Co-produced capability framework for successful patient and staff partnerships in healthcare quality improvement: results of a scoping review

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ABSTRACT

Background Internationally, patient and public involvement (PPI) is core policy for health service quality improvement (QI). However, authentic QI partnerships are not commonplace. A lack of patient and staff capability to deliver successful partnerships may be a barrier to meaningful QI collaboration.

Objectives The research questions for this scoping review were: What is known regarding the capabilities required for healthcare staff and patients to effectively partner in QI at the service level?; and What is known regarding the best practice learning and development strategies required to build and support those capabilities?

Methods A six-stage scoping review was completed. Five electronic databases were searched for publications from January 2010 to February 2020. The database searches incorporated relevant terms for the following concepts: capabilities for PPI in healthcare QI; and best practice learning and development strategies to support those capabilities. Data were analysed using descriptive statistics and qualitative content analysis.

Results Forty-nine papers were included. Very little peer-reviewed literature focused explicitly on capabilities for QI partnerships and thus implicit paper content was analysed. A *Capability framework for successful partnerships in healthcare quality improvement* was developed. It includes knowledge, skills and attitudes across three capability domains: *Personal Attributes; Relationships and Communication;* and *Philosophies, Models and Practices,* and incorporates 10 capabilities. *Sharing power and leadership* was discussed in many papers as fundamental and was positioned across all of the domains. Most papers discussed staff and patients' co-learning (n=28, 57.14%). Workshops or shorter structured training sessions (n=36, 73.47%), and face-to-face learning (n=34, 69.38%) were frequently reported.

Conclusion The framework developed here could guide individualised development or learning plans for patient partners and staff, or could assist organisations to review learning topics and approaches such as training content, mentoring guidelines or community of practice agendas. Future directions include refining and evaluating the framework. Development approaches such as self-reflection, communities of practice, and remote learning need to be expanded and evaluated.

BACKGROUND

The WHO[1] highlights the increasing complexity of healthcare and the critical role patient engagement plays in safety and quality improvement (QI). In addition, internationally, patient and public involvement (PPI) has become a core policy requirement for health service QI across the continuum of care. It is integral to accreditation,[2–4] funding,[5] and is a legislative requirement[4 6 7] in many jurisdictions. PPI has been described as an ethical imperative which embraces the principles of inclusivity and mutual respect,[8] and a political necessity due to the expectations of the public.[9] In addition to the rightful role patients have in contributing to the quality of the design and delivery of services, they also have the necessary expertise given their lived experience of those services.[10] The use of the term 'patient' in PPI initiatives is not universally endorsed.[11] However, given there is no international agreement on terminology, this paper uses 'patient' to be inclusive of health service consumers, their families and carers, and members of the public.

PPI in health service QI may occur at three levels: direct care; organisational design and governance; or policy-making.[12 13] Patient engagement at the direct care level includes communication, decision-making and partnerships that occur between individual clinicians and individual patients related to that specific

patient's healthcare journey.[13] This paper will focus on PPI in QI for organisational design and governance, which is termed the service level here. Organisational design is defined as the planning, design, delivery, measurement and evaluation of systems and services.[14] It includes patient: membership on governance or quality advisory committees; involvement in strategic or operational planning and priority setting; accreditation assessors; inclusion in QI project teams; and contribution to service evaluation through focus groups, surveys or interviews. The policymaking level refers to public agency policy development that governs healthcare systems rather than organisational policy which occurs at the service level and is within scope for this review.[13] The service level was chosen as the focus for this review as, in the authors' view, this is the level of PPI where patients, through the mechanisms described above, may have the most influence across an organisation which in turn may shape both direct care and high-level public policy.

The International Association for Public Participation (IAP2) Public Participation Spectrum[15] is useful for understanding types of patient engagement across five levels from *Inform* to *Consult* to *Involve* to *Collaborate* to *Empower*. Patient–staff partnerships in QI can be mapped to the IAP2 *Collaborate* level as, in true partnerships, decisions incorporate patient recommendations to the maximum extent possible.[15] Despite patient partnerships in health service QI being high on the international policy agenda, uptake has been limited across the healthcare continuum.[5 16–19] Current efforts have been criticised as tokenistic,[20 21] and with limited application due to health professional resistance or lack of knowledge about how to redress power disparities.[18] Negative beliefs[17 22] and insufficient understanding of successful PPI models[5] and tools[16] have also been discussed. The importance of education and training for both staff and patients to deliver a broader and more effective approach to QI partnerships has been highlighted.[3 4 23 24]

When considering education and training initiatives, the terms competency and capability are often used interchangeably, but there are fundamental differences. Capability is the ability to adapt to change, generate new knowledge and continuously improve performance within unfamiliar contexts (p799).[25] Competencies are task focused and are usually measurable technical or procedural skills performed within a stable, predictable situation. In contrast, capabilities build on existing competencies, embrace the complexity of healthcare environments, incorporate self-esteem and confidence, and are more compatible with adult learning principles and lifelong learning.[26] Thus, the term capability is used throughout this paper.

