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Behaviours that contribute to pharmacist professionalism: a scoping review

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ABSTRACT

Objectives Clearly understanding and describing professional behaviours of pharmacists allows the profession, researchers and policy-makers to observe and monitor the professionalism of pharmacists, and design interventions to improve it where needed. The primary objective of this review was to identify which behaviours are discussed to contribute to professionalism in registered pharmacists in peer-reviewed literature. The secondary objective was to review the identified behaviours using a behavioural specification framework to understand how they are expressed.

Design A scoping literature review was conducted.

Data sources An electronic database search of Scopus, Embase, PsycINFO, PsychArticles, Emcare and Medline limited to articles published in English from 1 January 2000 to 21 October 2022 was conducted.

Eligibility criteria Eligible articles contributed behaviourally relevant content with reference to registered pharmacists' professionalism.

Data extraction and synthesis Extracted behaviourally relevant content was subject to researcher's familiarisation, then deductive coding to one of two overarching definitions of technical or non-technical behaviour. Data were then inductively coded through assignment of a descriptive code to identify categories of professional behaviour within these two overarching types of behaviour.

Results Seven articles were identified and included in the final analysis. From the extracted behaviourally relevant content, 18 categories of behaviours were identified. All articles identified behaviours in categories titled 'establishes effective relationships' and 'complies with regulations codes and operating procedures'. Identified behaviours were often broadly described and merged with descriptions of influences on them and broader outcomes that they contribute to.

Conclusions Behaviours described to contribute to pharmacists' professionalism in the literature are broad and non-specific.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ Followed and reported literature review according to Joanna Briggs Institute recommended scoping review methodology.
⇒ Duplicate screening and multiple reliability checks were performed when conducting the review.
⇒ Synthesis of identified behaviours using a behavioural specification framework clearly highlights shortcomings in describing behaviours that contribute to professionalism for pharmacists.
⇒ Limited and diverse article types were identified that required considerable subjective interpretation by the researchers.
⇒ Grey literature was not included, as it was out of scope for the review.

INTRODUCTION

The expectation that pharmacists demonstrate professionalism is agnostic of country, setting or role, regardless of differences in international scope of practice and education.[1–10] Professionalism is key to ensuring pharmacists can deliver high-quality care as it is critical to developing and maintaining patient trust and collegial relationships with other healthcare professionals.[2 7 11–17] Pharmacy practice standards and codes often explicitly state that pharmacists are expected to demonstrate professionalism in routine practice.[1 7 8] Despite this, the concept of professionalism is not universally defined. Healthcare literature continues to debate what is meant by the term, as well as how to teach and measure it.[15 18–22] Attempts to define pharmacist professionalism often describe complex personal characteristics, values, behaviours, skills, attitudes, characteristics and traits.[14 18 23–25]

Previous research has identified and measured attitudes, values, characteristics and qualities that demonstrate professionalism for pharmacy students.[26–31] Much of this research discussed and debated the attitudes and professional traits that were considered essential to pharmacist professionalism.[14 31] Other research focused on developing tools to measure attitudes towards, and the presence of, these characteristics in pharmacy students.[32–34] Pharmacy students' agreement with 'tenets' of professionalism was increasingly incorporated into routine assessments to measure educational impact and growth

in professional skills over time.[35] However, attitudes, values and beliefs proved challenging to measure, and it was unclear how they translate into the professional behaviours that shape society's perception of and the impact of the pharmacy profession.[36 37] This prompted research that described pharmacist professional behaviours that are demonstrated as a result of the individual's values and beliefs.[30 36 37] These studies typically described behaviours that directly related to pharmacy students' academic engagement and success (eg, if the student attended class) and how they may translate to workplace behaviours once students are registered pharmacists is uncertain.[31 38]

Workplace behaviours that demonstrate pharmacist professionalism must be well described and understood by the profession and their key stakeholders. For the profession and its regulators, it is critical that individual practitioners understand professional behaviours so they can action them and monitor their own performance in daily practice to consistently provide high-quality care and services.[4 7 8 39] This has similar implications for academics who need these behaviours to be clearly described so that they can be taught, measured and assessed in pharmacy students, and/or research to advance our understanding of the topic and ultimately advance the profession itself.[25 26 35 40 41] The description and communication of behaviours can be enhanced by improved specification.[39 42 43] Fortunately, behavioural science offers numerous theories, models and frameworks to assist in specification of behaviour.[44–46] Improved specification of behaviours can be viewed as a first step towards making behaviours easier to observe and measure.[44–46] Using frameworks to specify behaviours could then facilitate attitudes, values, characteristics and qualities (ie, other components of professionalism) to be explored in relation to how they impact on specific behaviours.[44–46] Information on key influences on specific behaviours can be explored in different contexts and used to design theory informed interventions to change them where necessary.[44–46] Thus, a focus on pharmacist professionalism through consideration of behaviour with behavioural science principles offers considerable advantages in understanding professionalism for all key stakeholders.

