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Developing consensus on the principles and key actions for collaborative working between general practices and community pharmacies: a modified eDelphi study

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STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ Large consensus study informed by an established conceptual model.
⇒ Wide range of stakeholder groups involved, including patients.
⇒ Captures perceived effects of the COVID-19 pandemic on aspects of collaboration between patients general practitioners and community pharmacists.
⇒ Recruitment may not have included all stakeholder voices.
⇒ Participation may have been affected by the COVID-19 pandemic.

ABSTRACT

Objectives To develop consensus on the principles and key actions for collaborative working in practice between general practice, community pharmacy and patients and their carers.

Design Three-round modified eDelphi study, starting from an established conceptual model of collaboration between general practitioners (GPs) and community pharmacists.

Setting Community pharmacies and general practices in England, UK.

Participants A panel of 123 experts: 43% from a community pharmacy background; 36% from a GP background; 13% patients, carers or patient representatives and 8% from academic or commissioner backgrounds. Panellist numbers reduced by approximately 30% in rounds 2 and 3.

Primary and secondary outcome measures Consensus between expert panellists, defined as at least 75% agreement.

Results A high level of consensus (>80%) was achieved on all components of a model of collaboration composed of Fundamental Principles of Collaboration and Key Activities for Action, supported by a series of aspirational statements and suggested practical actions. The fundamental principles and key activities are appended by contextual points. The findings indicate that collaboration in practice involves team members other than just GPs and community pharmacists and recognises that patients often want to know how each professional team is involved in their care. This study also provides insights into how collaboration between general practice and community pharmacy settings appears to have shifted during the COVID-19 pandemic, especially through opportunities for virtual collaboration and communication that can transcend the need for close geographical proximity.

Conclusion A consensus-based model of collaboration between general practice teams, community pharmacy teams, and patients and their carers has been developed. It is practically focused, values the patient voice and incorporates general practice and community pharmacy team members. While developed in England, the model is likely to also have applicability to other countries with similar health systems that include general practices and community pharmacies.

INTRODUCTION

Recent healthcare policies focus on general practitioners (GPs) and community pharmacists working more closely together to improve patient care. In the UK, the National Health Service (NHS) Long Term Plan describes a role for community pharmacists engaging patients with the NHS, public health and support for urgent care.[1] A revised funding deal for general practice, introduced in 2019, is transforming primary care with the development of primary care networks (PCNs), multidisciplinary teams of healthcare professionals working together at a local level to deliver joined-up patient care.[2] Community pharmacists have a unique opportunity to become integral members of the PCN team and collaborate with GPs to deliver patient care.

However, while the role of general practice-based pharmacists has enabled stronger interprofessional collaboration within general practices,[3 4] studies have shown that

collaboration between community pharmacists and GPs remains challenging.[5 6] UK research focused on health professionals and patient views on collaboration shows that patients want more collaboration between GPs and community pharmacists,[7] but there is a paucity of UK research on patient outcomes as a result of collaboration. Evidence from the USA shows that integrating pharmacists into a collaborative healthcare team can improve patient outcomes in long-term conditions such as hypertension and diabetes.[8] Despite this evidence, and national and international policy promoting collaboration between community pharmacists and GPs,[9] in the UK the two professions often work in isolation, with poor communication and a lack of awareness by GPs of community pharmacy services.[10 11] Other reported barriers to collaboration include community pharmacists 'shopkeeper' image, traditional medical hierarchies, attitudinal barriers and potential encroachment on professional boundaries.[12 13] There has been a relative lack of opportunity for community pharmacists and GPs to meet and build strong working relationships, for various reasons including geographical constraints.[12] Additional barriers such as the lack of community pharmacy access to patients' medical records also makes collaboration around delivery of services for individual patients challenging.[12]

Previously reported models of collaboration between GPs and community pharmacists are of a conceptual nature, with limitations in their use as practical tools for developing collaborative activity. None of the models appear to have incorporated the patient voice. The Collaborative Working Relationship Model describes trust development between professionals as five stages from 'professional awareness' to 'commitment to the collaborative working relationship'.[14] However, this US survey-derived theoretical model has not been tested in real-world practice. The Pharmacist Attitudes Towards Collaboration with GPs and GP Attitudes Towards Collaboration with Pharmacists models describe factors that influence pharmacist and GP attitudes towards collaboration, respectively.[15 16] Derived from interviews with GPs and community pharmacists in Australia, these models were developed into validated research instruments to measure GP and pharmacist attitudes, but they do not, however, focus on practical actions to support collaborative working. The GP-Community Pharmacist Collaboration (GPCPC) conceptual model,[17] developed from UK qualitative research comprises seven factors (locality, service provision, trust, 'knowing' each other, communication, expanded professional roles and professional respect). The extent of collaboration for each factor is divided into three levels (level 1—isolation; level 2—communication; level 3—collaboration), with a descriptor for each level of the seven factors. However, a practical evaluation of the model demonstrated difficulty in its use for assessment of collaboration, due to factors such as overlap between descriptors and no minimum thresholds for categorisation of the level of collaboration.[18]