Preliminary searches identified a lack of literature directly discussing capabilities for successful QI partnerships, and so a formal literature review was warranted. Thus, the primary aim of this paper is to present the results of a scoping review which have been used to co-produce a patient and healthcare staff capability framework for successful partnerships in QI at the service level. The secondary aim is to provide recommendations regarding best practice learning and development strategies for building and supporting these capabilities.

METHODS

The scoping review, on which the capability framework is based, was co-produced by a research team inclusive of two patients (service users and family/carers of patients: one an experienced patient advisor, and the other a hospital volunteer) and three health professionals (an academic, a research specialist based in community disability healthcare and a hospital clinical manager). In line with the policy, ethical and political imperatives included in the introduction, patient engagement in this research was essential. Including an academic and a research specialist in the team ensured research rigour with the addition of teaching and learning expertise from the academic. Inclusion of a hospital department manager with extensive experience in PPI in QI added a clinical perspective. The foundational principles and best practice activities for patient stakeholder engagement in research described by Harrison *et al*[27] were integral to the co-production approach used. The team regularly reviewed this framework, discussed examples of best practice implemented and brainstormed strategies for improvement.

The research questions were:

► What is known regarding the capabilities required for healthcare staff and patients to effectively partner in QI at the service level?
► What is known regarding the best practice learning and development strategies required to build and support those capabilities?

A scoping review methodology was suitable as the research question was exploratory with heterogeneous paper designs and settings, and there is insufficient evidence for interventions to be assessed through a systematic review.[28] The EQUATOR (Enhancing the QUAlity and Transparency Of health Research), PRISMA-ScR (PRISMA extension for Scoping Reviews)[29] and GRIPP2-SF (Guidance for Reporting Involvement of Patients and the Public-Short Format)[30] checklists were used to facilitate quality reporting. An audit trail and research team meeting records were maintained.

The research team, inclusive of the patients, had collaborated on a previous scoping review. The associated publication details patient learning and development processes including sharing expectations, role clarification, best practice research engagement principles, scoping review methodology and qualitative data analysis.[31] The research team built on the learning and met 13 times, over 10 months for approximately 23 hours in total for the current review. Patient learning and development was flexible, occurred as required,

and addressed their expressed and anticipated learning needs. 'On-the-job training', coaching and peer support were provided at team meetings. Other learning included a health librarian-led electronic database orientation and an initial paper screening session with the first author.

Five databases were searched: Medline Complete, CINAHL Complete, APA PsycINFO, EMBASE and SCOPUS. Grey literature was not searched due to the reported high risk of bias[22] and the aim to build a framework based on the best available evidence and expert opinion. All papers were in English and published between 01 January 2010 and 29 February 2020 in order to capture contemporary research and practice. Due to the challenge of terminology variations in the PPI literature, language used in key papers such as engagement, involvement, participation and partnering helped guide search terms as recommended elsewhere.[10] A health librarian provided advice and the PPI and research experiences of the authors also informed the development of search terms. Four key concepts (each with multiple search terms) were included: (1) capability and/or learning and development; (2) PPI; (3) organisational design or QI at the service level; (4) hospital or healthcare. For transparency and repeatability, the SCOPUS and EMBASE search terms and methods are included in online supplemental appendix A. Papers were downloaded to reference management software and then uploaded to the Covidence web-based systematic review platform.[32]

The title and abstract of all papers were independently screened by two authors with the first author reviewing all papers. The patients screened approximately 40 papers and then decided not to continue due to the high time commitment and not feeling confident in their decisions. The other authors completed the screening. Any discrepancies or uncertainties were resolved through discussion with one or more additional health professional authors. A full-text review was conducted on remaining articles by the health professional authors to determine eligibility. Inclusion criteria were: (1) contains discussion or implementation of PPI in healthcare QI at the service level; and (2) original research, or a literature review, or an opinion/conceptual paper; and (3) contains information regarding training, education, learning, development, capabilities and/or competencies to support PPI; and (4) originates from a comparable health context (ie, UK, USA, Australia, Canada, New Zealand, Europe). Exclusion criteria were: (1) topic is exclusively about research processes; and/or (2) focus is only at the direct care or policy level; and/or (3) study protocol, or abstract only, or book (chapter), or thesis, or letter to the editor; and/or (4) not clearly peer reviewed; and/or (5) regarding oral health. Oral health was not included as these are mainly private sector services in Australia (where the review was conducted), and the focus on PPI for QI may be different.

Using the same eligibility criteria, snowball searching of citations through Google Scholar and ancestry searching of reference lists were conducted for all papers included from the database searches. These steps were not repeated for papers included via snowball and ancestry searching. All volumes of the *Patient Experience Journal* were searched within the date parameters as a patient research team member identified papers from this journal as relevant, and it was not indexed in the searched databases.