The extent of theory and evidence informed academic literature describing professional behaviours that contribute to pharmacist professionalism is unknown. As part of a larger body of work exploring the communication of professional behaviour to pharmacists, it was considered essential to understand what and how behaviours are described in the academic literature. A scoping review was deemed most appropriate when compared with a systematic or narrative review as the literature was expected to be heterogeneous, the results were not intended to inform clinical guidance or practice change and the review question was a broad in scope.[47 48] Further, scoping review methodology provides a rigorous, replicable method for exploring the scope of research available and identifying how key concepts and theories are described or represented in the literature.[47 49] The primary objective of this study was to identify behaviours that contribute to professionalism in pharmacists by reviewing current peer-reviewed literature. The secondary objective was to review the identified behaviours using a behavioural specification framework to understand how they are expressed.

Review question

What behaviours contribute to professionalism in registered pharmacists according to peer-reviewed literature?

METHODS

Protocol and registration

This scoping review was conducted in accordance with the Joanna Briggs Institute methodology for scoping reviews.[48] The results of the review are reported according to the Joanna Briggs Institute methodology for scoping reviews[48] and per the Preferred Reporting Items for Systematic Reviews and Meta-analyses extension for Scoping Reviews (online supplemental appendix 1).[50] The objectives, inclusion criteria and methods for this scoping review were specified in advance and documented in a protocol that is available from the authors on request.

Patient and public involvement

There was no patient or public involvement in the design or conduct of this literature review.

Eligibility criteria

Participants

Study participants were not restricted, any viewpoint or perception on pharmacist professionalism was considered.

Concept

The concept of interest was behaviour that is described to contribute to pharmacist professionalism. We accepted the International Pharmaceutical Federation (FIP) definition of professionalism for this review; the 'demonstration of ethics, attitudes, values, qualities, conduct and behaviours that characterise a profession, are expected of its practitioners, and that underpin the trust that the public has in the profession.'[6] We accepted the behaviour change wheel definition of behaviour for this review; 'Anything a person does in response to internal or external events. Actions may be overt and directly measurable, or covert and indirectly measurable; behaviours are physical events that occur in the body and are controlled by the brain'.[44 45]

Context

Fully registered or registered pharmacists practising in any physical patient facing setting from any country (eg, community pharmacy, hospital pharmacy department). For this review, the term pharmacist only included those with full license or registration in their relevant

jurisdiction, and not prelicensure/intern pharmacists. Hereafter referred to as registered pharmacists.

Types of sources

Literature on pharmacist professionalism is heterogeneous and to capture the diversity of literature, a range of sources were considered. Thus, this scoping review considered all published peer-reviewed experimental study designs, observational study designs, qualitative studies, literature reviews, peer-reviewed commentaries and opinion pieces. Grey literature was excluded from this review as it was intended to provide the academic viewpoint on behaviours that are described to contribute to pharmacist professionalism, not the profession's or regulators', as would likely be articulated in professional practice standards and guidelines. These types of grey literature would also be difficult to consistently locate internationally as they are often member or profession only resources and the authors do not hold pharmacist registration in other countries. This review also served as a starting point for a body of work exploring communication of professional behaviour for pharmacists and thus findings would be used to ascertain if additional reviews or studies are needed, which could include relevant grey literature if necessary. As this review intends to understand contemporary pharmacy practice behaviours, only literature published from 2000 onwards was included. The search was limited to articles published in the English language.

Information sources
Search strategy

A preliminary search of PROSPERO, MEDLINE, the Cochrane Database of Systematic Reviews and the Joanna Briggs Institute EBP database was conducted on the 1 March 2021 and rerun on 21 October 2022 and no current or underway systematic or scoping reviews on the topic were identified. An initial limited search of Scopus and Embase was undertaken to identify key articles on the topic. The text words contained in the titles and abstracts of relevant articles, and the index terms used to describe the articles, were used to develop a full search strategy for Embase (online supplemental appendix 2). The search strategy, including all identified keywords and index terms, was then adapted for each included electronic database. The electronic databases searched included Scopus, Embase (Ovid), PsycINFO (Ovid), PsychArticles (Ovid), Emcare (Ovid) and Medline (Ovid). Databases were searched from 1 January 2000 to 21 October 2022 for peer-reviewed literature. The reference list of all articles selected for inclusion was then screened for additional peer-reviewed articles that fit the inclusion criteria.

Selection of sources of evidence

Following the search, all identified citations were collated and uploaded into the EndNote V.X9 (Clarivate Analytics, Pennsylvania, USA). Titles and abstracts were reviewed manually to identify and remove duplicates. A two-stage