Therefore, as a pragmatic approach to supporting the development of collaborative working in practice between patients and their carers, GPs and community pharmacists, this study aimed to develop consensus on the key features of collaboration and the actions necessary to achieve it in practice. As the study was undertaken during the COVID-19 pandemic, we also explored ways in which collaborative working was perceived to have changed due to the pandemic. The GPCPC conceptual model was used as a starting point for developing consensus as this was based on UK practice, and encompassed the factors identified in the other models.[17]

METHODS

Study design

A three-round modified eDelphi study approach was adopted, as this is a recognised technique for establishing stakeholder consensus on solutions for complex problems, where the modification is that the Panel begins with a set of items.[19] In this case, the modification was using the GPCPC conceptual model of collaboration.[17] The study was undertaken in an online (electronic) format to facilitate geographically widespread participation. A steering group with representation from patient groups, GPs and community pharmacists was established at the start of the study to inform the design and direction of the study and interpretation of the results. Members for this were invited through the study team's professional networks, based on known previous involvement in collaborative working initiatives between GPs and community pharmacists, or for patients, relevant lived experience and interest in the topic. A separate stakeholder group was also formed, composed of wide national representation from patient groups, GP organisations, and pharmacy and community pharmacy organisations, principally to inform our approach to recruitment of panellists to the study, raise awareness of the study to assist recruitment and advise on dissemination of the results. The membership was achieved by directly contacting relevant organisations, identified from Internet searches and the study team's professional networks. The stages of the Delphi study process are shown in figure 1 as a flow chart.

The Delphi panel

Study participants who formed the Delphi expert panel were purposively recruited from invitations distributed through local and national professional networks, including social media, on the basis of expertise or involvement in collaborative working between GPs and community pharmacists. Potential panellists completed an online expression of interest form in response to our invitation, from which they were contacted (with a single reminder if necessary) to give consent and receive participation instructions. To ensure a wide range of expertise, panellists were broadly grouped into four groups: community pharmacy staff; general practice staff; patients and patient representatives; and representatives of
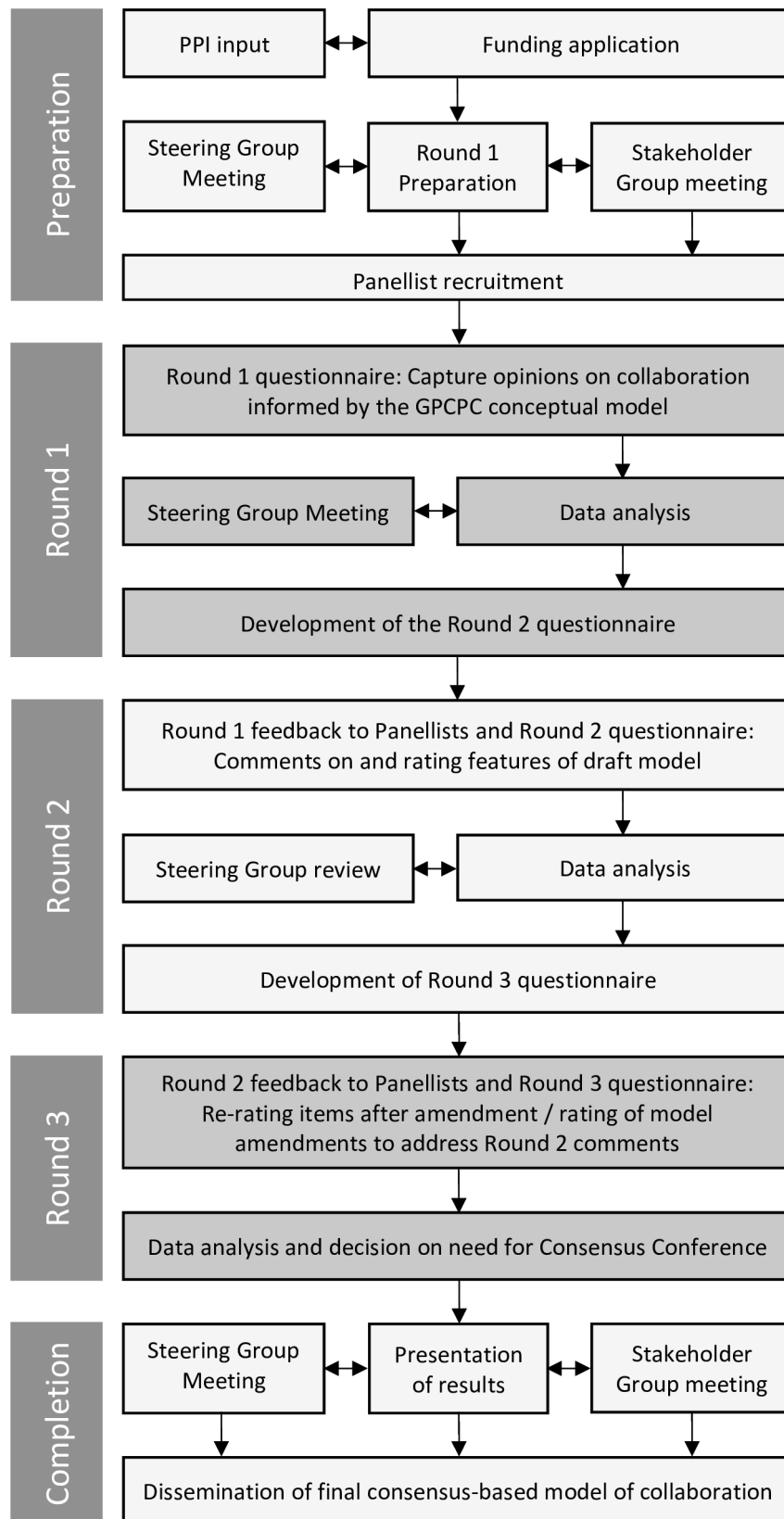
Figure 1 Flow chart showing the Delphi study process. GPCPC, General Practitioner Community Pharmacist Collaboration; PPI, General Practitioner Community Pharmacist Collaboration.