A data extraction spreadsheet was developed and modified as required. It included: paper source; year of publication; country; aim/purpose; paper method; stakeholders included; health service context; health condition; description of QI activities discussed; and whether the paper had a PPI in QI capability and/or learning and development focus, or if this information was incidentally reported. Similar to other authors,[24] verbatim text data on themes, concepts, and categories relevant to the research questions were copied and pasted into the spreadsheet for qualitative content analysis including: capabilities; learning and development strategies; facilitators and challenges to successful PPI in QI; and recommendations for future PPI initiatives and/or research. Data extraction for all papers was completed by the first author. Fourteen randomly selected papers (approximately 30%) were checked by an additional author, with the patients completing 10 of these checks. A high level of agreement was achieved, and so further independent review was not warranted.

Data analysis
Descriptive statistics were used to analyse main paper characteristics. Qualitative data were analysed using qualitative content analysis as this method is suitable for inductive qualitative analysis and where interpretation of latent content is required.[33] The first author completed preliminary inductive open coding for patient and healthcare staff capabilities using all qualitative data including where papers inferred capabilities through discussion of training content, role descriptions, barriers, facilitators and recommendations. The preliminary codes were then revised and refined by all authors and similar codes placed into categories. Categories were then grouped, revised and refined until the final capability categories were agreed on and domains developed. The capabilities for successful partnerships in QI were then defined and a framework was developed. Categories were also mapped across patient and staff capabilities. Analysis of the capability data required considerable research team discussion and interpretation due to the substantial latent content. The research team's strong commitment to meaningful partnerships in research and health service QI influenced data analysis and interpretation. Critical discussion and reflection regarding research team PPI experiences and attitudes occurred throughout
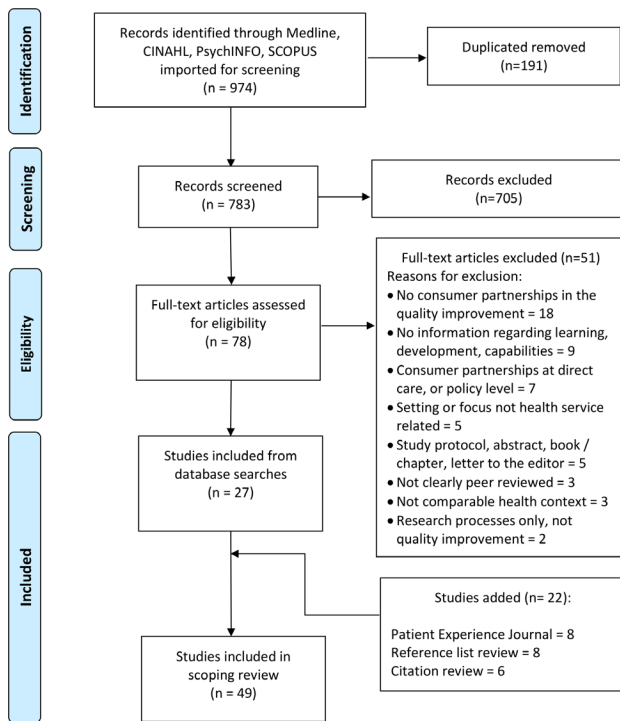
Figure 1 Study selection flow diagram.

the planning and execution of this study in order to raise awareness of individual biases and to enhance reflexivity. As recommended for qualitative research,[34] the first author facilitated this process by keeping a reflexive diary and taking field notes during meetings. This enabled reflection and discussion regarding unspoken elements and emotional aspects of interactions which assisted the first author to lead reflective discussions during research team meetings.

RESULTS

Forty-nine (49) papers were included (see figure 1 for the PRISMA study selection flow chart).[35] Online supplemental appendix B includes a summary table of all papers including aim, method, stakeholders, setting, focus relevant to the research questions, and description or examples of QI discussed. The types of QI activities described in the papers were varied across service planning, design, delivery, measurement and evaluation (see online supplemental appendix B) for details. Many papers described specific QI initiatives such as streamlining patient bookings,[36] improving bedside rounding,[37] redesigning clinic physical layout,[38] improving understanding of advance care planning,[39] optimising timing of paediatric immunisations[40] and developing staff training regarding preventing harm.[41] Other papers were less specific and reported that patients worked on projects to improve general practitioner services for patients with back pain,[42] assisted teams to meet falls-related accreditation standards[43] or participated in audits regarding best practice for chronic disease.[44] PPI in QI governance such as patient

inclusion on health service boards,[10 45] strategic planning committees,[46 47] and standing QI or patient advisory committees[48–50] were also discussed. Both healthcare staff and patients were included as stakeholders for 75.51% (n=37) of papers. Table 1 summarises the main characteristics of each included paper. Approximately half (n=27, 55.10%) of the papers were identified through the database searches. Papers tended to be published more recently (n=37, 75.51% in 2015 and later) and originated from Canada (n=19, 38.76%), the USA (n=10, 20.40%) and seven other countries. Qualitative research was the most frequent method (n=19, 38.78%). Most papers focused on more than one service context in the care continuum (n=29, 59.18%) and more than half were generalist in scope (n=27, 55.10%). Capabilities and/or learning and development for PPI in QI were incidentally reported for most papers (n=34, 69.38%).