screening process was undertaken (online supplemental appendix 3). Titles and abstracts were then independently screened by two researchers (DM and RL or DD'L) for assessment against the inclusion criteria (online supplemental appendix 3). Full text for potentially relevant articles was then retrieved. Where full-text articles were unable to be located, university librarians and journal editors were contacted to request access. Full-text articles were then independently reviewed by two researchers (DM and RL or DD'L) for relevance to inclusion criteria, with a particular focus on if the article described behaviours related to professionalism in registered pharmacists. Reasons for exclusion of full-text articles that did not meet the inclusion criteria were recorded and are reported in figure 1. Any disagreement at each stage of the screening process was resolved by discussion between the two researchers screening. These two researchers were directed to independently rereview the exclusion criteria and identify which criterion and the article characteristic(s) that led to their decision to include/exclude the article. Each reviewer then presented their interpretation to the other, which promoted further discussion until agreement could be met. Often discrepancies were due to one reviewer's area of expertise, allowing for a more complete interpretation of the article and its particular scope (eg, the language used to describe pharmacy students or graduates varied and was unfamiliar to the behaviour change focused researcher). If agreement
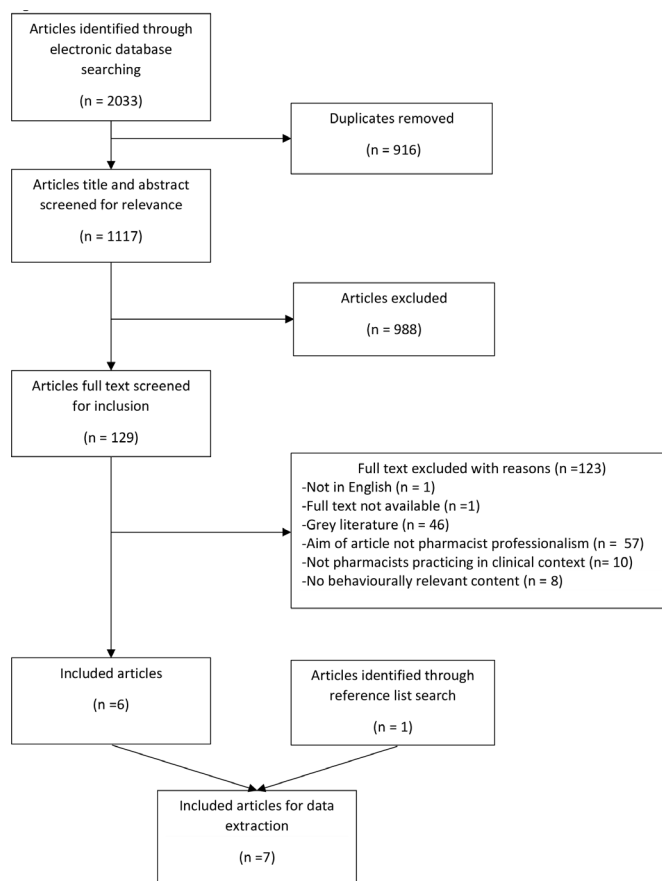

Figure 1 Flow chart of screening and selected articles.

could not be met, the same rationale was presented by each researcher to an independent third researcher (JJ) who then applied their own review of the exclusion criteria to make the final decision.

Data charting process and data items

Data were extracted from articles included in the scoping review independently by two researchers (DM and DD'L) using a data extraction tool developed by the researchers and piloted on three articles prior to use (see online supplemental appendix 4). Information extracted included citation details, study and article type, study or article objectives, country that the article/study was based in, participants, the pharmacist practice context and any phrase illustrative of a behaviour that contributes to pharmacist professionalism, per the review definition of behaviourally relevant content. For research studies and systematic literature reviews, behavioural content was extracted from the results section only. For commentary and opinion piece articles, behavioural content was extracted from all sections of the article, as for this type of article there is no clearly defined results section. Extracted data were summarised and tabulated according to the study/article it was identified from. Any differences in the data extracted by the two researchers (DM and DD'L) were identified and reviewed again by each researcher with reference to the definition of each data item, the inclusion/exclusion criteria, and the overarching purpose of the scoping review. Discussions then occurred until consensus on data to include was reached.

Critical appraisal of individual sources of evidence

Methodological quality of the articles included was not of relevance to the review question and is not typically included in scoping reviews where the intention is to provide an overview of current evidence, not a critically appraised synthesised answer to the review question.[47 51]

Synthesis of results
Familiarisation

Extracted behaviourally relevant content was read and re-read for familiarity by two researchers (DM and DD'L). Initial impressions of the data from the extraction and familiarisation stage were then discussed between the two researchers to ascertain any observations that may assist in summarising and representing the extracted data. Both researchers agreed that there were two obvious categories of behaviours present in the data. The first category included description of behaviours that are physical, process driven and facilitated by hard skills (ie, dispensing medicines) and could only be completed by a pharmacist or an equally suitably trained individual. The second included description of cognitive and inter and intrapersonal behaviours facilitated by soft skills (ie, displaying empathy) that are useful to a pharmacist in their practice but not necessarily exclusive to pharmacists' behaviour and would be considered transferable to other professions and roles. The researchers discussed that when comparing these two groups of behavioural descriptions, those in the first were more specifically described in terms of action than the second group and it was important to ensure this was represented in the way they were presented. The utility of these categories was discussed with the broader research team and it was agreed that these were more appropriately categorised as descriptions of technical and non-technical behaviours in line with the expectations of pharmacy student graduate competencies and employer expectations. Therefore, if categorised in this way, the behaviours identified could be readily compared and translated to those described in education or professional guidance documents. Further, it was observed that the extracted behaviours were often non-specific in terms of what needs to happen, with whom, where and when. To summarise the extracted behaviours, it was agreed that the type of behaviour needed to be represented, as well as the contextual information that clarified who needed to do what, where, when and with whom.

