doctors respectfully.

Important notes about this benchmark data

- Benchmarks are provided in the report to give you a sense of howyou are performing in relation to other practitioners who have completed these surveys. They are not intended to imply any 'minimum standard' that participants are expected to achieve.
- The benchmark data relate to doctors working in a variety of secondary care settings and may not be totally representative of your personal situation.

ISQ Patient Feedback Report

Number of patients providing feedback: 30

Your patient comments

From the free text component of the questionnaire. All comments have been included in their entirety but all attempts have been made to remove details which could identify specific patients and/or other practitioners.

The pharmacist would appreciate any suggestions as to howthey could improve:

- They could have asked me if I knew what the drugs were for I was taking, and if they had any side effects.
- No improvements. Very friendly, presented themselves very well.
- I liked the way they stated they were new.Was not afraid to ask for support from the nurse to confirm they were correct.
- None needed.
- Great idea.
- Well done!
- No improvement needed. Excellent.
- None comes to mind, but don't tell them.
- Excellent, no improvement needed, very personable.
- Just check with the patient that they are happy and not wanting to talk in private - curtains.
- No need to improve your manner is good information is brilliant, approach is brilliant.
- Keep on as you are. Good luck.
- No improvement needed.
- No improvement needed.
- He doesn't need any, he is very good.

Appendices

ISQ Patient Feedback Report

Number of patients providing feedback: 30

Your patient feedback

Table 2.1: Your mean percentage scores and additional comparative benchmark information

Benchmarks based on doctors working within primary care

	Your mean score (%)	Benchmark data (%)*				
		Min	Lower Quartile	Median	Upper Quartile	Max
Q1 Satisfaction with visit	88	53	83	88	92	100
Q2 Warmth of greeting	93	44	84	90	93	100
Q3 Ability to listen	85	52	86	90	94	100
Q4 Explanations	92	52	84	89	92	100
Q5 Reassurance	91	55	82	87	91	99
Q6 Confidence in ability	89	55	85	90	93	100
Q7 Express concerns	89	43	84	88	92	100
Q8 Respect shown	94	45	88	91	95	100
Q9 Time for visit	89	48	82	86	90	99
Q10 Consideration	83	49	84	89	92	100
Q11 Concern for patient	88	52	84	89	92	100
Q12 Take care of myself	84	46	83	87	91	100
Q13 Recommendation	91	55	86	90	94	100

*Benchmarks are based on data from 3,713 surveys completed by GPs between January 2013 and December 2017 with 28 or more returned questionnaires.
Please note the reliability of your patient feedback will be reduced if less than 28 patient responses per question is achieved. In the event that there are less than 5 valid patient responses for any question, this score will not be illustrated. See score explanation for percentage score calculation and quartile information.

Median or 'middle' value: the numerical value cutting the data in half – above and below this value lie the highest and lowest 50% of the mean percentage score values of all benchmarked doctors respectfully.

Important notes about this benchmark data

- Benchmarks are provided in the report to give you a sense of how you are performing in relation to other practitioners who have completed these surveys. They are not intended to imply any 'minimum standard' that participants are expected to achieve.
- The benchmark data relate to doctors working in a variety of primary care settings and may not be totally representative of your personal situation.

ISQ Patient Feedback Report

Number of patients providing feedback: 30

Your patient feedback

Table 2.2 Your mean percentage scores and additional comparative benchmark information

Benchmarks based on health and nursing professionals working within primary care

	Your mean score (%)	Benchmark data (%)*				
		Min	Lower Quartile	Median	Upper Quartile	Max
Q1 Satisfaction with visit	88	64	88	91	95	98
Q2 Warmth of greeting	93	65	88	91	95	98
Q3 Ability to listen	85	68	88	91	95	99
Q4 Explanations	92	68	88	91	94	100
Q5 Reassurance	91	68	87	91	94	98
Q6 Confidence in ability	89	64	89	93	95	99
Q7 Express concerns	89	69	87	91	94	98
Q8 Respect shown	94	67	90	93	96	99
Q9 Time for visit	89	69	86	90	94	97
Q10 Consideration	83	67	88	91	94	99
Q11 Concern for patient	88	67	87	92	95	100
Q12 Take care of myself	84	65	87	91	94	99
Q13 Recommendation	91	64	89	93	96	100

*Benchmarks are based on data from 132 surveys completed by health and nursing professionals working in primary care settings between January 2013 and December 2017 with 28 or more returned questionnaires.
Please note the reliability of your patient feedback will be reduced if less than 28 patient responses per question is achieved. In the event that there are less than 5 valid patient responses for any question, this score will not be illustrated. See score explanation for percentage score calculation and quartile information.

Median or 'middle' value: the numerical value cutting the data in half – above and below this value lie the highest and lowest 50% of the mean percentage score values of all benchmarked health professionals respectfully.

Important notes about this benchmark data

- Benchmarks are provided in the report to give you a sense of how you are performing in relation to other practitioners who have completed these surveys. They are not intended to imply any 'minimum standard' that participants are expected to achieve.
- The benchmark data relate to health and nursing professionals working in a variety of primary care settings and may not be totally representative of your personal situation.

Supporting documents

ISQ Supporting documents

Number of patients providing feedback: 30

Details of score calculation

The score provided for each question in this questionnaire is the mean (average) value of all of the ratings from all clients who completed the question. It is expressed as a percentage - so the best possible score is 100%.
Non-rated responses (Don't know/blank/spoilt) are not used in the score calculations. (A blank response is where a client did not respond to the question and a spoilt response is where more than one tick box option was chosen or the questionnaire was defaced).

Example from your Q1 Satisfaction with visit to the pharmacist

Total number of responses = 30

Questionnaire rating scale	Poor	Fair	Good	Very Good	Excellent	Non rated responses
Number of ratings	0	0	3	8	18	1
Value assigned to each rating	0	25	50	75	100	n/a

$$\frac{\text{(number of Poor ratings} \times 0) + \text{(number of Fair ratings} \times 25) + \text{(number of Good ratings} \times 50) + \text{(number of Very Good ratings} \times 75) + \text{(number of Excellent ratings} \times 100)}{\text{(total number of client responses - number of Non rated responses)}} = \frac{(0 \times 0) + (0 \times 25) + (3 \times 50) + (8 \times 75) + (18 \times 100)}{(30 - 1)} = \frac{2550}{29}$$

Your score for Q1 = 88 %

Explanation of quartiles

In statistics a quartile is any one of the three values that divide data into four equal parts, each part represents ¼ of the sampled population.

Quartiles comprise:
Lower quartile, below which lies the lowest 25% of the data.
The median, cuts the data set in half and around which lies the middle 50% of the data.
Upper quartile, above which lies the top 25% of the data

Please note that the benchmarks presented in this report are based on data obtained from a volunteer sample of health professional, and as such may be artificially high.

Question	Your score (%)	Benchmark data (%)*				
		Min	Lower Quartile	Median	Upper Quartile	Maximum
Q1 Satisfaction with visit to the pharmacist	88	55	87	90	93	100

*Benchmarks are based on data from 1,297 surveys completed by doctors working in secondary care settings between January 2013 and December 2017 with 28 or more returned questionnaires.

Median or 'middle' value: the numerical value cutting the data in half – above and below this value lie the highest and lowest 50 % of the mean percentage score values of all benchmarked doctors respectfully.

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ISQ Supporting documents

Number of patients providing feedback: 30

Reflection guide and review record

Listed below are a few suggestions as to what to look for in your report and what actions, if any, you may think worthwhile to take as a result of your patient feedback.
NB We advise use of this template only where 'full' (not 'abbreviated') patient feedback report components have been outlined, where there is sufficient feedback for scores and benchmarks to be provided.