Capability framework for successful partnerships in QI
The qualitative content analysis revealed codes which consisted of specific capabilities and descriptors. These capabilities were further refined into capability categories and then grouped into domains. The research team used these data to co-produce a *Capability framework for successful partnerships in QI* (see table 2). Online supplemental appendix C includes all references against each capability descriptor and delineates papers which discussed each capability for staff or patients, or both. The data revealed that all of the capabilities were applicable to both staff and patients, as there were papers that discussed each capability in relation to both groups. As discussed below, some capabilities were discussed more frequently for one group or the other. The following results include individual capabilities in italics and describe each with examples and indicative references.

Personal Attributes domain
The *Personal Attributes* domain includes knowledge, skills and attitudes (capabilities) which reside within the individual. Many papers discussed the importance of staff and patients being *Dedicated to improving healthcare*. For example, papers reported that the desire of both patients and staff to improve services was essential to success[24 51 52] and was often personally rewarding.[53–55] This motivation led to a sustained commitment to QI partnerships[9 51 53] and increasingly sophisticated levels of engagement.[53] The importance of patients and staff being *Self-aware and reflective* was also discussed. To be effective QI partners, patients needed to reflect on and share their personal experiences while also keeping some distance from them.[47 51 56] In addition, patients and staff needed to be in tune with their emotional reactions and behaviours and how these may influence others.[42 46 52] The *Confident and flexible* capability included actively engaging in constructive dialogue in a group, inclusive of all

Table 1 Main characteristics of included papers

Paper characteristic	Categories	Results	
		n	**%**
Paper source	Citation	6	12.24
	Patient Experience Journal search	8	16.33
	Reference list	8	16.33
	Database search	27	55.10
Year of publication	2010	0	0.00
	2011	1	2.04
	2013	2	4.08
	2014	4	8.16
	2015	5	10.20
	2016	6	12.24
	2017	5	10.20
	2018	11	22.45
	2019	13	26.53
	2020*	2	4.08
Country of origin	France	1	2.04
	Netherlands	1	2.04
	Norway	1	2.04
	New Zealand	2	4.08
	Ireland	2	4.08
	Australia	6	12.24
	UK	7	14.29
	USA	10	20.41
	Canada	19	38.78
Method	Quantitative research	2	4.08
	Case study	3	6.12
	Opinion piece	3	6.12
	Literature review	4	8.16
	Reflection	8	16.33
	Mixed methods	10	20.41
	Qualitative research	19	38.78
Health service context	Other	2	4.08
	General practice/primary care	8	16.33
	Hospital	10	20.41
	More than one, for example, hospital and community	29	59.18
Health condition	Mental health	4	8.16
	Chronic disease	5	10.20
	More than one	5	10.20
	Other (eg, cancer care, older persons, paediatrics and youth)	8	16.32
	Generalised scope	27	55.10
Capabilities and/or learning and development focus	Capabilities only	1	2.04
	Both capabilities, and learning and development	4	8.16
	Learning and development only	10	20.41
	Incidental reporting of both	34	69.39

*Search conducted on 29 February 2020.

stakeholders, and was primarily reported with respect to patients.[3 37 42 47 51 52 57–65] A need to be flexible in unfamiliar and evolving situations was also reported, including dealing with uncertainty as QI initiatives progress[66]; patients collaborating when unsure about what was involved[39] and staff accepting that roles may evolve in unpredictable ways.[67]

Relationships and Communication domain

The *Relationships and Communication* domain includes capabilities for working effectively with others. Many papers referred to the QI 'team', inclusive of patients,[3 39 57 68 69] and the importance of *Working and learning as a team*. Being an active and effective team member, including contributing to quality team functioning was described as essential.[43 52] Recognising the unique and valuable contributions of each team member, including understanding that all members had their own expertise, was also considered necessary.[6 70] The capability to embrace co-learning was important[24] as this contributed to personal growth,[54] coalition building[6 42] and the co-creation of knowledge.[64] *Collaborating and communicating* were additional capabilities for productive QI partnerships including building consensus by listening and speaking constructively,[58 67] finding common ground[10] and creating valuable connections.[66 71] Strong conflict resolution and negotiation skills were viewed as paramount both for patients and staff.[4 9 22 58 66] Building respectful, constructive and reciprocal relationships was highlighted,[10 50 66] with honesty,[42] patient avoidance of a combative approach[63] and a virtuous cycle of a shared journey[67] emphasised. *Advocating for everyone* rather than personal interests was also considered valuable. This included influencing change to improve PPI by embracing lived experience knowledge,[9] of patients, their families[55] and the community.[47] Promoting the needs of marginalised peoples[7 38 48 64] including representing those without a voice,[61 63] and the role of senior leadership in advocacating for disadvantaged groups[3 10 38] were also emphasised. There was a reported need for capabilities regarding sharing success, networking and linking diverse stakeholders across geographical areas and organisations[59 66]; educating others regarding the valuable patient role in QI[6 69] and systems advocacy,[22 60] especially by organisational leaders.[38 56 69]