organisations delivering collaborations, commissioning and professional organisations, and other interested parties (eg, academics).

In line with previous studies where heterogeneity of panellists was sought, such as those concerning complex policy issues,[20][21] we aimed for a minimum panel size of

approximately 10 panellists from each broad group (ie, a total of at least 40 panellists). This allowed for panel attrition between rounds, as is common in Delphi studies.[22]

Patient and public involvement

Patients and the public were involved throughout the research process, from seeking patient and public involvement (PPI) advice at the funding application submission stage through to the design, reporting and dissemination of the study. PPI representatives joined the study steering group, which during the early stages of the study, advised on aspects of the study design and on panellist recruitment. This included reviewing draft versions of the round 1 questionnaire and assessing the likely time requirement for patient and public panellist participation. As the study progressed, the focus of the steering group meetings was on the direction and progress of the study and interpretation of the findings, including the emerging consensus-based model of collaboration. The PPI membership of the steering group was balanced to ensure the patient voice was equally heard at all stages of the study.

Data collection and analysis in the Delphi rounds

Round 1 was conducted over 3 months starting from March 2021, during the second year of the COVID-19 pandemic. Panellists completed a questionnaire (with a single reminder if necessary) in which they were asked to provide demographic information and a free text description of their own understanding of collaborative working. They were asked whether their experience of collaboration had changed due to the COVID-19 pandemic (yes/no response), and if so, to explain (free text response) the ways in which they thought these changes might remain. They then rated the seven factors in the GPCPC conceptual model on a 4-point Likert scale of importance in developing collaborative working[17]; this scale was used in all three rounds and had the following labels: 1=strongly disagree, 2=somewhat disagree, 3=somewhat agree, 4=strongly agree. Panellists were asked to explain each rating in separate free text boxes. They were also asked to give examples (in free text boxes) of how each factor impacted on collaborative working and what actions might enable improved collaboration.

The round 1 free text data were split into discrete statements and initially coded by one study team member, with the coding checked by a second member. This was then thematically grouped independently by two members and discussed with the whole study team to resolve differences. This followed the nature of the content, rather than adhering to the factors of the GPCPC conceptual model. The thematic groupings were refined to avoid overlap and frequency counted to identify the most commonly reported views. The links or relationships between these thematic groups were displayed as a diagram to form the draft consensus-based model of collaboration. Panellists' yes/no responses and demographic-related responses were totalled and percentages calculated. Their importance ratings of the GPCPC conceptual model factors were totalled to give an agreement percentage score for each factor and compared with the most commonly reported views in the free text data to gauge consistency.

In round 2 (also conducted over 3 months, with a single reminder sent if necessary), panellists were shown the draft consensus-based model of collaboration and asked to rate their agreement with the components and the wording used to describe the components. They also rated their agreement with the feasibility and usefulness of the suggested practical actions, using the same 4-point Likert scale. Free text boxes were provided to enable panellists to explain their ratings. In the absence of a universally agreed definition of consensus but in line with common practice in other studies, consensus was defined as 75% or more responses agreeing with a statement or scoring 3 or above on the four-point Likert scale used.[23][24] Components of the draft model for which consensus was not reached or that received feedback about making specific changes were modified accordingly.