1. Please look at the frequency distribution table and associated scoring and benchmark tables. It is important to look at the spread of the ratings and not just scores achieved. One or two higher or lower ratings for any one question may affect your scores considerably.

In which areas did you perform well?

Are there any areas which you feel may benefit from further development?

2. Please look at your patient comments

Which comments are you most happy with?

Which comments are you least happy with?

Are there any recurrent themes in the comments? Do they tie up with achieved scores?

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ISQ Supporting documents

Number of patients providing feedback: 30

Reflection guide and review record

3. Planning for the future - having reflected on all the feedback

What do you feel are your areas of greatest strength? What concrete things can you do to build on these? Do you need any resources for this?

What do you feel are your areas of least strength? What concrete things can you do to develop these? Do you need any resources for this?

4. Can you identify any goals from this reflection? (It may be helpful to categorise both positive and negative issues raised into 'keep doing', 'start/do more', 'stop/do less' and 'consider' categories)

1.

2.

3.

4.

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ISQ Supporting documents

Number of patients providing feedback: 30

Guide to report interpretation

Graphical overview

This provides a visual overview of your achieved patient scores together with the median and range of the benchmark data. From this chart you will be able to compare your scores for all the questionnaire items and also allow you to relate these to scores achieved by other practitioners who have completed the survey. Please see the footers of the scoring and benchmark tables to explain the provenance and limitations of the benchmark data.

Frequency distribution

The frequency distribution table (table 1.1) shows the number of patient ratings from poor to excellent (valid responses) and the number of 'blank/spoilt' responses for every question (a blank response is where a patient did not respond to the question and a spoilt response is where more than one tick box option was chosen or if the questionnaire was defaced). If these values are added up, for any one question, this will equate to the total number of patients surveyed (shown in the top right hand corner of the page). This table clearly shows the degree of satisfaction patients have with the subject area defined in each question. Please note the spread of the ratings. Are they widely spread or closely packed around one or two specific ratings? One or two higher or lower ratings can make a difference to your mean percentage scores illustrated in the following scoring tables.

Graph 1.1 provides a visual representation of the distribution of all your ratings for each question. Blank/spoilt responses are not illustrated.

Scores and benchmark tables

The mean percentage score and benchmark table/s illustrate your mean percentage scores for each question calculated from the data in table 1.1. Each score is the mean (average) score calculated from valid patient ratings (i.e. not the blank/spoilt responses) expressed as a percentage (see score calculation sheet also in the supporting document section of your report). It has been established by our statisticians that the reliability of your patient feedback for any one question will be reduced if less than 28 valid patient responses is achieved (this number can be determined from table 1.1). In the event that there are less than 5 patient responses, the corresponding score for the question will not be illustrated.

Your mean percentage scores for each question have been displayed together with associated benchmark data to indicate how your score falls within the benchmark data. The median value has been shaded in grey. The median represents the 'middle' mean percentage score achieved by all benchmarked practitioners – so the 50% highest and lowest scoring practitioners fall above and below this value. The 25% highest scoring practitioners fall above the upper quartile value; the 25% lowest scoring practitioners fall below the lower quartile value. The provenance and any limitations of the benchmark data is provided in the footer below the table.

A further mean percentage score and benchmark table, broken down according to each 'demographic' group detailed on the questionnaire, has been included. This table also provides the number of patients responding in each group.

If you have carried out this survey previously, a table is provided to compare your current scores for each question together with scores from up to 3 previous surveys.

Patient comments

Patient comments usually reflect scores achieved. However, comments can pinpoint other more specific issues identified by the patient related to their consultation or treatment. Any recurrent themes in the comments should be noted. In order to ensure patient anonymity, and to encourage honest response, any personal identifiers have been removed.

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Appendix 3-Z Abbreviated patient feedback report

Private and Confidential

[redacted]

Interpersonal Skills Questionnaire
Patient Feedback Report

[redacted]

November 2018

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Thorverton Road
Matford Business Park
Exeter
EX2 8HF

t: 01392 927005
f: 01392 927230

e: enquiries@cfepsurveys.co.uk
w: www.cfepsurveys.co.uk

[redacted]

23 November 2018

Dear [redacted]

Please find enclosed your report outlining your feedback from the Interpersonal Skills Questionnaire (ISQ). Supporting documents have been provided to help you in the interpretation and understanding of your results.

Your survey resulted in the return of 7 patient (ISQ) questionnaires. Please note that in order to generate a full report with reliable and meaningful results, and associated benchmarks, a minimum of 28 returned patient questionnaires is required. If less than this number was returned then you will receive an abbreviated report for that element. In the eventuality that 5 or less patient or colleague questionnaires are returned no report will be issued for that survey component.

In order to enable us to improve our services we would be grateful if you could complete a feedback form using the following link: http://www.cfepsurveys.co.uk/questionnaires/feedback/default.aspx?psid=225282

Please contact the office on 01392 927005 or reports@cfepsurveys.co.uk if you require further information about your results.

I hope the report provides you with a basis for reflection and useful feedback for future appraisal.

Yours sincerely

CFEP UK Reports Team

ISQ Patient Feedback Report: Contents

ISQ Patient Feedback Report: Introduction

The Interpersonal Skills Questionnaire (ISQ) has been used in the UK for well over 10 years and is trusted by doctors who want to know how patients viewed their consultations. Published validation studies (concerning doctors - Please see the 'Publications' page on www.cfepsurveys.co.uk), have established the ISQ to be a reliable and sensitive tool; accurately measuring patient satisfaction in designated areas and sensitive to change.

This report outlines the information that has been collected and analysed from a sample of your patients. Please note that in order to generate a report with statistically meaningful and reliable results, illustrating scores and benchmarks, a minimum of 28 returned questionnaires is required. If less than this number was returned, you will receive an abbreviated report which comprises a frequency distribution table of your patients' ratings and their comments. Full explanation on how to interpret this information can be found in the supporting documents at the end of this report. We hope that this report will offer you clear guidance for your professional development.

The questionnaire is NOT VALIDATED by the GPHc at present for revalidation.

Your feedback

From the report you will be able to clearly pinpoint areas where you did well and also those areas where you may feel that improvements may be needed. The frequency distribution table illustrates the spread of your ratings and can provide an at-a-glance picture of your patients' perception of any given area of performance. It is advisable to take time to assimilate all the feedback and to avoid scanning the report and noting specific ratings or comments on which too much emphasis can be placed. The 'reflection guide and review record' may help with this.

Support for reflection

The 'reflection guide and review record' provides a few suggestions as to what to look at in your report and space to write a few notes prior to your meeting with your appraiser. This has been designed to make your report more relevant to appraisal and enable you to present it as part of your portfolio evidence if desired.

A 'guide to report interpretation' has been provided at the end of your report which explains the tables and charts in a clear step by step format, should this be required.

Use of data from your report

The data in your report will be held in accordance with the requirements of the Data Protection Act and the GDPR. Your anonymised data will be aggregated with data from all other participating doctors, and may be used in the generation of national performance benchmarks and contribute to scientific literature.
In most circumstances, the feedback report is entirely confidential and would not be shared with anyone else unless specifically requested by the named professional on the report or without their prior knowledge.
The main exceptions to this would be:
- Where a specific request has been made by the named professional that their supporting medical colleague (SMC) is to receive a copy of the report.
- Where there is a pre designated arrangement and agreement between the participating pharmacists and an academic institution (such as a university).
- Where there is a pre designated arrangement with the named professional's organisation/commissioner/appraisal system, or similar, for them to receive a copy of the report (of which the named professional should have been notified by the relevant body prior to survey).

However, in addition to this, in the unlikely event where instances of potential professional misconduct or significantly low scores have been identified or where patient safety may be affected, the feedback will be referred to our Survey Director and the professional's overarching employer/contracting organisation may be contacted and results disclosed as appropriate (information to this extent is provided in the guidelines on our online portal, acceptance of which was acknowledged during the initial stages of the survey process).