Philosophies, Models and Practices domain

The *Philosophies, Models and Practices* domain focuses on capabilities which enable patients and staff to work effectively within an organisational context and with the requisite practical skills. *Works within organisational priorities, governance, policies, resources and constraints* was viewed as an essential capability as this reduced patient frustration,[67] and enabled shared insights into the changes needed.[38 70] Abilities to work within confidentiality requirements,[3 47 50 57] committee procedures[45 48 58 60] and patient reimbursement and compensation guidelines[4 39 54 56] were also discussed. Organisational knowledge facilitated development of

Table 2 Capability framework for successful partnerships in healthcare quality improvement

Domain	Capability and description
Personal Attributes	**Dedicated to improving healthcare** 1. Motivated to improve patient care and outcomes 2. Demonstrates ongoing commitment including sustained participation **Self-aware and reflective** 1. Engages in reflective and reflexive practices that contribute to change for everyone rather than personal interests 2. In tune with how one's presence, emotional reactions and behaviours influence others **Confident and flexible** 1. Confident to actively engage in constructive dialogue in a group setting including patients, public, healthcare staff and leaders 2. Flexibly works in unfamiliar and evolving situations
Relationships and Communication	**Working and learning as a team** 1. Works as an effective and active member of a team 2. Recognises the unique and valuable contributions of each team member 3. Embraces co-learning **Collaborating and communicating** 1. Works collaboratively to build consensus 2. Demonstrates strong conflict resolution and negotiation skills 3. Builds respectful, constructive and reciprocal relationships **Advocating for everyone** 1. Influences change to improve patient and public involvement (PPI) 2. Promotes the needs of marginalised populations 3. Shares successes, networks and links diverse stakeholders
Philosophies, Models and Practices	**Organisational systems and policies** 1. Works within organisational priorities, governance, policies, resources and constraints 2. Develops sustainable solutions that fit the context 3. Demonstrates awareness of relevant clinical processes and has sufficient health literacy **Patient and public involvement (PPI) best practice** 1. Committed to the inherent value of PPI 2. Implements a variety of PPI principles and practices 3. Effectively conveys own experiences to influence and persuade 4. Facilitates teaching and learning including mentoring/coaching 5. Provides ongoing support and feedback to patient partners **Quality improvement (QI) principles and processes** 1. Implements appropriate QI processes across service planning, design, delivery and evaluation
Across all Domains	**Sharing power and leadership** 1. Contributes to transforming traditional power dynamics 2. Actively encourages shared decision-making 3. Supports patient-led leadership models

sustainable solutions by patients and staff.[9 58 66] Being aware of relevant clinical processes and having sufficient health literacy were noted as essential for effective collaboration mainly for patients.[41 48 58 60 68] The value of understanding and implementing PPI *best practice* was seen as a requirement for QI partnership success including a commitment to the inherent value of PPI, especially for staff.[5 40 44 54 60 65 71–73] This capability included implementing a variety of PPI principles and practices such as experience-based co-design,[9 71] developing lay content,[41 70] recruiting and retaining consumer partners,[44 60 68] and evaluating engagement initiatives.[6 9 66] Effectively conveying one's own experience in order to positively influence QI was seen as key not only for patients but also for staff.[3 39 42 47 56 73] The requirement to facilitate teaching and learning for productive QI partnerships, including coaching and mentoring, was mainly reported as a specialised skill for paid or experienced patient advisors and

staff.[9 43 57 60 61 67] Similarly, provision of ongoing support and feedback, particularly to patient partners, was deemed essential as this kept communication channels open,[36 39] enhanced engagement capacity,[10 66] facilitated safe transition out of engagement projects,[3 24] and prevented potential negative impacts on health and well-being.[61 72] The practical skills of understanding and implementing *QI principles and processes* across service planning, design, delivery and evaluation were discussed. In particular, the papers discussed the role of coaches,[9 67] specialist QI teams[57 63] or organisational leaders[9 51 56 74] in supporting transformation of services through QI practical expertise.

