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Facilitation roles and characteristics associated with research use by healthcare professionals: a scoping review

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ABSTRACT

Background Implementing research findings into practice is a complex process that is not well understood. Facilitation has been described as a key component of getting research findings into practice. The literature on facilitation as a practice innovation is growing. This review aimed to identify facilitator roles and to describe characteristics of facilitation that may be associated with successful research use by healthcare professionals.

Methods We searched 10 electronic databases up to December 2016 and used predefined criteria to select articles. We included conceptual papers and empirical studies that described facilitator roles, facilitation processes or interventions, and that focused on healthcare professionals and research use. We used content and thematic analysis to summarise data. Rogers' five main attributes of an innovation guided our synthesis of facilitation characteristics.

Results Of the 38 488 articles identified from our online and manual search, we included 195 predominantly research studies. We identified nine facilitator roles: opinion leaders, coaches, champions, research facilitators, clinical/practice facilitators, outreach facilitators, linking agents, knowledge brokers and external-internal facilitators. Fifteen facilitation characteristics were associated with research use, which we grouped into five categories using Rogers' innovation attributes: relative advantage, compatibility, complexity, trialability and observability.

Conclusions We found a diverse and broad literature on the concept of facilitation that can expand our current thinking about facilitation as an innovation and its potential to support an integrated, collaborative approach to improving healthcare delivery.

Strengths and limitations of this study

► This study provides a comprehensive scoping review of a diverse literature of facilitator roles and characteristics of facilitation from various disciplines.
► Arksey and O'Malley's (2005) framework was used to guide the scoping review process.
► Grey literature was not included, nor did we conduct a quality appraisal of included studies as this is not part of a scoping review undertaking, and this may introduce the potential for publication bias. However, the scoping review enabled us to synthesise the breadth of literature that characterises the quantity, nature and extent of research evidence on facilitation and the roles undertaken to facilitate the uptake of evidence.

INTRODUCTION

Scholars describe the potential for evidence-based decision making to have a positive impact on patient outcomes.[1] Implementing evidence (ie, research findings) into practice is a complex, multifaceted process that requires a proactive effort to encourage use at the point of decision making.[2–4] Multilevel factors influence this implementation[5]; some

of these include individual (eg, education, attitude),[6–8] organisational/contextual,[9–14] system[14] and innovation-specific factors.[15] Several knowledge translation (KT) theories exist that can be used to guide the process of getting research evidence into practice.[16] In their Promoting Action on Research Implementation in Health Services (PARiHS) framework, Kitson and colleagues[17] highlighted the importance of facilitation that, along with strong evidence and a context supportive of change, can lead to successful research implementation. Facilitation is a technique where an individual makes things easier for others, by providing support to help them change their ways of thinking and working.[17] In their refined integrated framework i-PARiHS, facilitation is an active element that integrates the other core constructs: innovation, recipients and context.[18]

In the healthcare literature, a small body of conceptual work on facilitation has considered it a promising approach to implementing evidence into practice.[17–21] Facilitation has

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evolved from a concept in the education and counselling literature[22] to an implementation intervention in the healthcare and KT literature[3 4 20] and has recently been situated in the organisational learning theory literature.[23] The literature on facilitation roles and characteristics is growing.[19] Thompson and colleagues delineated the similarities and differences between five roles that aim to influence a practice or behaviour change: opinion leader, facilitator, champion, linking agent and change agent, noting much ambiguity remains among these roles.[24] Harvey and colleagues explored the purpose, roles, skills and attributes of facilitators, suggesting that the concept of facilitation is only partially developed.[20] Dogherty *et al* updated Harvey *et al*'s[20] literature review and reported that, in addition to facilitation as role and process, project management and leadership were important components of facilitation.[19]

Two reviews have been conducted specifically on practice facilitation, also described as outreach facilitation, where facilitators assist primary care physicians with research implementation and quality improvement projects.[25 26] These studies found that practice facilitators were effective in improving practice processes and patient care outcomes,[25] and primary care physicians were almost three times more likely to adopt evidence-based guidelines with practice facilitation.[26] Although some preliminary evidence supports practice facilitation as an effective intervention to implement evidence into practice, facilitation as a construct requires further development and testing for its effectiveness in improving outcomes.