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Your patient feedback

Abbreviated report

The number of returned questionnaires was not sufficient to enable a full report with reliable and meaningful results and associated benchmarks to be provided.

November 2018*

*Date patient questionnaires were received by CFEP.

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48169/176816/308

ISQ Patient Feedback Report

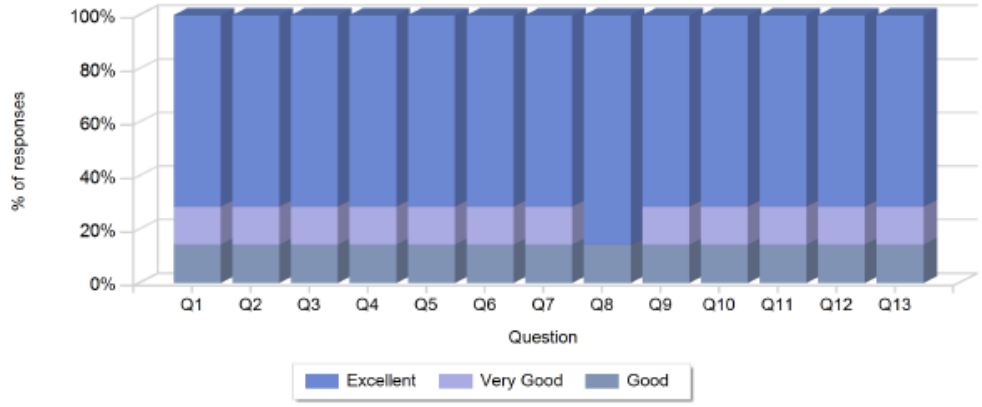
Number of patients providing feedback: 7

Your patient feedback

Table 1.1: Distribution and frequency of ratings

	Poor	Fair	Good	Very Good	Excellent	Blank / Spoilt
Q1 Satisfaction with visit to the pharmacist	0	0	1	1	5	0
Q2 Warmth of the pharmacist's greeting	0	0	1	1	5	0
Q3 The pharmacist's ability to really listen	0	0	1	1	5	0
Q4 The pharmacist's explanations of things	0	0	1	1	5	0
Q5 Extent to which patient felt reassured	0	0	1	1	5	0
Q6 Confidence in the pharmacist's ability	0	0	1	1	5	0
Q7 Oppportunity given to express concerns/fears	0	0	1	1	5	0
Q8 Respect shown by this pharmacist	0	0	1	0	6	0
Q9 Amount of time given for this visit	0	0	1	1	5	0
Q10 Consideration of personal situation	0	0	1	1	5	0
Q11 Pharmacist's concern for patient as a person	0	0	1	1	5	0
Q12 Extent the pharmacist helped patient to self care	0	0	1	1	5	0
Q13 Recommendation patient would give to friends	0	0	1	1	5	0

Graph 1.1: Percentage distribution and frequency of ratings



Please note blank/spoilt responses have not been incorporated in this graphical representation.

ISQ Patient Feedback Report

Number of patients providing feedback: 7

Your patient comments

From the free text component of the questionnaire. All comments have been included in their entirety but all attempts have been made to remove details which could identify specific patients and/or other practitioners.

Comments
No patient comments provided

Supporting documents

ISQ Supporting documents

Number of patients providing feedback: 7

Reflection guide and review record

3. Planning for the future - having reflected on all the feedback

What do you feel are your areas of greatest strength? What concrete things can you do to build on these? Do you need any resources for this?

What do you feel are your areas of least strength? What concrete things can you do to develop these? Do you need any resources for this?

4. Can you identify any goals from this reflection? (It may be helpful to categorise both positive and negative issues raised into 'keep doing', 'start/do more', 'stop/do less' and 'consider' categories)

1.

2.

3.

4.

ISQ Supporting documents

Number of patients providing feedback: 7

Guide to report interpretation

Frequency distribution

The frequency distribution table (table 1.1) shows the number of patient ratings from poor to excellent (valid responses) and the number of 'blank/spoilt' responses for every question (a blank response is where a patient did not respond to the question and a spoilt response is where more than one tick box option was chosen or if the questionnaire was defaced). If these values are added up, for any one question, this will equate to the total number of patients surveyed (shown in the top right hand corner of the page). This table clearly shows the degree of satisfaction patients have with the subject area defined in each question. Please note the spread of the ratings. Are they widely spread or closely packed around one or two specific ratings? One or two higher or lower ratings can make a difference to your mean percentage scores illustrated in the following scoring tables.

Graph 1.1 provides a visual representation of the distribution of all your ratings for each question. Blank/spoilt responses are not illustrated.

Patient comments

Patient comments usually reflect scores achieved. However, comments can pinpoint other more specific issues identified by the patient related to their consultation or treatment. Any recurrent themes in the comments should be noted. In order to ensure patient anonymity, and to encourage honest response, any personal identifiers have been removed.

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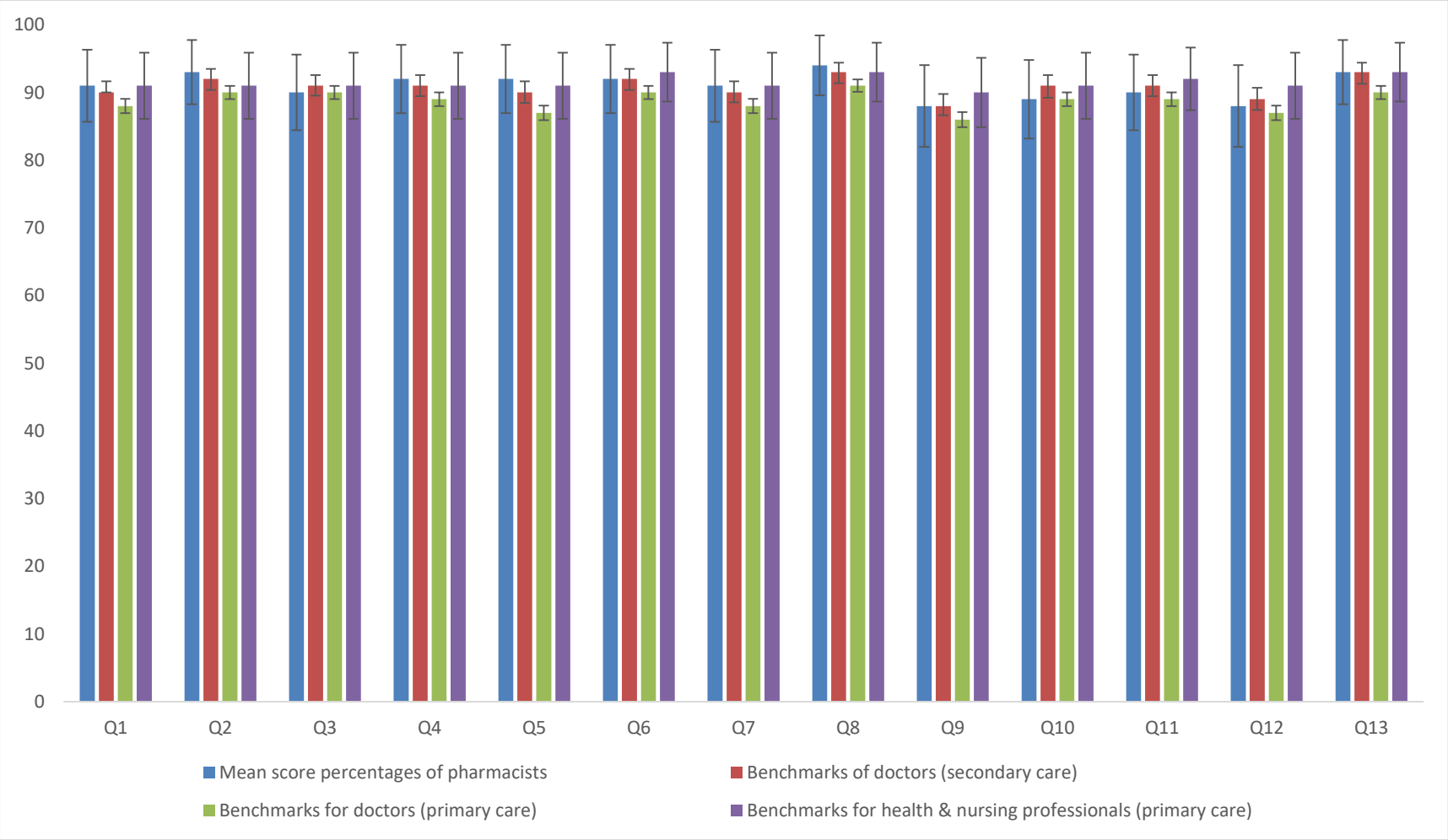
Appendix 3-AA Pharmacists' scores versus benchmarks