Sharing power and leadership

The *Sharing power and leadership* capability was described as fundamental to all successful QI partnerships and is therefore positioned across all domains. Enhancing staff understanding and ability to address
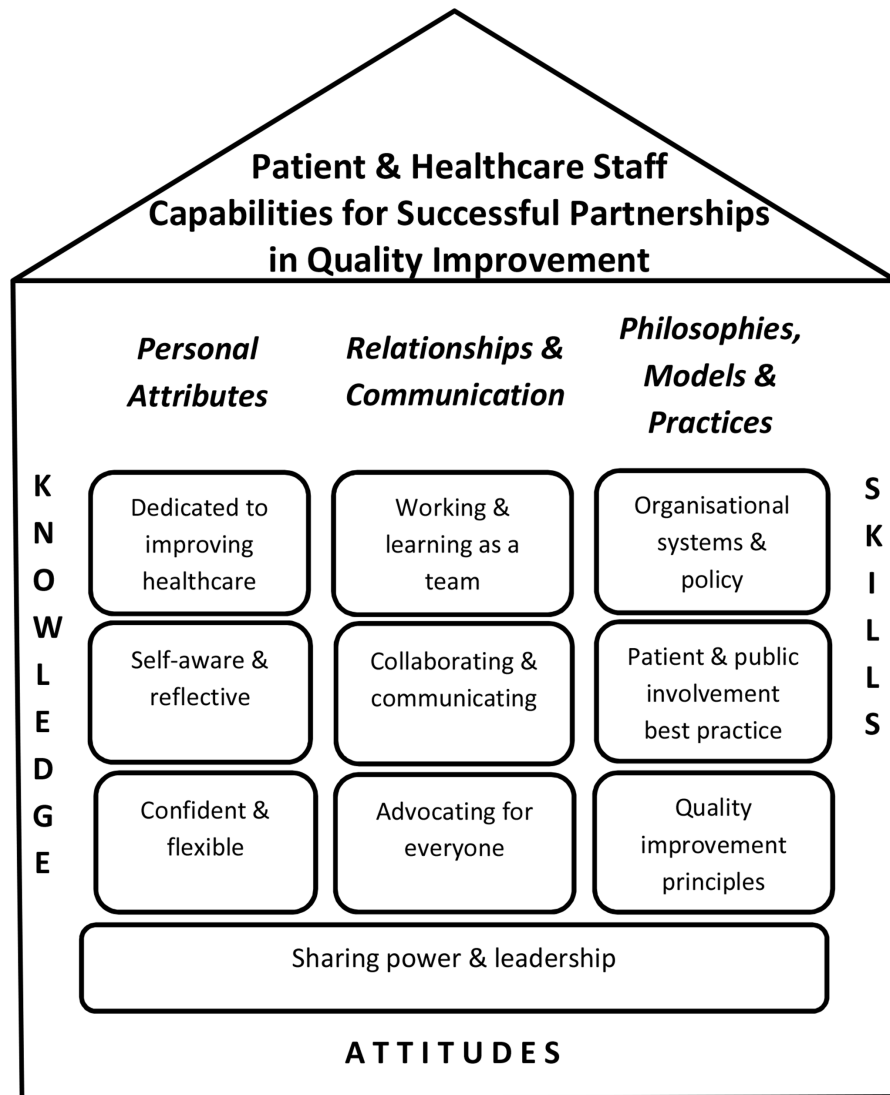
Figure 2 Summary diagram of the *Capability framework for successful partnerships in quality improvement.*

the traditional power differential of health services was frequently discussed.[6 10 44 47 75] Additionally, patients were reported as needing to reconceptualise their expectations from being 'users and choosers' to being 'makers and shapers' of healthcare services.[53 62] The need for organisational leaders to actively encourage this dynamic was reported.[45 46 52] The necessity to intentionally prioritise shared decision-making and joint leadership, with staff having the courage to relinquish control[42] and their paternalistic attitudes,[24] and include patients from the beginning[52 55] was discussed. The support of patient-led leadership models was noted as important[53 73] with an active investment in patient leadership capability being required.[45 64]

A summary diagram was co-developed by the research team, inclusive of the patients, over two meetings, and with additional email and telephone correspondence. It provides a simplified and clear depiction of the capability domains and corresponding capabilities. This image emphasises the foundational nature of

power sharing as the base and that capabilities include knowledge, skills and attitudes (see figure 2).

Learning and development for partnerships in QI
With respect to learning and development, many papers did not clearly describe specific strategies and so their data were not able to be categorised. Figure 3 summarises the learning and development media and formats reported. Most papers recommended that healthcare staff and patients learn together (n=28, 57.14%). Face to face was the most frequent learning medium described (n=34, 69.38%) and structured workshops or shorter training sessions were the most common learning format (n=36, 73.47%). Workshops and training sessions incorporated role-plays, small group discussions, case studies, quizzes and individual reflection. Multiple learning strategies were discussed in many papers (n=29, 34.48%), and coaching/mentoring was frequently discussed (n=20, 40.82%). Where specified, duration of learning varied from a
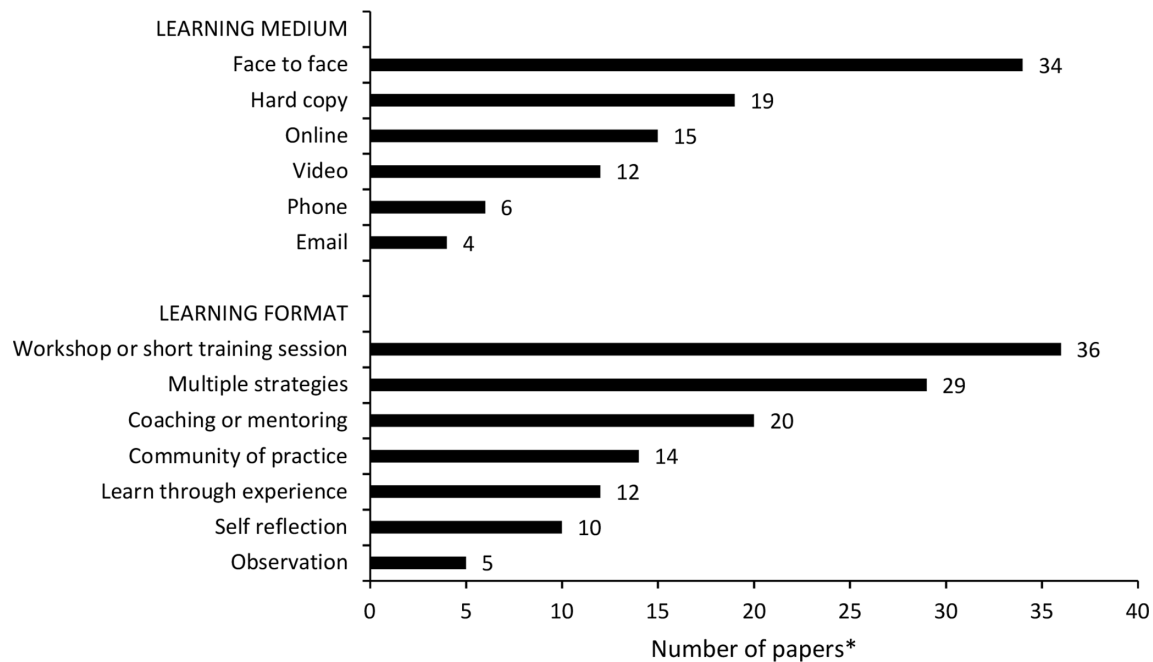
Figure 3 Learning medium and format for each paper (*many papers used more than one learning medium and format).