In round 3, panellists were shown their ratings and the panel total ratings from round 2. They were asked to re-rate their agreement with those items that did not achieve consensus in round 2 following modifications and rate their agreement with other changes to the model. Round 3 was also conducted over 3 months with a single reminder sent if necessary. A final consensus conference was planned but was not needed.

Stakeholder group engagement

The stakeholder group met at the start of the study to seek their agreement to raise awareness of the study and support for panellist recruitment. A meeting was also held after round 3 to share the consensus-based model of collaboration and discuss the implications of it for practice and the dissemination strategy.

RESULTS
Round 1

A total of 226 people completed the online expression of interest form, of whom 123 consented to become expert panellists and completed round 1. The expert panel consisted of 53 members (43%) who were from a community pharmacy background including pharmacists and dispensary assistants, 44 (36%) from a GP background including GPs and general practice-based pharmacists, and 16 (13%) panellists who were either patients, carers, or their representatives. The remaining 10 panellists (8%) were from either academic or commissioner backgrounds. In terms of work location (or home location for patients/carers), 34 panellists (28%) reported working/living in a city location, 56 (46%) reported working/living in a small or large town and 19 (15%) reported working/living in a village location. Most health professional panellists had more than 10 years' work experience (66 panellists; 54%), with 14 (11%) having 5–10 years' work experience and the remaining participants (20; 16%) having less than 5 years' work experience. Some

Table 1 Round 1 Panellists' agreement with GPCPC model factors

Factors of collaboration from Bradley et al[17] model and the statement which participants were presented with to rate their agreement	No of panellists agreeing (n=123)	% agreement	Has opinion changed as a result of COVID-19?	
			Yes (%)	No (%)
Location: A GP practice and community pharmacy are able to collaborate more effectively if they are closely located to each other.	93	76	28 (23)	95 (77)
Knowing each other: Knowing each other is important for community pharmacists and GPs in order to collaborate effectively	110	89	13 (11)	110 (89)
Services provided from the pharmacy/GP practice: In order to work together collaboratively, it is important for GPs and community pharmacists to be aware of the services which each other provides.	107	87	28 (23)	95 (77)
Communication: two-way, regular communication is important for effective collaboration between GPs and community pharmacists.	107	87	16 (13)	107 (87)
Professional roles: The expanded role of pharmacists will improve collaboration between GPs and community pharmacists	92	75	14 (11)	109 (89)
Professional respect: Mutual respect between individual community pharmacists and GPs, as well as respect for their professions generally, are required for effective collaboration.	103	84	11 (9)	112 (91)
Trust: Mutual trust between community pharmacists and GPs is required for effective collaboration	101	82	6 (5)	117 (95)

GPCPC, GP-Community Pharmacist Collaboration; GPs, general practitioners.

panellists (23, 19%) did not report their number of years of work experience.

The findings from panellists' responses on whether collaboration had changed as a result of the COVID-19 pandemic were that 88 (72%) said 'yes', while 34 (28%) said 'no' (one panellist did not answer this question). In their free text responses, panellists reported that the COVID-19 pandemic had led to an increased use of electronic prescriptions and patient referrals from GPs to community pharmacies. Increased use of virtual communications was also reported. Panellists' responses about whether COVID-19 had led to changes in which staff members within the community pharmacy and general practice team were involved in collaboration were that 61 (50%) reported there had been no change, but 58 Panellists (47%) reported that there had been changes (4 did not respond). These changes included more involvement of dispensary assistants from pharmacies, and receptionists and prescription clerks from GP practices.

The percentage agreement scores for the GPCPC conceptual model[17] factors ranged from 75% to 89%, with 'knowing each other' (89%), 'services provided from the pharmacy/GP' (87%) and 'communication' (87%) scoring highest and 'location' (76%) and (expanded) 'professional roles' (75%) scoring lowest (as shown in table 1).

This difference between factors deemed most important for collaboration was reflected in the thematic grouping from the analysis of the free text data, where the most frequently reported views formed two thematic groups termed fundamental principles and key activities for action. These were linked to two other thematic groups containing less frequently reported views that were termed aspirational statements (of what collaboration should look like) and suggested practical actions (ie, examples of ways of increasing collaboration) and this formed the main structure of the draft consensus-based model of collaboration which was used in round 2. The diagram in figure 2 shows the links or relationships between these thematic groups.

Round 2

A total of 85 panellists who completed round 1 subsequently completed round 2, an overall 31% reduction in participation. This included 38 Panellists from a community pharmacy background (28% fewer than round 1), 25 panellists from general practice (43% fewer), 13 patients and carers or their representatives (19% fewer) and 9 others from academic or commissioning backgrounds (9% fewer).