Pharmacists' aggregated mean scores VS benchmarks

Appendix 3-AB Aggregate patient feedback report

Private and Confidential

Ms Hiyam Al-Jabr
University of East Anglia School of Pharmacy
University Plain
Norwich Research Park
Norwich
Norfolk
NR4 7TJ

Interpersonal Skills Questionnaire Patient Feedback Report

Overall Report – Aggregated Data from 6 Participants

November 2018

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EX2 8HF

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Ms Hiyam Al-Jabr
University of East Anglia School of Pharmacy
University Plain
Norwich Research Park
Norwich
Norfolk
NR4 7TJ

27 November 2018

Dear Ms Al-Jabr

Please find enclosed a report outlining the feedback from the Interpersonal Skills Questionnaire (ISQ). The results have been illustrated in tables with associated benchmarks where applicable. Please see the important notes regarding how the benchmarks were generated. Supporting documents have been provided to help you in the interpretation and understanding of the results.

This survey resulted in the return of 111 patient (ISQ) questionnaires. Please note that in order to generate a full report with reliable and meaningful results, and associated benchmarks, a minimum of 28 returned patient questionnaires is required. If less than this number was returned then you will receive an abbreviated report for that element. In the eventuality that 5 or less patient or colleague questionnaires are returned no report will be issued for that survey component.

Please contact the office on 01392 927005 or reports@cfepsurveys.co.uk if you require further information about these results.

Yours sincerely

CFEP UK Reports Team

ISQ Patient Feedback Report: Contents

cfep UK Surveys

49025/1/308

ISQ Patient Feedback Report: Introduction

The Interpersonal Skills Questionnaire (ISQ) has been used in the UK for well over 10 years and is trusted by doctors who want to know how patients viewed their consultations. Published validation studies (concerning doctors - Please see the 'Publications' page on www.cfepsurveys.co.uk), have established the ISQ to be a reliable and sensitive tool; accurately measuring patient satisfaction in designated areas and sensitive to change.

This report outlines the information that has been collected and analysed from a sample of your patients. Please note that in order to generate a report with statistically meaningful and reliable results, illustrating scores and benchmarks, a minimum of 28 returned questionnaires is required. If less than this number was returned, you will receive an abbreviated report which comprises a frequency distribution table of your patients' ratings and their comments. Full explanation on how to interpret this information can be found in the supporting documents at the end of this report. We hope that this report will offer you clear guidance for your professional development.

The questionnaire is NOT VALIDATED by the GPHc at present for revalidation.

Benchmarks

Benchmarks are provided in the report to give you a sense of how you are performing in relation to other practitioners who have completed the surveys. They are not intended to imply any 'minimum standard' that pharmacists are expected to achieve.

We do not currently have benchmark data available from pharmacists specifically, so the benchmarks provided in this report are based on doctors working within a secondary care setting who have completed the ISQ questionnaire with CFEP. As such they may not be totally representative of your personal situation and have been included for guidance only.

In case they are more useful as a comparison, we have also included benchmark data from doctors working in primary care settings, and nursing and health professionals working in a primary care setting. this benchmark data can be found towards the back of this report in the Appendices section.

Your feedback

From the report you will be able to clearly pinpoint areas where you did well and also those areas where you may feel that improvements may be needed. The frequency distribution table illustrates the spread of your ratings and can provide an at-a-glance picture of your patients' perception of any given area of performance and the scoring tables allow you to make comparisons with other participating practitioners. It is advisable to take time to assimilate all the feedback and to avoid scanning the report and noting specific scores or comments on which too much emphasis can be placed. The 'reflection guide and review record' may help with this.

Support for reflection

The 'reflection guide and review record' provides a few suggestions as to what to look at in your report and space to write a few notes prior to your meeting with your appraiser. This has been designed to make your report more relevant to appraisal and enable you to present it as part of your portfolio evidence if desired.

A 'guide to report interpretation' has been provided at the end of your report which explains the tables and charts in a clear step by step format, should this be required.

Use of data from your report

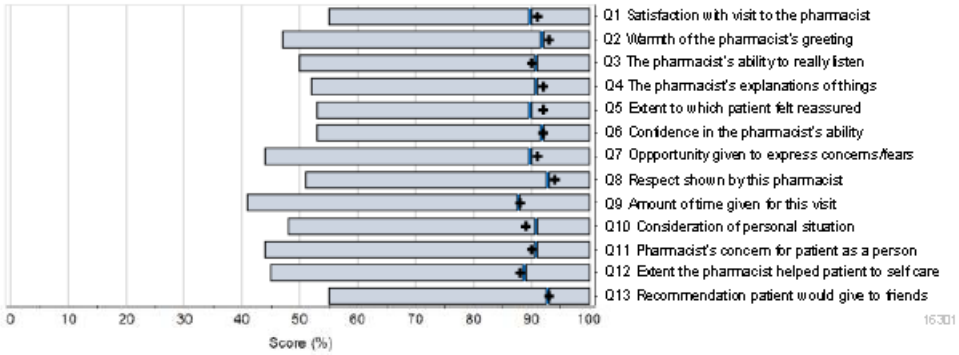
The data in your report will be held in accordance with the requirements of the Data Protection Act and the GDPR. Your anonymised data will be aggregated with data from all other participating doctors, and may be used in the generation of national performance benchmarks and contribute to scientific literature.
In most circumstances, the feedback report is entirely confidential and would not be shared with anyone else unless specifically requested by the named professional on the report or without their prior knowledge.
The main exceptions to this would be:
- Where a specific request has been made by the named professional that their supporting medical colleague (SMC) is to receive a copy of the report.
- Where there is a pre designated arrangement and agreement between the participating pharmacists and an academic institution (such as a university).
- Where there is a pre designated arrangement with the named professional's organisation/commissioner/appraisal system, or similar, for them to receive a copy of the report (of which the named professional should have been notified by the relevant body prior to survey).

However, in addition to this, in the unlikely event where instances of potential professional misconduct or significantly low scores have been identified or where patient safety may be affected, the feedback will be referred to our Survey Director and the professional's overarching employer/contracting organisation may be contacted and results disclosed as appropriate (information to this extent is provided in the guidelines on our online portal, acceptance of which was acknowledged during the initial stages of the survey process).

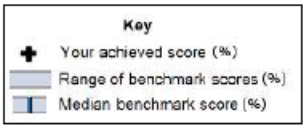
ISQ Patient Feedback Report: Graphical overview of results

The graph below provides a graphical summary of your results. It illustrates your achieved patient feedback scores for each question within the questionnaire together with the median benchmark score. These overlay the range of scores incorporated in the benchmark data (please see important notes about the benchmark data on page 2 of your report). This chart should enable you to be able to visually compare your scores for each question and also provide you with a sense of how you are performing in relation to other health professionals who have completed the surveys.