half day orientation session to a 240-hour internship over 1 year.

In addition to the details included in the methodology, and in line with best practice reporting for PPI in research,[30] box 1 includes a summary of the extent of patient influence on the scoping review plus benefits and challenges of the patient engagement. The GRIPP2-SF checklist[30] is included in online supplemental appendix D.

DISCUSSION
This scoping review examined the capabilities, including knowledge, skills and attitudes required for successful QI partnerships in healthcare at the service level. Results indicated that there was very little peer-reviewed literature focused explicitly on this topic and thus implicit paper content was analysed. The high proportion of recent papers incorporating qualitative or mixed methods research, author reflection or literature review demonstrates the emerging and exploratory nature of the topic and that guidance is required to support staff and patient development. The *Capability framework for successful partnerships in QI* which has been co-produced from this review may provide this structure and direction. An accompanying summary diagram (see figure 2) aims to make the framework user friendly. To our knowledge, the framework is the first to be developed from the international peer-reviewed literature regarding this concept. The framework adds to our current understanding of the breadth of capabilities required across the three framework domains which incorporate the dynamic interplay between the individual, social and organisational aspects of PPI described elsewhere.[62]

Interestingly, no capabilities were discussed exclusively in relation to patients or staff. This is reflected in the framework in that all capabilities are presented as important for both groups. Literature was reviewed from nine countries, across the healthcare continuum, including different health conditions and a variety of PPI stakeholders. Thus, the framework is flexible enough to accommodate local needs.

In particular, the capability to build and support a strong foundation of sharing power and leadership was reported as necessary for QI partnerships to flourish. This core requirement to address historical power imbalances has been emphasised[21 76] but potentially has not been discussed as a capability that requires development. To be truly transformative, empowerment of patients to lead change in healthcare is needed,[24] and the framework reflects this paradigm shift towards the *Empower* IAP2 level.[15] Building on positive views, raising self-awareness and influencing negative perceptions through authentic interactions between stakeholders, as well as formal learning opportunities, have been recommended to support attitude change and capability development for QI partnerships.[77] Participatory processes to achieve this may include values and beliefs, exercises and democratic dialogue[10]; sense-giving activities[77] and dialogical ethics approaches.[9] The framework could be used to structure and guide these initiatives.

In addition, team co-learning, rather than learning in silos, may improve quality and safety[78] and is fundamental to the framework. Building consensus, conflict resolution, respect and reciprocal relationships are included in other interprofessional healthcare capability frameworks.[79 80] The current framework goes

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Box 1 Summary of the extent of the patient influence on the scoping review plus benefits and challenges of the patient engagement

Extent of patient influence on study
► Patients were core members of the research team and integral to all decisions.
► Added a hand search of the *Patient Experience Journal* to the review which yielded eight additional papers.
► Supplemented search terms based on patient experiences and their reading of patient-focused literature.
► Added an emphasis on carers.
► Stressed the importance of organisational leaders and culture in supporting patient engagement in quality improvement.
► Focused attention on the need for the capability framework and diagram to be clear, simple and familiar, resulting in a house image.

Benefits of the patient research collaboration
► Co-production was consistent with the philosophical paradigm of the research.
► Clarifying questions from the patients ensured that health professionals' assumptions and tacit knowledge were made explicit, discussed, evaluated and actioned accordingly.
► Both patients were able to provide considerable time and attention to detail to data extraction and analysis.
► A novel, hard copy, socially distanced method for independent data coding to accommodate patient preferences was developed.
► Lively debate regarding patient and public involvement experiences resulted in enhanced team reflexivity.
► Substantial co-learning by all authors resulted in enhanced research partnership capability for future projects.