When asked if they agreed that the draft consensus-based model of collaboration created from the round 1 responses captured the essential elements of collaboration between patient/carer, GP practice and community pharmacy, 84 out of the 85 panellists (99%) agreed. All panellists (100%) agreed that the fundamental principles captured the essential elements of collaboration. In terms of the exact wording of the fundamental principles, 74 (87%), 74 (87%) and 73 (86%) of panellists agreed with the wording of principles 1, 2 and 3, respectively. When asked if they agreed that the three key activities for action would enable people to achieve the fundamental principles, 84 of the 85 panellists (99%) agreed. In terms of the exact wording of the key activities, 83 (98%), 81 (96%) and 83 (98%) of panellists agreed with the wording of activities 1, 2 and 3, respectively.
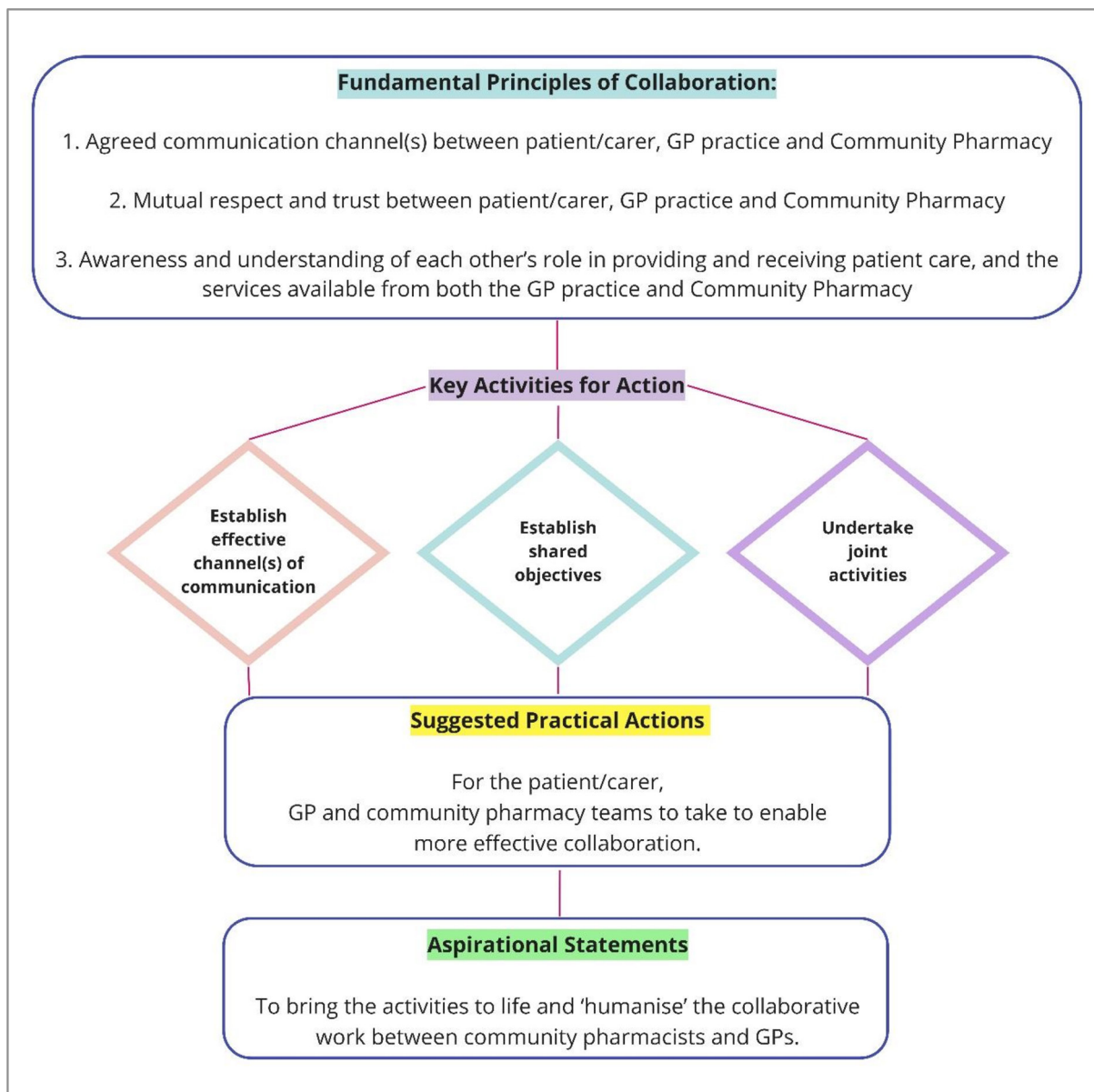
Figure 2 The consensus-based model of collaboration. GP, general practitioner.