Prior to initiating coding, both researchers agreed on definitions for technical and non-technical behaviours. The definitions of these types of behaviours can be found in online supplemental appendix 5 and were adapted from definitions of technical and non-technical skills readily found in the literature.[52–55] A behavioural specification framework was applied to assist in understanding the level of specific description of the contextual information extracted with the behavioural content. Assessing the level of description in the included literature has the potential to identify areas for improvement in future documentation of these behaviours. As described in the introduction of this paper, behavioural specification frameworks are a useful tool for clarifying who needs to do what, where, when, who with and how often or how long. This level of description can facilitate clearer observation and evaluation of a behaviour and its direct influences so that targeted behaviour change interventions may be designed. The Action, Actor, Context, Target, Time (AACTT) framework[46] was selected and adapted for this purpose (online supplemental appendix 5). Here, Action is the behaviour under review, Actor is the person or persons enacting the behaviour, Context is where the behaviour occurs, Target is with whom or for whom the behaviour is performed and Time is when/how long the behaviour should occur.[46] The AACTT framework was selected as the behavioural specification framework of choice, given it has been recently updated and includes robust definitions for each criterion which could be easily adapted for this purpose.[46] Furthermore, the AACTT framework has been successfully utilised to retrospectively assess the specificity of behaviours described in professional practice standards for pharmacists, and guidelines for managing deteriorating patients in hospitals, which is indicative of its flexibility to be adapted to different context such as ours.[43 56] Given the action was already being assessed in the behavioural categorisation stage of synthesis, it was agreed that the extracted data was only assessed for Actor, Context, Target and Time (ACTT) (online supplemental appendix 5).

Summarising the types of behaviours

One researcher (DM) deductively coded the extracted behavioural content data fragments according to if the behaviour described met the review definition for technical or non-technical behaviour (online supplemental appendix 5). The categorisation of these data fragments was then reviewed by a second researcher (DD'L) for agreement. Within each category, DM then inductively coded data fragments by labelling with a descriptive code (eg, communication). As new codes were generated, DM revisited previously coded data to ensure consistency in application of each code. DM then reviewed these descriptive labels and summarised similar codes into themes/categories of behaviour and assigned each category a description. The coding of the data fragments, along with their descriptions, were then summarised in a framework matrix that was reviewed by a second researcher (DD'L) to ensure consistency in coding and description of the data. Here, disagreements were resolved between DD'L and DM. This process included a review of the original extracted uncoded data fragments and review of the code and category definitions which were then discussed along with the researchers' viewpoints until consensus was reached.

Summarising the actor, context, target and time of the behaviours

Data fragments of the extracted behavioural content were reviewed and relevant references to ACTT criterion were deductively coded by one researcher (DM) according to the definitions presented in online supplemental appendix 5. A framework matrix was then generated for a second researcher (DD'L) to review the consistency of the coding with review definitions. At this stage, disagreements were resolved through discussion (DM and DD'L). This process included a review of the original extracted uncoded data fragments and review of the code definitions which were then discussed along with the researchers' viewpoints until consensus was reached. DM then summarised the coded data of the framework according to each study and the ACTT criterion. Where no data was able to be coded to an ACTT criterion, this was indicated and the extracted study data (aim, participants) was reviewed to fill the gap. DD then reviewed the final summaries for consistency with the pertaining coded data and results were tabulated for presentation. Any disagreements were resolved through the review process described above (review data fragment, review definitions and discuss until agreement).

RESULTS

Selection of sources of evidence

The initial search strategy identified 2033 records, of which 916 duplicates were removed, resulting in 1117 records for screening (figure 1). After title and abstract screening, full text were retrieved for 129 articles. A total of seven[13 14 25 30 57-59] articles were included for data extraction, six from the original search, and one from the reference list search of those articles that were included (figure 1).

Characteristics of sources of evidence

The characteristics of the included articles are documented in online supplemental appendix 6. Of the seven articles included, three were original research articles,[13 57 59] three were commentaries[14 25 58] and one was a systematic review.[30] Half (n=4) of the articles were written by authors based in the USA,[14 25 57 58] with three out of four of these articles commentaries that share a common first author. The two qualitative original research articles were written by authors from the UK[13 59] and the systematic review was conducted by Australian and New Zealand researchers with no limits on the country in their review.[30] The majority (n=5) of articles were published prior to 2011.[14 25 57-59]

Synthesis of results

The results of the synthesised sources of evidence are presented in tables 1–3.