Challenges of the patient research collaboration
► Use of the term 'patient', while agreed as relevant to an international audience, did not sit comfortably with the consumer co-researchers' role and identity given collaboration in this scoping review did not focus on them as recipients of healthcare.
► Tailored learning and development strategies were required to ensure meaningful collaboration which required additional time from the first author.
► A lack of confidence regarding the paper screening stage was expressed by the patients despite the support and training that was provided.
► The patient preference not to perform coding on a computer screen meant that qualitative data were printed which added to the time required and research costs.
► Negotiation with the patients was required to ensure that the focus of the research was international rather than based on local experiences.
► The level of detail and time taken for a rigorous literature review resulted in some frustration for one of the patients who was action focused.
► A lack of funding resulted in no hourly payment for patient time. However, expenses were reimbursed and there was a budget available for patient conference travel and accommodation as a strategy to recognise the valuable patient contributions.
► Safety guidelines due to COVID-19 meant that some meetings were conducted via video-conferencing while the patients preferred face-to-face interactions.

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further by including patient partners as part of the team. Of note, there is only one capability description for QI principles and processes in the framework. This reinforces the research team's view, and that of others,[44 62 67] that practical or technical skills, while important, are just one small contributor to authentic partnerships in QI. The key influence of organisational leaders in supporting capability development across all of the domains to ensure strategic alignment and organisational sustainability of co-produced QIs was discussed as essential.[3 7 10 74]

Implementing the framework
The framework could be used across many adult learning pedagogies to support capability development through individual learning plans based on self-reflection and/or feedback from peers, mentors or coaches. These strategies are compatible with experiential, reflective and transformative learning theories, for example.[81] A personalised learning approach that encompasses humanistic and self-directed learning theory,[81] including the use of learning plans with patient partners, in particular, is worthy of future examination. Implementing new practices in a complex system such as health services requires 'deliberate learning' which is conscious and goal directed.[25] The framework could support this process if used as a template for mapping current learning resources, to identify strengths and gaps, and also in training needs analyses. At the organisational level, the framework

could guide documentation of role statements and selection criteria for QI project teams and committees. Universities could also refer to the framework when developing curricula.

Best practice learning and development approaches

Patients are part of the QI team and so co-learning is critical[4 6 43 44 67] as reflected in the framework. There was, however, limited consideration of learning strategies and theory in the literature. The main approaches used were pre-prepared and structured face-to-face learning, through workshops or short education sessions. These modes may not reflect current best practice given adult learners require individualised approaches that build on what they already know, their experiences and their motivations to learn.[81] Recently, authors recommended health professional team reflexivity as a developmental strategy to support patient safety and high-quality care.[78] This reflective and experiential learning approach was discussed in a number of papers as useful to enhance QI partnerships.[5 36 42 43 50 64 75] Many papers alluded to communities of practice (CoP) as a knowledge creation strategy for partnerships in QI but did not elaborate on, nor evaluate this approach. CoP are best practice in contemporary healthcare education as they are collaborative, involve problem-solving in a specific, shared context, are focused on development of expertise,[82] and are underpinned by the social theory of learning.[81] Alternatives to structured workshops should be expanded and evaluated to better meet the needs of adult learners.

Limitations

The inconsistent definition and reporting of PPI concepts in the literature, as described previously,[9 10] resulted in challenges locating relevant literature. There was also a tendency for papers to inadequately separate PPI for QI at the individual patient care, service and policy levels. Papers were included if most of the content was describing the service level. An additional limitation is that opinion pieces, reflective papers and literature reviews were included, rather than only original research. This may have resulted in inclusion of lower level evidence. However, much like clinical practice guidelines, expert opinion is warranted when there is insufficient high-level evidence. Oral health was not included which may have excluded papers from countries where this sector may have a strong PPI focus. Non-English-language papers were also excluded, which may have resulted in missed data. In addition, the focus on literature from Western high-income countries, with only one paper inclusive of First Nation Peoples' perspectives,[44] may limit generalisability. Finally, qualitative analysis, by definition, is a subjective process. However, the diversity of the research team, which included two patients and three health professionals, enhanced trustworthiness.

Future directions

The next step is to refine the framework which may involve qualitative interviews, Delphi surveys or observational studies of high performing QI partnerships. Implementation studies could follow, and these would explore application of the framework in practice. Comparison of findings internationally and across healthcare settings would be useful to ascertain contextual factors which influence partnership capabilities. Evaluation of learning and development approaches is also needed, particularly for non-traditional strategies such as self-reflection and reflexivity, CoP and remote learning.

CONCLUSIONS

Authentic and effective patient–staff partnerships in QI at the healthcare service level require specific capabilities which incorporate adaptation to change, generation of new knowledge and continuous improvement of performance. The novel *Capability framework for successful partnerships in QI* described here has been co-produced from a scoping review. It includes three domains and 10 capabilities. This framework could be used to support individual learning planning, gap analysis of organisational learning resources and training needs analyses.

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