Figure 3 shows that 8 of the 10 suggested practical actions achieved greater than 75% consensus. Of the two that did not reach consensus (suggested practical actions 7 and 9), the free text comments received suggested that panellists had interpreted that these actions should be carried out face to face. However, since these actions could instead be carried out virtually in small or large groups, we rephrased them to emphasise this for panellists to reconsider in round 3 and re-rate their agreement (the rephrased versions are also shown in figure 3). The remainder of the free text comments were thematically grouped, and frequency counted. Those with a frequency count of 2 or more were added as 'contextual points' to supplement the Fundamental Principles for Collaboration and the Key Activities for Action. Figure 4 shows the contextual points in relation to the three fundamental principles and the key activities for action. These contextual points were taken forward to round 3 for panellists'

consideration and agreement rating. The threshold frequency count of 2 reflected the minimum extent of similarity between views as a basis for subsequently seeking consensus, which allowed maximum inclusivity of the comments.

Round 3
In total, 59 panellists from round 2 completed round 3, a further overall 31% reduction in participation. This included 29 panellists from a community pharmacy background (24% fewer than round 2), 12 panellists from a GP background (52% fewer), 11 patients and carers, or their representatives (15% fewer), and 7 others from academic or commissioning backgrounds (22% fewer).

Greater than 75% consensus was received for all contextual points added to the fundamental principles and the activities for action, as well as for the two outstanding suggested practical actions (7 and 9) that had not received

Key Activities for Action	Suggested Practical Actions	Feasibility Rating (No. Panellists agreeing action is feasible)	Usefulness Rating (No. Panellists agreeing action is useful)	Aspirational Statements	No. Panellists agreeing	% agreement
Establish effective channel(s) of communication	**1.** To improve communication between community pharmacy and GP teams, arrange regular virtual or face to face meetings. Meetings should be meaningful and can be used for a variety of reasons, including an opportunity to discuss complex/vulnerable patients (e.g., frail, palliative, polypharmacy), give feedback on what is working well (e.g., repeat prescriptions, signposting) and areas for improvement (e.g., handling out of stock medicines). Meetings can also provide an opportunity for training each other.	56 out of 71 (79%)	66 out of 68 (97%)	**1.** As a patient, I would like my GP and community pharmacy teams to be working together and talking to each other about my care.	78	91.8%
	2. Have a directory or list of named staff in each setting who can be contacted for specific problems or queries. Examples include having a named person for dealing with dossette boxes, care homes, repeat prescriptions and referral pathways.	67 out of 71 (94%)	66 out of 68 (97%)	**2.** As a patient, I would like time to talk to those managing my care in the pharmacy and GP practice and feel listened to. I would like to be informed if a mistake is made relating to my care.	79	92.9%
	3. Agree direct lines of communication, whether via email, phone, mobile or instant messaging. Agree methods and times for urgent and non-urgent communication.	65 out of 71 (91%)	68 out of 68 (100%)	**3.** As a patient, I want to know that the community pharmacy and GP teams communicate and trust each other.	78	91.8%
	4. GP teams could include pharmacists or pharmacy staff in Patient Participation Group (PPG) meetings. Part of the agenda could include a discussion on ways of improving collaboration between community pharmacists, GP and patients/carers.	61 out of 71 (86%)	63 out of 68 (92%)	**4.** As community pharmacy and GP teams, when communicating with each other we would like to be able to contact the right person, at the right time, in a way that is convenient for both of us.	76	89.4%
Establish shared objectives	**5.** Community pharmacists to liaise with Primary Care Network (PCN) pharmacist and/or GP-based pharmacist - this could include working together on health promotion activities.	61 out of 71 (87%)	61 out of 69 (88%)	**5.** As community pharmacy and GP teams, we would like to keep notes on our discussions for future reference.	76	89.4%
	6. Community pharmacy and GP teams to work together to identify shared goals and objectives. Consider involving Integrated Care Board/PCN to support this.	63 out of 71 (88%)	62 out of 68 (91%)	**6.** As community pharmacy and GP teams, we would like to refer patients to our colleagues for appropriate services and know that our patients will be managed appropriately.	78	91.8%
	7. Offer 'Walk in my Shoes' opportunities for colleagues. These provide a chance for pharmacy staff to spend a day in a GP practice and GP staff to experience the same in a pharmacy, to learn more about each other's work, challenges, pressures and opportunities. *(Revised to for Round 3: Offer virtual or face to face 'Walk in my Shoes' opportunities for colleagues. This provides a chance for pharmacy staff to spend time observing the roles of GP practice staff and GP practice staff to experience the same with pharmacy staff, to learn more about each other's work, challenges, pressures, and opportunities.)*	52 out of 71 (**73%**) (83% agreed with revised wording)	64 out of 67 (95%)	**7.** As community pharmacy and GP teams, we would like to collaborate, not compete, for the benefit of patient care. **8.** As community pharmacy and GP teams, we should respect each other's abilities to care for the patient and remember we are trying to achieve the same goal, but sometimes in a different manner.	79 78	92.9% 91.8%
Undertake joint activities	**8.** GP and community pharmacy teams to run learning or training events for each other. For example, pharmacy teams could run training on available pharmacy services, GP teams could run training on repeat prescribing processes. Discuss clinical case studies to learn about each other's perspective, decision making process and attitude to risk.	56 out of 71 (79%)	63 out of 68 (92%)	**9.** As community pharmacy and GP teams, we would like the ability and confidence to refer patients and work to each other, knowing that the other will take the referral seriously and this can be relied upon.	78	91.8%
	9. Community pharmacy and GP teams can organise team building and trust building exercises. Part of this could include discussing case studies, running role play activities, attending joint webinars and other training events. *(Revised to for Round 3: Community pharmacy and GP teams can organise team building and trust building exercises. This could include discussing case studies, running role play activities, attending joint webinars and other training events, which could be run online or face to face.)*	44 out of 70 (63%) (92% agreed with revised wording)	55 out of 69 (79%)	**10.** As community pharmacy and GP teams, we know that mistakes can happen. We would like to have open, honest and respectful discussions when they do in order to ensure patient care and safety.	79	92.9%
	10. Community pharmacy and GP teams can work together on key patient projects and quality drivers, such as the Quality Outcomes Framework (QOF). Both teams could consider which services to run jointly, with elements of the service being provided from each setting. This could include enhanced services, long term condition monitoring and vaccination.	55 out of 71 (77%)	64 out of 68 (94%)	**11.** In the GP practice, we would like patients with minor illnesses to be seen first in the community pharmacy, and then referred to the GP practice if necessary.	78	91.8%