A summary of the categories of technical and non-technical behaviours identified from the extracted behavioural content is presented in tables 1 and 2. Thirteen categories of nontechnical behaviours were identified. These were 'takes responsibility for own actions and decisions'; 'engages in the practice of lifelong learning'; 'effective representation of the profession'; 'dresses and maintains a professional appearance and appropriate hygiene'; 'responds to challenges and opportunities'; 'manages time efficiently and punctually'; 'provides an appropriate learning environment'; 'evaluates others, including peers' and students' performance and provides feedback'; 'asks for, receives and actions feedback'; 'resolves conflict'; 'communicates effectively with adaptation of style and approach when necessary'; 'demonstrates altruism when serving patients' and 'establishes effective relationships' (see table 1).

Five categories of technical behaviours were identified. These were 'complies with regulations, codes and operating procedures'; 'applies knowledge to provide care and consult patients'; 'maintains appropriate records for different situations'; 'provides opportunities for education and training of pharmacy students' and 'supplies medicines accurately to patients' (see table 2).

Behavioural content in the 'establishes effective relationships' and 'complies with regulations codes and operating procedures' categories were identified for all seven articles. Behavioural content in the 'resolves conflict' and 'provides appropriate learning environment' were only identified in two articles. All articles identified behavioural content in at least one category of technical and non-technical behaviours. One article, by Hammer et al[25] identified behavioural content in all categories except one (n=17/18). The article by Hutchings et al[59] identified behavioural content in the least number of categories (n=7/18). Articles by

Table 1 Non-technical behaviour categories identified through coding and categorisation of extracted behavioural descriptors

Category of behaviours	Definition	Dubai et al[30] 2019	Duke et al[57] 2005	Elvey et al[13] 2015	Hammer[14] 2000	Hammer et al[25] 2003	Hammer[58] 2006	Hutchings et al[59] 2010
Takes responsibility for own actions and decisions	Pharmacist is accountable, dependable, reliable and responsible. Pharmacist demonstrates this by admitting their own mistakes, recognising the limits of their knowledge, holding themselves and others in the profession to account for their behaviour and meeting their commitments to others.	✓	✓	✓	✓	✓		✓
Engages in the practice of lifelong learning	Pharmacist commits to, promote, support and engage in lifelong learning to ensure they have the knowledge needed to care for patients and perform their duties. This is often a self-directed process and includes pharmacists seeking more information when necessary.	✓	✓	✓	✓	✓	✓	
Effective representation of the profession	Pharmacist understands the expectations of the profession and demonstrates pride in it. The pharmacist advocates for positive change within the profession.	✓			✓	✓	✓	
Dresses and maintains a professional appearance and appropriate hygiene	Pharmacist dresses and maintains a professional appearance in line with the accepted protocols of their work environment. This includes demonstrating good hygiene and maintaining a neat workspace.	✓	✓		✓	✓	✓	✓
Responds to challenges and opportunities	Pharmacist demonstrates a desire to seek out and take on new challenges and roles in their career. They are also able to adapt to current challenges in the workplace. This is shown through behaviours that demonstrate their creativity, adaptability, initiative and innovation.	✓			✓		✓	✓
Manages time efficiently and punctually	Pharmacist adheres to established timelines for different activities, completes tasks in a timely manner and are considered punctual.	✓	✓		✓	✓		
Provides an appropriate learning environment	Pharmacist fosters a professional environment for teaching professional behaviour to students by role modelling and guiding professional socialisation by promoting appropriate professional behaviour.					✓	✓	
Evaluates others, including peers' and students' performance and provide feedback	Pharmacist evaluates others' (peers and students) performance and provides constructive and specific feedback. Pharmacists should give this feedback as close to the observed activity as possible along with appropriate encouragement.	✓	✓		✓	✓		
Asks for, receives and actions feedback	Pharmacist accepts and applies constructive criticism appropriately. The pharmacist empowers the patient to provide feedback on their professionalism.	✓	✓		✓	✓	✓	
Resolves conflict	Pharmacist demonstrates skills of conflict resolution and works with others to do so. Pharmacist identifies internal conflict when their values or motivation are in conflict with what is best for the patient, including avoiding relations that would put personal gain above the needs of the patient.	✓				✓		

Continued

Table 1 Continued

Category of behaviours	Definition	Dubbai et al[30] 2019	Duke et al[57] 2005	Elvey et al[13] 2015	Hammer[14] 2000	Hammer et al[25] 2003	Hammer[58] 2006	Hutchings et al[59] 2010
Communicates effectively with adaptation of style and approach when necessary	Pharmacist communicates articulately and effectively with staff, peers, patients and other health professionals by differentiating and adapting interactions with respect to culture, race, religion, ethnic origin and gender where appropriate. Pharmacists communicate with confidence and employ different communication strategies and styles for clear communication with different individuals. Pharmacists share sufficient information for patients to make informed decisions. Pharmacists explain to patients and carers why something may take time to resolve. Pharmacists listen to patients and demonstrate active listening skills. Pharmacists stay calm and maintain a polite and pleasant manner with patients when under pressure.	✓	✓	✓	✓	✓		
Demonstrates altruism when serving patients	Pharmacist consistently puts patient needs before profits and convenience. This includes advocating for patients access to care regardless of ability to pay, demonstrating a desire to exceed expectations and demonstrations of charity. The pharmacist promotes patient welfare and seeks justice in equitable distribution of health resources.	✓	✓	✓	✓	✓	✓	
Establishes effective relationships	Pharmacist establishes effective relationships with their patients, students and other healthcare professionals. This is achieved through behaviours that demonstrate the pharmacist is willing to collaborate, is honest, is empathetic, is trustworthy, is respectful, is approachable, is mature, is polite and courteous, is attentive, is compassionate, a team player, is tolerant, has integrity, is kind, is loyal and genuinely cares for the patient. Pharmacist establishes and maintains appropriate boundaries in their relationships with others with particular regard for maintaining confidentiality and privacy of patients.	✓	✓	✓	✓	✓	✓	✓