Patient feedback



Benchmarks are based on data from 1,297 surveys completed by doctors working in secondary care settings between January 2013 and December 2017 with 28 or more returned questionnaires.



If achieved score for any question is not illustrated please refer to relevant scoring tables in your report for clarification.

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49025/1/308

Patient feedback

November 2018*

*Date patient questionnaires were received by CFEP.

49025/1/308

ISQ Patient Feedback Report

Number of patients providing feedback: 111

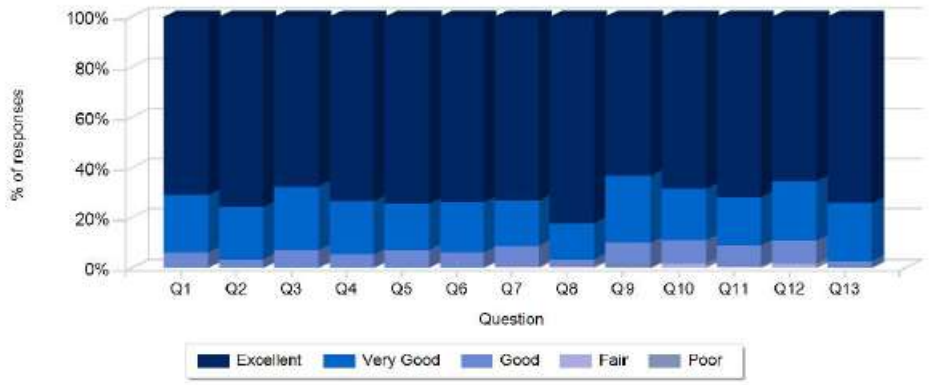
Patient feedback

Table 1.1: Distribution and frequency of ratings

	Poor	Fair	Good	Very Good	Excellent	Blank / Spoilt
Q1 Satisfaction with visit to the pharmacist	0	0	7	25	78	1
Q2 Warmth of the pharmacist's greeting	0	0	4	23	84	0
Q3 The pharmacist's ability to really listen	0	0	8	28	74	1
Q4 The pharmacist's explanations of things	0	0	6	23	79	3
Q5 Extent to which patient felt reassured	0	0	8	20	81	2
Q6 Confidence in the pharmacist's ability	0	0	7	22	81	1
Q7 Oppportunity given to express concerns/fears	0	1	9	20	81	0
Q8 Respect shown by this pharmacist	0	1	3	16	91	0
Q9 Amount of time given for this visit	1	0	10	29	68	3
Q10 Consideration of personal situation	0	2	10	22	73	4
Q11 Pharmacist's concern for patient as a person	0	1	9	21	78	2
Q12 Extent the pharmacist helped patient to self care	0	2	10	26	71	2
Q13 Recommendation patient would give to friends	0	0	3	25	80	3

Blank/spoilt responses are not included in your mean percentage score analysis.

Graph 1.1: Percentage distribution and frequency of ratings



Please note blank/spoilt responses have not been incorporated in this graphical representation.

ISQ Patient Feedback Report

Number of patients providing feedback: 111

Patient feedback

Table 1.2: Mean percentage scores and benchmarks

Benchmarks based on all doctors working within secondary care

	Your mean score (%)	Benchmark data (%)*				
		Min	Lower Quartile	Median	Upper Quartile	Max
Q1 Satisfaction with visit to the pharmacist	91	55	87	90	93	100
Q2 Warmth of the pharmacist's greeting	93	47	88	92	95	100
Q3 The pharmacist's ability to really listen	90	50	88	91	94	100
Q4 The pharmacist's explanations of things	92	52	88	91	94	100
Q5 Extent to which patient felt reassured	92	53	86	90	93	100
Q6 Confidence in the pharmacist's ability	92	53	88	92	95	100
Q7 Oppportunity given to express concerns/fears	91	44	86	90	93	100
Q8 Respect shown by this pharmacist	94	51	90	93	96	100
Q9 Amount of time given for this visit	88	41	84	88	92	100
Q10 Consideration of personal situation	89	48	87	91	94	100
Q11 Pharmacist's concern for patient as a person	90	44	87	91	94	100
Q12 Extent the pharmacist helped patient to self care	88	45	84	89	92	100
Q13 Recommendation patient would give to friends	93	55	89	93	95	100

*Benchmarks are based on data from 1,297 surveys completed by doctors working in secondary care settings between January 2013 and December 2017 with 28 or more returned questionnaires.

Please note the reliability of your patient feedback will be reduced if less than 28 patient responses per question is achieved. In the event that there are less than 5 valid patient responses for any question, this score will not be illustrated.

See score explanation for percentage score calculation and quartile information.

Median or 'middle' value: the numerical value cutting the data in half – above and below this value lie the highest and lowest 50% of the mean percentage score values of all benchmarked doctors respectfully.

Important notes about this benchmark data

- Benchmarks are provided in the report to give you a sense of how you are performing in relation to other practitioners who have completed these surveys. They are not intended to imply any 'minimum standard' that participants are expected to achieve.
- The benchmark data relate to doctors working in a variety of secondary care settings and may not be totally representative of your personal situation.

ISQ Patient Feedback Report

Number of patients providing feedback: 111

Patient demographics

Table 1.2: Patient demographics and associated mean percentage scores

	Number of responses	Your mean score (%)	Benchmark data (%) Min	Lower Quartile	Median	Upper Quartile	Max
Age							
Under 25	3	--	-	-	-	-	-
25 - 59	42	95	48	87	91	95	100
60+	61	87	57	87	91	94	100
Blank	5	98	-	-	-	-	-
Gender							
Female	60	91	51	87	91	94	100
Male	50	90	48	87	91	94	100
Blank	1	--	-	-	-	-	-
Is this the first time you have seen this pharmacist?							
Yes	94	91	51	86	91	94	100
No	9	96	51	87	91	95	100
Blank	8	91	56	83	89	94	100

*Benchmarks are based on data from 1,297 surveys completed by doctors working in secondary care settings between January 2013 and December 2017 with 28 or more returned questionnaires.
Please note the reliability of your patient feedback will be reduced if less than 28 patient responses per category is achieved. In the event that there are less than 5 patient responses in any category, this score will not be illustrated.
See score explanation for percentage score calculation and quartile information.
-- Score not provided
- Benchmark data not available

16301

Median or 'middle' value: the numerical value cutting the data in half – above and below this value lie the highest and lowest 50% of the mean percentage score values of all benchmarked doctors respectfully.

Important notes about this benchmark data

- Benchmarks are provided in the report to give you a sense of how you are performing in relation to other practitioners who have completed these surveys. They are not intended to imply any 'minimum standard' that participants are expected to achieve.
- The benchmark data relate to doctors working in a variety of secondary care settings and may not be totally representative of your personal situation.

ISQ Patient Feedback Report

Number of patients providing feedback: 111

Patient comments

From the free text component of the questionnaire. All comments have been included in their entirety but all attempts have been made to remove details which could identify specific patients and/or other practitioners.