Figure 3 Panellists' agreement with the aspirational statements and suggested practical actions. GP, general practitioner.

consensus in round 2. The rephrased versions, to emphasise that they could be undertaken virtually or face to face, achieved agreement scores of 83% and 92%, respectively. A subsequent consensus conference was therefore not necessary.

Stakeholder group feedback

The stakeholder group, meeting at the end of round 3 to review the consensus-based model, strongly supported the consensus-based model of collaboration. No further amendments were made to the model.

DISCUSSION

This study achieved a higher (>80%) than the defined minimum level of consensus (75%) among the Delphi expert panel for all components of the consensus-based model of collaboration between patients and carers, community pharmacy staff and general practice staff. The consensus-based model of collaboration is practically orientated by the fundamental principles of collaboration being linked to key activities for action and in both being supported by aspirational statements and suggested practical actions for the general practice team, the community pharmacy team and the patient's 'team' (ie, family, carers, friends and other representatives). This means that it can be used as a diagnostic and developmental resource to facilitate collaboration.

This study used the GPCPC conceptual model of collaboration to inform the first round and the data from this suggested that there had been a shift in the factors affecting collaboration.[17] For example, with effective online methods of communicating now commonplace and remaining so as the COVID-19 pandemic recedes, close geographical proximity between community pharmacy and general practice does not seem as necessary for collaboration as it had previously been. However, face-to-face communication may still be preferred for some collaborative working activities, for example, problem solving exercises. The study also identified that collaboration between community pharmacists and GPs has increasingly widened to involve the whole general practice team (including GP-based pharmacists and other health professionals) and community pharmacy teams. Expanded roles for pharmacists into clinical pharmacy work in general practice and independent prescribing in community pharmacy may help bridge the gap between community pharmacy and general practice teams. However, it is important to consider how patients might benefit from such expanded roles and to ensure all parties are clear on roles and responsibilities. Crucially, the consensus-based model of collaboration recognises that patients often want to know how each professional team is involved in their care and may expect general practice and community pharmacy teams to be working together and talking to each other about patients' care.