Table 2 Technical behaviour categories identified through coding and categorisation of extracted behavioural descriptors

Category of behaviours	Definition	Dubbai et al[30] 2019	Duke et al[57] 2005	Elvey et al[13] 2015	Hammer[14] 2000	Hammer et al[25] 2003	Hammer[58] 2006	Hutchings et al[59] 2010
Complies with regulations, codes and operating procedures	Pharmacists' actions and processes are compliant with the legislation, regulation and codes that govern their behaviour and registration as a health professional. This includes adherence to law, upholding principles of confidential treatment of information and emulating the principles in codes of ethics. This also includes compliance with standards, local regulations and standard operating procedures. Maintaining competence is also included here given it is an essential component of meeting regulatory requirements.	✓	✓	✓	✓	✓	✓	✓
Applies knowledge to provide care and consult patients	Pharmacist actively applies medicines knowledge to consult patients and assist with their queries. This includes providing medicines advice and information, provision of medicines reviews, ensuring medicines are clinically appropriate for the individual and monitoring of the patients' progress.	✓	✓	✓	✓	✓		✓
Maintains appropriate records for different situations	Pharmacist maintains written and electronic records of their patients, consults, services and processes.		✓			✓	✓	
Provide opportunities for education and training of pharmacy students	Pharmacist identifies and makes time to facilitate opportunities for education and training of students in the clinical setting.		✓			✓	✓	
Supplies medicines accurately to patients	Pharmacist dispenses and supplies medicines accurately as per prescriptions or patient requests. Fostering a conducive environment is also important here.			✓		✓		✓

Table 3 Summary of extracted behavioural content according to descriptions of Actor, Context, Target and Time

Citation details	Actor	Context	Target	Time
Dubbai et al[30] 2019	Extracted data referred to pharmacist(s).	Extracted data referred to pharmacists' practice or pharmaceutical practice.	Extracted data referred to the patient, others, patients, healthcare professionals, colleagues, team and other pharmacists.	Extracted data referred to a daily basis and while counselling patients.
Duke et al[57] 2005	Extracted data did not specifically refer to an individual or individuals as the Actor but it is assumed given the aim and methods of the study that it is a pharmacist who is referred to as a pharmacy professional.	Extracted data referred to classroom, laboratory, clinical settings, extracurricular activities, professional meetings, academic or professional environment, healthcare environments and appropriate interactions with respect to culture, race, religion, ethnic origin and gender.	Extracted data referred to faculty, staff, peers, patients, other health professionals and others.	Extracted data referred to a timely fashion and a timely manner, as well as circumstances such as when representing the college or when receiving criticism.
Elvey et al[13] 2015	Extracted data referred to early career pharmacists, pharmacists and pharmacy tutors (practising pharmacists responsible for supervising preregistration pharmacists).	Extracted data referred to practice and community pharmacy.	Extracted data referred to the patient or patients, the pharmacy regulatory body, other pharmacy's, staff and a parent.	Extracted data referred to circumstances such as before giving something to a patient, when a medicine was out of stock or when advising/ interacting with patients.
Hammer[14] 2000	Extracted data referred to pharmacists.	Extracted data referred to patient and pharmaceutical care.	Extracted data referred to peers, other healthcare professionals, healthcare team, peers, humankind, individuals, society, the profession and others.	Extracted data referred to circumstances such as when interacting with others or consistently demonstrating the action.
Hammer et al[25] 2003	Extracted data referred to pharmacist(s), practitioner(s), preceptor(s), pharmacy professional(s), personal and individual.	Extracted data referred to professional situations, tasks and interactions, care and pharmaceutical/ patient care, prepharmacy student clubs, advanced practice experiences and environments.	Extracted data referred to with patients and their families, peers and other healthcare professionals, others, healthcare team, employers, society, public, profession, other pharmacists, others and students.	Extracted data referred to circumstances such as when interacting with patients and during the therapy decision making or prescribing decision process. Or referred to time as ongoing, such as consistently demonstrating the action and lifelong actions.
Hammer[58] 2006	Extracted data referred to pharmacist(s), preceptor(s) and practitioners.	Extracted data referred to professional situations, professional practice environment, practice, patient care, experiential learning process and the experience.	Extracted data referred to patients and their families, peers and other healthcare professionals/providers, others, healthcare team, employers, society, public, profession, other pharmacists, staff, one another, others and students.	Extracted data referred to circumstances such as professional situations, when interacting with others, during experiences. Or time references such as, consistently, frequent, real time, immediately, as soon as possible, weekly or biweekly.
Hutchings et al[59] 2010	Extracted data referred to pharmacist, pharmacist(s) and qualified professionals.	Extracted data referred to community pharmacy and the local community.	Extracted data referred to patient(s), other healthcare professionals, pharmacy team, support staff and associated staff.	Extracted data referred to any time and regular.