The pharmacist would appreciate any suggestions as to how they could improve:

- I find everything said most helpful and friendly.
- I was very happy with the pharmacist I saw today. Very pleasant and respectful.
- They could have asked me if I knew what the drugs were for I was taking, and if they had any side effects.
- Great to talk with - very understanding.
- Explanation of the drugs, usage was excellent.
- Fine as things are.
- N/A - They were super.
- They were very good and understanding. They were excellent.
- It is not possible to improve on such an excellent service, my visit to the hospital was a complete surprise, my health and wellbeing is now vastly improved. Thank you all so very much.
- I found this pharmacist to be calm and professional, I was reassured by them.
- No improvements. Very friendly, presented themselves very well.
- The understanding shown by the pharmacist to my difficulties with handling the side effects of the medication was impressive. I found them to be respectful, confident, professional and their scientific knowledge instilled confidence in me. If pushed to pass a constructive criticism, it could only be the obvious pressure this young pharmacist is under as they face final examinations. They deserve all the encouragement during this time. I am looking forward to getting involved in the research. We need pharmacists of this calibre.
- I think things should stay as they are.
- If possible, it would have been more beneficial if the pharmacist was to visit at the start of your treatment, so medication could be explained then and not at the end of your treatment.
- Excellent already.
- Very nice person.
- Very helpful, listened very well, no suggestions for improvement. Thank you.
- I can't add anything else, only the utmost praise, lovely person.
- Very kind and sensitive.
- Maybe come right into the room instead of standing in the doorway.
- Very helpful - nothing to suggest.
- Be confident.
- Was extremely personable and pleasant. Couldn't have asked for more. Wonderful!
- Very professional. Polite. Knowledge of medication, their side effects could not fault.
- They were patient, took their time to explain to me use, etc.
- No need to improve, they were very polite, made me understand what they needed very well.
- Everything was dealt with professionally, thanks very much.
- I liked the way they stated they were new. Was not afraid to ask for support from the nurse to confirm they were correct.
- None needed.
- I can honestly say that I cannot identify any areas for improvement based on this experience.
- The pharmacist was very helpful in explaining my medication.
- I can't think of any improvement to my mind the hospital is an excellent hospital. I have nothing but praise for treatment I have had there.
- Very professional approach.
- Can't think of anything. Exceptional service.
- Great idea.
- Well done!
- No improvement needed. Excellent.

ISQ Patient Feedback Report

Number of patients providing feedback: 111

Patient comments

From the free text component of the questionnaire. All comments have been included in their entirety but all attempts have been made to remove details which could identify specific patients and/or other practitioners.

The pharmacist would appreciate any suggestions as to how they could improve:

- None comes to mind, but don't tell them.
- Excellent, no improvement needed, very personable.
- Keep on as you are. Good luck.
- Just check with the patient that they are happy and not wanting to talk in private - curtains.
- No need to improve your manner is good information is brilliant, approach is brilliant.
- I have always found pharmacists really helpful. I have had several visits in hospital this year and always was happy by advice.
- No improvement needed.
- No improvement needed.
- No improvement needed.
- He doesn't need any, he is very good.
- No improvement. The pharmacist could not have been more polite, understanding and considerate or indeed helpful.
- I found the pharmacist very knowledgeable and treated me with respect. They explained my medication and how it worked in conjunction with my ailments.

Appendices

ISQ Patient Feedback Report

Number of patients providing feedback: 111

Patient feedback

Table 2.1: Mean percentage scores and additional comparative benchmark information

Benchmarks based on doctors working within primary care

	Your mean score (%)	Benchmark data (%)*				
		Min	Lower Quartile	Median	Upper Quartile	Max
Q1 Satisfaction with visit	91	53	83	88	92	100
Q2 Warmth of greeting	93	44	84	90	93	100
Q3 Ability to listen	90	52	86	90	94	100
Q4 Explanations	92	52	84	89	92	100
Q5 Reassurance	92	55	82	87	91	99
Q6 Confidence in ability	92	55	85	90	93	100
Q7 Express concerns	91	43	84	88	92	100
Q8 Respect shown	94	45	88	91	95	100
Q9 Time for visit	88	48	82	86	90	99
Q10 Consideration	89	49	84	89	92	100
Q11 Concern for patient	90	52	84	89	92	100
Q12 Take care of myself	88	46	83	87	91	100
Q13 Recommendation	93	55	86	90	94	100

*Benchmarks are based on data from 3,713 surveys completed by GPs between January 2013 and December 2017 with 28 or more returned questionnaires.
Please note the reliability of your patient feedback will be reduced if less than 28 patient responses per question is achieved. In the event that there are less than 5 valid patient responses for any question, this score will not be illustrated. See score explanation for percentage score calculation and quartile information.

Median or 'middle' value: the numerical value cutting the data in half – above and below this value lie the highest and lowest 50% of the mean percentage score values of all benchmarked doctors respectfully.

1613B

Important notes about this benchmark data

- Benchmarks are provided in the report to give you a sense of how you are performing in relation to other practitioners who have completed these surveys. They are not intended to imply any 'minimum standard' that participants are expected to achieve.
- The benchmark data relate to doctors working in a variety of primary care settings and may not be totally representative of your personal situation.

ISQ Patient Feedback Report

Number of patients providing feedback: 111

Patient feedback

Table 2.2: Mean percentage scores and additional comparative benchmark information

Benchmarks based on health and nursing professionals working within primary care

	Your mean score (%)	Benchmark data (%)*				
		Min	Lower Quartile	Median	Upper Quartile	Max
Q1 Satisfaction with visit	91	64	88	91	95	98
Q2 Warmth of greeting	93	65	88	91	95	98
Q3 Ability to listen	90	68	88	91	95	99
Q4 Explanations	92	68	88	91	94	100
Q5 Reassurance	92	68	87	91	94	98
Q6 Confidence in ability	92	64	89	93	95	99
Q7 Express concerns	91	69	87	91	94	98
Q8 Respect shown	94	67	90	93	96	99
Q9 Time for visit	88	69	86	90	94	97
Q10 Consideration	89	67	88	91	94	99
Q11 Concern for patient	90	67	87	92	95	100
Q12 Take care of myself	88	65	87	91	94	99
Q13 Recommendation	93	64	89	93	96	100

*Benchmarks are based on data from 132 surveys completed by health and nursing professionals working in primary care settings between January 2013 and December 2017 with 28 or more returned questionnaires.
Please note the reliability of your patient feedback will be reduced if less than 28 patient responses per question is achieved. In the event that there are less than 5 valid patient responses for any question, this score will not be illustrated. See score explanation for percentage score calculation and quartile information.

Median or 'middle' value: the numerical value cutting the data in half – above and below this value lie the highest and lowest 50% of the mean percentage score values of all benchmarked health professionals respectfully.

16295

Important notes about this benchmark data

- Benchmarks are provided in the report to give you a sense of how you are performing in relation to other practitioners who have completed these surveys. They are not intended to imply any 'minimum standard' that participants are expected to achieve.
- The benchmark data relate to health and nursing professionals working in a variety of primary care settings and may not be totally representative of your personal situation.

Supporting documents

ISQ Supporting documents

Number of patients providing feedback: 111

Details of score calculation

The score provided for each question in this questionnaire is the mean (average) value of all of the ratings from all clients who completed the question. It is expressed as a percentage - so the best possible score is 100%.
Non-rated responses (Don't know/blank/spoilt) are not used in the score calculations. (A blank response is where a client did not respond to the question and a spoilt response is where more than one tick box option was chosen or the questionnaire was defaced).

Example from your Q1 Satisfaction with visit to the pharmacist — Total number of responses = 111

Questionnaire rating scale	Poor	Fair	Good	Very Good	Excellent	Non rated responses
Number of ratings	0	0	7	25	78	1
Value assigned to each rating	0	25	50	75	100	n/a

$$\frac{\text{(number of Poor ratings} \times 0) + \text{(number of Fair ratings} \times 25) + \text{(number of Good ratings} \times 50) + \text{(number of Very Good ratings} \times 75) + \text{(number of Excellent ratings} \times 100)}{\text{(total number of client responses - number of Non rated responses)}} = \frac{(0 \times 0) + (0 \times 25) + (7 \times 50) + (25 \times 75) + (78 \times 100)}{(111 - 1)} = \frac{10025}{110}$$

Your score for Q1 = 91%

Explanation of quartiles

In statistics a quartile is any one of the three values that divide data into four equal parts, each part represents ¼ of the sampled population.