Contextual Points relating to Fundamental Principles	Contextual Points relating to Key Activities for Action
Principle 1: Agreed communication channel(s) between patient/carer, GP practice and Community Pharmacy - Communication should flow in both directions. - Whichever communication channel, or platform, is agreed, it is important that it is effective and straightforward for all involved to use. - When deciding on which communication channel, or platform, to use, it is important to consider whether an audit trail is required. - Where communication involves a patient, it should be focused on their needs, with the aim of improving the outcomes which are important to them.	**Activity 1: Establish effective channel(s) of communication** - Once established, the channels or ways of communicating need to be used to ensure they are maintained. - Communication can also be between members of the GP and community pharmacy teams, and does not need to always involve a pharmacist, GP or patient. - When deciding if a particular way of communicating is effective, consideration should be given to making sure individuals are clear on their responsibilities and any expected actions.
Principle 2: Awareness and understanding of each other's role in providing and receiving patient care, and the services available from both the GP practice and Community Pharmacy - This principle includes having respect for, and acknowledging, the role of the community pharmacy team, the GP team, and the patient. - It is important for patients, carers, GP and community pharmacy teams to know where to find information on services provided by the community pharmacy and GP practice, and how to access them. - Understanding the role of the community pharmacy and GP team, as well as the patient's role, includes understanding the limitations of each role. - Queries should be directed to the most appropriate person, to ensure an effective and efficient outcome for the patient. - For community pharmacy and GP teams, it is important to be aware of NHS contractual arrangements and responsibilities, in addition to funding and clinical services. - For services which are provided by both the GP and community pharmacy team, the patient ultimately has a choice in where to access the service. - The role of the community pharmacist and the role of the GP practice-based pharmacist should be made clear to patients and staff.	**Activity 2: Establish shared objectives** - The objectives, or goals, may be a mixture of short, medium and long term. - Once the objectives have been established, clearly defined and agreed, they may need ongoing monitoring and feedback. - Objectives specifically involving patient care should ensure that patients have had the opportunity to input. - Patient objectives change with time, so continual monitoring may be required.
Principle 3: Mutual respect and trust between patient/carer, GP practice and Community Pharmacy - Mutual in this Principle means shared or split evenly between each person. - An ability to provide feedback when things go wrong, without placing blame is also necessary. - This Principle also includes understanding each others' limitations and professional boundaries. - Part of this means recognising and respecting each other's capabilities and capacity (time and available resources).	**Activity 3: Undertake joint activities** - It should be clear what the purpose of the joint activity is and what might be gained by those participating in it. - Joint activities may help with improving understanding of services, clinical matters, patient management issues or patient care, for example. - The activities should benefit all three parties – the patient, the GP team and the community pharmacy team.

Figure 4 Contextual points for the fundamental principles and key activities for action. GP, general practitioner.

As such, our consensus-based model of collaboration aligns with the policy intention inherent in the NHS Long Term Plan and in the creation of PCNs of delivering joined up care.[1 2] It also addresses the previously identified barriers to collaborative working, including siloed working, poor communication, and GPs and community pharmacists' lack of awareness of each other's services.[6–11] It does not however directly address the issue of community pharmacists' lack of access to patients' medical records but does emphasise that practical actions to overcome barriers can flow from the fundamental principles of collaboration leading to key actions agreed by all parties. This means that our consensus-based model of collaboration has a practical utility in its focus on actions that can be taken by general practice teams, community pharmacy teams and the patient 'teams' to facilitate collaboration, which goes beyond that of previous conceptual models[14 17] and tools for measuring apparent willingness to collaborate.[15 16] In addition, given the similarity of the features of collaboration in previous models developed in the UK and other countries, as encompassed in the GPCPC conceptual model that informed the study,[17] this consensus-based model of collaboration is likely to have high applicability to other countries where there is a similarity in the health system in including general practices and community pharmacies.

Particular strengths of this study include that it was a large consensus study informed by an established conceptual model, which involved a wide range of stakeholder groups, including patients. It also captured perceived effects of the COVID-19 pandemic on aspects of collaboration between patients and their carers, general practice teams and community pharmacy teams. The study followed the CREDES guidance on conducting and reporting Delphi studies, as this has broad applicability to good practice guidance development, even though the checklist was developed for guidance development in palliative care.[25] While panellist numbers decreased at each round by approximately 30%, attrition rates of 50% or higher are not uncommon in Delphi studies,[26] but previous research has found that large Delphi panels are associated with lower attrition rates.[27] However, it is acknowledged that limitations of the study include that recruitment may not have included all stakeholder voices and that participation may have been affected by the COVID-19 pandemic.

Nevertheless, there are important implications for the consensus-based model of collaboration arising from this study. First, that although the model of collaboration is based on wide expert opinion, further research is needed to assess how readily the model can be implemented in practice and whether it is sufficiently accommodating and flexible for facilitating collaboration when used in

practice by general practice teams, community pharmacy teams and patient 'teams'. Policies to increase the uptake of expanded roles for pharmacists make this particularly germane.[28] Second, further work is needed to establish whether the model can be effectively incorporated in the initial education and training of health professionals, rather than aspects of collaborative working being learnt over a number of years of typically postregistration work experience.

CONCLUSION

This study achieved a higher (>80%) than the defined minimum level of consensus (75%) on the components of a consensus-based model of collaboration between general practice teams, community pharmacy teams and patient 'teams'. This model is composed of Fundamental Principles of Collaboration and Key Activities for Action, supported by a series of aspirational statements and suggested practical actions for the community pharmacy team, the general practice team and patients and carers. This model builds on previous work by being practically focused, including the patient voice and in recognising that collaboration in practice involves team members other than just GPs and community pharmacists. This study also provides novel insights into how collaboration between general practice and community pharmacy settings appears to have shifted during the COVID-19 pandemic, and the opportunities for virtual collaboration and communication. While developed in England, the model is likely to also have applicability to other countries with similar health systems that include general practices and community pharmacies.

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