Hammer[14 25 58] identified behavioural content in all the educational related behavioural categories.

A summary of the actor, context, target and time of the extracted behaviours within each article is presented in table 3. Six out of the seven articles directly referred to 'pharmacist' or 'pharmacists' as an Actor for the identified behaviours. Some of these articles also described the pharmacist more specifically according to the role they were playing including tutor or preceptor or more broadly as individual or professional. All articles referred to at least one broad Context for the identified extracted behaviours, these were generally referring to pharmacists' practice and care. All articles referred to several different Targets for the identified behaviours and most included patients, other health professionals, healthcare team, colleagues or the profession and society. All articles referred to at least one Time reference for identified behaviour to occur with most indicating a certain

circumstance to trigger the behaviour, as well as the mention of timely or continuing behaviours.

DISCUSSION

Peer-reviewed literature describing behaviours that contribute to professionalism in registered pharmacists is scarce. This review offers for the first-time collective insight into what and how behaviours that contribute to pharmacist professionalism are described in peer-reviewed literature. Both technical and non-technical behaviours were identified and grouped into 18 different categories. The utility of the behavioural descriptions and categories identified to observe and measure professionalism in registered pharmacists is limited by the broad nature in which they were described and the unclear distinction between behaviours, influences and outcomes. This discussion will first consider the categories of behaviour identified and their reflection of contemporary pharmacy practice, followed by the challenge of separating behaviours from influences and outcomes, and how specificity in the way the behaviours were expressed impacts their utility.

High level broad categories of technical and non-technical behaviours were identified, with all articles describing behaviours that grouped under 'complies with regulations, codes and operating procedures' and 'establishes effective relationships' categories.[13 14 25 30 57–59] Given compliance with regulations and codes of practice is usually a key component of registration and a general overarching expectation for pharmacists, this was anticipated.[4 7 8] Further, 'establishes effective relationships' is a category of behaviours that is critical for all pharmacists agnostic of their role, and is reflective of the interplay between professionalism, relationships and trust.[11 12] All behavioural categories identified were consistent with expectations of the profession as described in the FIP's Global Competency framework and other national codes and standards.[4] Some of these categories, such as 'dresses and maintains a professional appearance and appropriate hygiene,' 'effective representation of the profession' and 'demonstrates altruism when serving patients' have likely been expectations of the profession for many years.[26 60] Other categories of behaviours such as 'asks for, receives and actions feedback,' 'engages in the practice of lifelong learning' and 'responds to challenges and opportunities' may be more reflective of the expanding roles of pharmacists.[4 7 55 61] Generally, the technical behaviours were more likely to be specific and describe independent behaviours that historically reflect the pharmacist's role in medicines supply and the responsibilities that come with it (eg, record keeping).[4 49 61 62] Conversely, non-technical behaviours were often described in broad terms and thus were non-specific. Clearly, overall behaviours that are described to contribute to pharmacist professionalism are numerous, complexly interwoven and interdependent.

Description of influences, behaviours and outcomes were interwoven in articles and made it challenging for researchers to separate out, extract and interpret the behavioural descriptors identified. We found broad behavioural statements were often intertwined with descriptions of attitudes, values and traits.[13 14 25 30 57–59] All of which we would consider to be types of behavioural influences subsequently, potential outcomes. This focus on exploring, measuring and describing behavioural influences is also reflected in broader Social Pharmacy and Pharmacy Education literature where exploration of professional identity and skill formation is prevalent, particularly in new practice settings (eg, general practice).[21 63–65] While influences, behaviours and outcomes are all important to consider, from a behaviour change perspective they serve different purposes for intervention design and thus it must be clear which is which.[45] Outcomes are often what is measured to determine success of interventions, for example, we may want patients to be better informed about their medicines. The behaviour to achieve this may be that pharmacists need to counsel every patient on medicines side effects. Whereas the influence may be that pharmacists need the drug knowledge and the communication skills necessary to provide the counselling. If the behaviour and outcome are clearly understood, then we can clearly assess potential influences and ascertain if the presence or absence of them may change the behaviour of the pharmacists and subsequent outcome for the patient.[45] The broad nature of the behavioural descriptions identified from the included articles make it difficult to consistently identify if descriptions were intended as influences, behaviours or outcomes and thus limits our ability to directly use them in applications of behavioural science to monitor and assess the professionalism of the profession.