Quartiles comprise:
Lower quartile, below which lies the lowest 25% of the data.
The median, cuts the data set in half and around which lies the middle 50% of the data.
Upper quartile, above which lies the top 25% of the data

Please note that the benchmarks presented in this report are based on data obtained from a volunteer sample of health professional, and as such may be artificially high.

Question	Your score (%)	Benchmark data (%)*				
		Min	Lower Quartile	Median	Upper Quartile	Maximum
Q1 Satisfaction with visit to the pharmacist	91	55	87	90	93	100

16301

*Benchmarks are based on data from 1,297 surveys completed by doctors working in secondary care settings between January 2013 and December 2017 with 28 or more returned questionnaires.

Median or 'middle' value: the numerical value cutting the data in half – above and below this value lie the highest and lowest 50% of the mean percentage score values of all benchmarked doctors respectfully.

cfep UK Surveys

49025/1/308

ISQ Supporting documents

Number of patients providing feedback: 111

Reflection guide and review record

Listed below are a few suggestions as to what to look for in your report and what actions, if any, you may think worthwhile to take as a result of your patient feedback.
NB We advise use of this template only where 'full (not 'abbreviated') patient feedback report components have been outlined, where there is sufficient feedback for scores and benchmarks to be provided.

1. Please look at the frequency distribution table and associated scoring and benchmark tables. It is important to look at the spread of the ratings and not just scores achieved. One or two higher or lower ratings for any one question may affect your scores considerably.

In which areas did you perform well?

Are there any areas which you feel may benefit from further development?

2. Please look at your patient comments

Which comments are you most happy with?

Which comments are you least happy with?

Are there any recurrent themes in the comments? Do they tie up with achieved scores?

cfep UK Surveys

49025/1/308

ISQ Supporting documents

Number of patients providing feedback: 111

Reflection guide and review record

3. Planning for the future - having reflected on all the feedback

What do you feel are your areas of greatest strength? What concrete things can you do to build on these? Do you need any resources for this?

What do you feel are your areas of least strength? What concrete things can you do to develop these? Do you need any resources for this?

4. Can you identify any goals from this reflection? (It may be helpful to categorise both positive and negative issues raised into 'keep doing', 'start/do more', 'stop/do less' and 'consider' categories)

1.

2.

3.

4.

ISQ Supporting documents

Number of patients providing feedback: 111

Guide to report interpretation

Graphical overview

This provides a visual overview of your achieved patient scores together with the median and range of the benchmark data. From this chart you will be able to compare your scores for all the questionnaire items and also allow you to relate these to scores achieved by other practitioners who have completed the survey. Please see the footers of the scoring and benchmark tables to explain the provenance and limitations of the benchmark data.

Frequency distribution

The frequency distribution table (table 1.1) shows the number of patient ratings from poor to excellent (valid responses) and the number of 'blank/spoilt' responses for every question (a blank response is where a patient did not respond to the question and a spoilt response is where more than one tick box option was chosen or if the questionnaire was defaced). If these values are added up, for any one question, this will equate to the total number of patients surveyed (shown in the top right hand corner of the page). This table clearly shows the degree of satisfaction patients have with the subject area defined in each question. Please note the spread of the ratings. Are they widely spread or closely packed around one or two specific ratings? One or two higher or lower ratings can make a difference to your mean percentage scores illustrated in the following scoring tables.

Graph 1.1 provides a visual representation of the distribution of all your ratings for each question. Blank/spoilt responses are not illustrated.

Scores and benchmark tables

The mean percentage score and benchmark table/s illustrate your mean percentage scores for each question calculated from the data in table 1.1. Each score is the mean (average) score calculated from valid patient ratings (i.e. not the blank/spoilt responses) expressed as a percentage (see score calculation sheet also in the supporting document section of your report). It has been established by our statisticians that the reliability of your patient feedback for any one question will be reduced if less than 28 valid patient responses is achieved (this number can be determined from table 1.1). In the event that there are less than 5 patient responses, the corresponding score for the question will not be illustrated.

Your mean percentage scores for each question have been displayed together with associated benchmark data to indicate how your score falls within the benchmark data. The median value has been shaded in grey. The median represents the 'middle' mean percentage score achieved by all benchmarked practitioners – so the 50% highest and lowest scoring practitioners fall above and below this value. The 25% highest scoring practitioners fall above the upper quartile value; the 25% lowest scoring practitioners fall below the lower quartile value. The provenance and any limitations of the benchmark data is provided in the footer below the table.

A further mean percentage score and benchmark table, broken down according to each 'demographic' group detailed on the questionnaire, has been included. This table also provides the number of patients responding in each group.

If you have carried out this survey previously, a table is provided to compare your current scores for each question together with scores from up to 3 previous surveys.

Patient comments

Patient comments usually reflect scores achieved. However, comments can pinpoint other more specific issues identified by the patient related to their consultation or treatment. Any recurrent themes in the comments should be noted. In order to ensure patient anonymity, and to encourage honest response, any personal identifiers have been removed.

Appendix 4-A Mapping between ISQ and Calgary-Cambridge guide

Mapping between ISQ & Calgary-Cambridge guide

Mapped items	
ISQ item	**Calgary-Cambridge guide item**
2. The warmth of the pharmacist's greeting to me was	1. Greets patient and obtains patient's name 2. Introduces self, role and nature of interview; obtains consent if necessary 3. Demonstrates respect and interest, attends to patient's physical comfort 23. Demonstrates appropriate non–verbal behaviour: • eye contact, facial expression,• posture, position & movement • vocal cues e.g. rate, volume, tone
3. On this visit I would rate the pharmacist's ability to really listen to me as	5. Listens attentively to the patient's opening statement, without interrupting or directing patient's response 8. Encourages patient to tell the story of the problem(s) from when first started to the present in own words (clarifying reason for presenting now) 9. Uses open and closed questioning technique, appropriately moving from open to closed 10. Listens attentively, allowing patient to complete statements without interruption and leaving space for patient to think before answering or go on after pausing 11. Facilitates patient's responses verbally and non–verbally e.g. use of encouragement, silence, repetition, paraphrasing, interpretation 12. Picks up verbal and non–verbal cues (body language, speech, facial expression, affect); checks out and acknowledges as appropriate 13.Clarifies patient's statements that are unclear or need amplification (e.g. "Could you explain what you mean by light headed")

	14. Periodically summarises to verify own understanding of what the patient has said; invites patient to correct interpretation or provide further information. 15. Uses concise, easily understood questions and comments, avoids or adequately explains jargon 16. Establishes dates and sequence of events 23. Demonstrates appropriate non–verbal behaviour: • eye contact, facial expression, • posture, position & movement • vocal cues e.g. rate, volume, tone 24. If reads, writes notes or uses computer, does in a manner that does not interfere with dialogue or rapport 25. Demonstrates appropriate confidence 26. Accepts legitimacy of patient's views and feelings; is not judgmental 27. Uses empathy to communicate understanding and appreciation of the patient's feelings or predicament; overtly acknowledges patient's views and feelings 28. Provides support: expresses concern, understanding, willingness to help; acknowledges coping efforts and appropriate self-care; offers partnership 29. Deals sensitively with embarrassing and disturbing topics and physical pain, including when associated with physical examination 67. Accepts patient's views, advocates alternative viewpoint as necessary
4. The pharmacist's explanations of things to me were	15. Uses concise, easily understood questions and comments, avoids or adequately explains jargon 33. Chunks and checks: gives information in manageable chunks, checks for understanding, uses patient's response as a guide to how to proceed 40. Uses clear language, avoids jargon 43. Relates explanations to patient's illness framework: to previously elicited ideas, concerns and expectations

	55. Summarises session briefly and clarifies plan of care 56. Final check that patient agrees and is comfortable with plan and asks if any corrections, questions or other items to discuss 57. Provides clear information on procedures, eg, what patient might experience, how patient will be informed of results 62. Explains causation, seriousness, expected outcome, short and long term consequences
5. The extent to which I felt reassured by this pharmacist was	12. Picks up verbal and non–verbal cues (body language, speech, facial expression, affect); checks out and acknowledges as appropriate 23. Demonstrates appropriate non–verbal behaviour: • eye contact, facial expression, • posture, position & movement • vocal cues e.g. rate, volume, tone 24. If reads, writes notes or uses computer, does in a manner that does not interfere with dialogue or rapport 25. Demonstrates appropriate confidence 26. Accepts legitimacy of patient's views and feelings; is not judgmental 27. Uses empathy to communicate understanding and appreciation of the patient's feelings or predicament; overtly acknowledges patient's views and feelings 28. Provides support: expresses concern, understanding, willingness to help; acknowledges coping efforts and appropriate self-care; offers partnership 29. Deals sensitively with embarrassing and disturbing topics and physical pain, including when associated with physical examination 45. Picks up verbal and non-verbal cues e.g. patient's need to contribute information or ask questions, information overload, distress
7. The opportunity the pharmacist gave	17. Actively determines and appropriately explores: • patient's ideas (i.e. beliefs re cause), • patient's concerns (i.e. worries) regarding each problem, • patient's expectations (i.e., goals, what help the patient had expected for each problem), • effects: how each problem affects the patient's life

me to express my concerns or fears was	18. Encourages patient to express feelings 28. Provides support: expresses concern, understanding, willingness to help; acknowledges coping efforts and appropriate self-care; offers partnership 44. Provides opportunities and encourages patient to contribute: to ask questions, seek clarification or express doubts; responds appropriately 46. Elicits patient's beliefs, reactions and feelings re information given, terms used; acknowledges and addresses where necessary 52. Checks with patient if accepts plans, if concerns have been addressed 63. Elicits patient's beliefs, reactions, concerns re opinion 68. Elicits patient's reactions and concerns about plans and treatments including acceptability
8. The respect shown to me by this pharmacist was	3. Demonstrates respect and interest, attends to patient's physical comfort 23. Demonstrates appropriate non–verbal behaviour: • eye contact, facial expression, • posture, position & movement • vocal cues e.g. rate, volume, tone 24. If reads, writes notes or uses computer, does in a manner that does not interfere with dialogue or rapport 25. Demonstrates appropriate confidence 26. Accepts legitimacy of patient's views and feelings; is not judgmental 27. Uses empathy to communicate understanding and appreciation of the patient's feelings or predicament; overtly acknowledges patient's views and feelings 28. Provides support: expresses concern, understanding, willingness to help; acknowledges coping efforts and appropriate self-care; offers partnership 29. Deals sensitively with embarrassing and disturbing topics and physical pain, including when associated with physical examination

	67. Accepts patient's views, advocates alternative viewpoint as necessary
9. The amount of time given to me for this visit was	5. Listens attentively to the patient's opening statement, without interrupting or directing patient's response 10. Listens attentively, allowing patient to complete statements without interruption and leaving space for patient to think before answering or go on after pausing
10. This pharmacist's consideration of my personal situation in deciding a treatment or advising me was	48. Involves patient by making suggestions rather than directives 49. Encourages patient to contribute their thoughts: ideas, suggestions and preferences 50. Negotiates a mutually acceptable plan 51. Offers choices: encourages patient to make choices and decisions to the level that they wish 52. Checks with patient if accepts plans, if concerns have been addressed 66. Obtains patient's view of need for action, perceived benefits, barriers, motivation 69. Takes patient's lifestyle, beliefs, cultural background and abilities into consideration 71. Asks about patient support systems, discusses other support available
11. The pharmacist's concern for me as a person on this visit was	23. Demonstrates appropriate non–verbal behaviour: • eye contact, facial expression, • posture, position & movement • vocal cues e.g. rate, volume, tone 24. If reads, writes notes or uses computer, does in a manner that does not interfere with dialogue or rapport 25. Demonstrates appropriate confidence 26. Accepts legitimacy of patient's views and feelings; is not judgmental 27. Uses empathy to communicate understanding and appreciation of the patient's feelings or predicament; overtly acknowledges patient's views and feelings

	28. Provides support: expresses concern, understanding, willingness to help; acknowledges coping efforts and appropriate self-care; offers partnership 29. Deals sensitively with embarrassing and disturbing topics and physical pain, including when associated with physical examination 49. Encourages patient to contribute their thoughts: ideas, suggestions and Preferences 51. Offers choices: encourages patient to make choices and decisions to the level that they wish
12. The extent to which the pharmacist helped me to take care of myself was	28. Provides support: expresses concern, understanding, willingness to help; acknowledges coping efforts and appropriate self-care; offers partnership 50. Negotiates a mutually acceptable plan 51. Offers choices: encourages patient to make choices and decisions to the level that they wish 56. Final check that patient agrees and is comfortable with plan and asks if any corrections, questions or other items to discuss 70. Encourages patient to be involved in implementing plans, to take responsibility and be self-reliant

Unmapped items
ISQ
1. My overall satisfaction with this visit to the pharmacist is
6. My confidence in this pharmacist's ability is
13. The recommendation I would give to my friends about this pharmacist would be
Calgary-Cambridge guide
4. Identifies the patient's problems or the issues that the patient wishes to address with appropriate opening question (e.g. "What problems brought you to the hospital?" or "What would you like to discuss today?" or "What questions did you hope to get answered today?")
6. Confirms list and screens for further problems (e.g. "so that's headaches and tiredness; anything else……?")
7. Negotiates agenda taking both patient's and physician's needs into account
19. Summarises at the end of a specific line of inquiry to confirm understanding before moving on to the next section
20. Progresses from one section to another using signposting, transitional statements; includes rationale for next section
21. Structures interview in logical sequence
22. Attends to timing and keeping interview on task
30. Shares thinking with patient to encourage patient's involvement (e.g. "What I'm thinking now is....")
31. Explains rationale for questions or parts of physical examination that could appear to be non-sequiturs
32. During physical examination, explains process, asks permission
34. Assesses patient's starting point: asks for patient's prior knowledge early on when giving information, discovers extent of patient's wish for information
35. Asks patients what other information would be helpful e.g. aetiology, prognosis

36. Gives explanation at appropriate times: avoids giving advice, information or reassurance prematurely

37. Organises explanation: divides into discrete sections, develops a logical sequence

38. Uses explicit categorisation or signposting (e.g. “There are three important things that I would like to discuss. 1st...” “Now, shall we move on to.”)

39. Uses repetition and summarising to reinforce information

41. Uses visual methods of conveying information: diagrams, models, written information and instructions

42. Checks patient’s understanding of information given (or plans made): e.g. by asking patient to restate in own words; clarifies as necessary

47. Shares own thinking as appropriate: ideas, thought processes, dilemmas

53. Contracts with patient re next steps for patient and physician

54. Safety nets, explaining possible unexpected outcomes, what to do if plan is not working, when and how to seek help

58. Relates procedures to treatment plan: value, purpose

59. Encourages questions about and discussion of potential anxieties or negative outcomes

60. Offers opinion of what is going on and names if possible

61. Reveals rationale for opinion

64. Discusses options eg, no action, investigation, medication or surgery, non-drug

treatments (physiotherapy, walking aides, fluids, counselling, preventive measures)

65. Provides information on action or treatment offered: name, steps involved, how it works, benefits and advantages, possible side effects

66. Obtains patient’s view of need for action, perceived benefits, barriers, motivation