Specification of the identified behaviours was lacking.[13 14 25 30 57–59] The 'pharmacist' was identified as the actor in almost all cases, context, time and target were less obvious and infrequently specified in the identified behavioural content. For example, 'provide patients with reliable advice',[13] lets the reader know what needs to be done and for whom, but it does not say who, where, or specifically when. Without knowing this information, we would not be able to clearly judge if a pharmacist has demonstrated the intended behaviour. Broadly describing behaviour has the advantage that it can potentially be interpreted and applied to an individual's own context and may be a reasonable approach to documenting behaviours in the articles identified. However, broadly specifying a behaviour places the responsibility of interpreting it on the individual who may be biased by their own perspective and result in an interpretation and application different from the intention of the original writers. Thus, broad behavioural descriptions may also lead to inconsistent interpretation of the behaviours that result in practice inconsistencies.[56 66–71] This may also make the identified behaviours difficult for educators to teach and measure in students and learners, as has been acknowledged in previous work, being specific is a necessary component of any tool.[41 72 73] In this study, broad descriptions of behaviours limited the current researcher's

ability to interpret and describe the identified behaviour in terms of who needs to do what, where, with whom and when. These unspecified descriptions of behaviour are limited in future application and research as it would be difficult for individual, the profession, policy-makers and/or researchers to observe or measure the behaviour of pharmacists. If a change in a particular behaviour was desired, broad behaviour descriptions would also make it difficult to clearly identify influences on these behaviours that may need to be changed.[44 56 71] The initial step in designing behaviour change interventions is often the selection and specification of a behaviour.[44–46] It is widely accepted in the field of behavioural science that without clear specification, using a framework such as AACTT, it is incredibly difficult to explore influences that may need to be targets for change and map subsequent behaviour change techniques to design interventions to change them.[44–46] Again, this limits our ability to use the identified descriptions to monitor, assess and change the perceived professionalism of the profession.

Strengths and limitations

Consideration of pharmacist professionalism through a behavioural lens and with the aid of a behavioural specification framework is a considerable strength of this study as it clearly highlights gaps in our evidence base and current communication of professional behaviours. Given the nature of a scoping review, there are limitations that should be noted when interpreting the findings of this work. First, the article types included were diverse (eg, opinion, literature review, primary research) and some cross-over in content and referencing was observed which had the potential to contribute to repeated representation of an identified behaviour if two or more articles cited the same paper or idea. To minimise over emphasis of any behaviour due to cross referencing, we did not quantitatively report on the behaviours identified or the number of times they appeared in a given article. Including all article types was considered necessary to ensure a comprehensive understanding of work in the area even if attributed to a single viewpoint or the same original sources of information. The content of the included articles was also potentially extracted and reinterpreted in a manner likely not consistent with each article's original intention. Reinterpreting information originally meant for a different purpose is common in literature reviews and, in this case, offers valuable insights into how behaviour has previously been communicated. Challenges with deductively categorising the extracted behaviours arose as often behaviours were expressed in a non-specific manner and a number of categories had the potential for overlap considering these things do not occur in isolation in practice and are rather interrelated and inter-reliant (eg, communication and effective relationships). A more inductive approach to analysis and categorisation of the behaviours may have reduced the challenges observed with overlap, but also would likely have resulted in broad categories that were difficult to summarise in a useful manner or link to education and employer practices

as was done in this review. To ensure reproducibility, multiple reliability checks were completed at each stage of screening, data extraction and synthesis by two members of the research team with expertise in the application of behavioural science and pharmacy practice. Further, of the articles included, the majority were published prior to 2011, were from the same country and three of seven had the same author. Thus, the generalisability of the identified behaviours may be limited to these individuals and their respective practice settings. Professionalism was a key search term for this review and it is possible that articles may have discussed professional behaviours that contribute to professionalism without specifically using this term. These articles could have been omitted from our search and may not have met our inclusion criteria. However, we were strictly interested in articles that acknowledged the concept of professionalism and connection to professional behaviour. While it is acknowledged that practice standards and similar may also offer insights on behaviours that contribute to professionalism, grey literature was excluded from this review as the intention of the review was to understand the academic literature and viewpoint to identify the perspective of the research community rather than the profession itself.

Future work should consider exploring and comparing documents outside of the peer-reviewed literature that are expected to detail and guide professional behaviour of pharmacists, such as practice standards and guidelines. Consideration of what behaviours these other documents articulate and how they are communicated would allow for an assessment of their ability to be used as tools to assess and monitor the behaviour of the profession and the theory informed design of behavioural interventions if necessary. Further, the categories of behaviours identified in this study may be used as a starting point to inform more specific actionable behaviours for the profession that are able to be used to observe and measure practice.

CONCLUSIONS

Peer-reviewed literature describing behaviours that contribute to professionalism in pharmacists is scarce. The results of this review offer some insight into what broad categories of behaviour constitute professionalism for pharmacists, however, as they are currently presented, it was difficult to clearly separate descriptions of behaviours from their relevant influences and outcomes. Work to better specify these behaviours in a manner that is useable to individuals and the profession would be beneficial. Behaviour change models, frameworks and theories may offer some insights into the place of influences and outcomes, as well as behavioural specification that could be used to inform further development of these identified categories of behaviours into actionable and measurable statements.

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