Implementation methods—such as facilitation—can be viewed as practice innovations. Rogers defined an innovation as an idea or practice that is perceived as new by an individual.[15] He described five main attributes of an innovation: (1) relative advantage—the perception that an innovation is better or more beneficial than existing practice; (2) high compatibility—the perception that the innovation is consistent with existing values, beliefs and needs; (3) low complexity—the perception that the innovation is easy to understand and use; (4) trialability—the opportunity to try the innovation before making a decision about its adoption; and (5) observability—the extent to which the effects of the innovation are observed and communicated to others.[15] Innovations with all of these qualities tend to be adopted more rapidly than other innovations.[15]

By treating facilitation as an innovation and healthcare providers as potential adopters, we can better understand how the roles and characteristics of facilitation may contribute to successfully implementing research into practice. Our review complements and extends the review by Dogherty *et al*[27] which explored elements of facilitation based on an existing systematic review of the effectiveness of interventions to increase the use of practice guidelines in nursing. Our study adds to the evidence base on facilitation by describing the various roles and the characteristics of facilitation from the healthcare and management literature in the context of healthcare professionals that includes practice guidelines and other forms of research use, and the roles undertaken to facilitate the uptake of evidence. The research questions guiding this scoping review were:

1. What are the key facilitator roles identified in the literature?
2. What characteristics of facilitation contribute to research use by healthcare professionals?

METHODS

We conducted a scoping review of the literature using Arksey and O'Malley's framework to guide our review.[28] Their scoping review framework has five stages: (1) identifying the research question; (2) identifying relevant studies; (3) study selection; (4) charting the data; (5) collating, summarising and reporting the results; and an optional stage of a consultation exercise with stakeholders.[28] We searched the following 10 electronic databases from the healthcare and management literature: ABI Inform (1970–2016), Business Source Complete (1886–2016), CINAHL (1982–2016), Cochrane Library (2003–2016), EBMR (1991–2016), Embase (1980–2016), Medline (in process and other non-indexed citations) (1950–2016), PsycINFO (1806–2016), Scopus (1960–2016) and Web of Science (1900–2016). We developed our search strategy with a research librarian who constructed expert searches tailored to each of the databases searched (box 1). Key terms and final search strategies were refined based on initial search results. For example, because our initial search revealed a large number of articles we decided not to search grey (unindexed) literature such as conference proceedings, dissertations, editorials and government reports. We manually searched reference lists of included papers to identify additional studies.

Selection criteria

We included conceptual papers and empirical studies both quantitative and qualitative that met the following criteria: (1) facilitator roles, characteristics, facilitation processes and/or interventions were described; (2) facilitation focused on healthcare providers; and (3) facilitation focused on research use in practice. We excluded: non-English literature;[i] study protocols; articles that focused solely on facilitation directed towards patients; articles focused solely on computerised/automated reminder systems or decision support systems.

Selection process

Three team members independently screened one-third of the references for inclusion. Because of the volume of search results, we first excluded references based on

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[i]Non-English papers with English abstracts were kept if they met the abstract level inclusion criteria during the abstract screening. This was to determine the extent of the literature published in other languages. However, as we did not have the capacity to translate articles, these were not included in data extraction or analysis.

Box 1	Example of search strategy: Medline

Search terms
1. (facilitator* or facilitative or facilitation).tw.
2. facilitat*.ti. or reminder systems/
3. (academic detail* or educational outreach worker* or opinion leader* or change agent* or champion* or linking agent* or promotor* or knowledge broker* or enabler* or enabling or boundary spanner* or coach*).tw.
4. or/1–3
5. evidence-based practice/ or evidence-based dentistry/ or evidence-based medicine/ or evidence-based emergency medicine/ or evidence-based nursing/
6. (ebp or ebm or ebn or cpg* or best practice*).tw.
7. (evidence adj2 practice*).tw.
8. (guideline* adj2 (implement* or adher*)).tw.
9. guideline adherence/ or quality assurance, health care/ or benchmarking/ or guidelines as topic/ or practice guidelines as topic/
10. (quality adj1 (improv* or manag*)).tw.
11. 'diffusion of innovation'/ or technology transfer/
12. (research adj2 ('use' or utili?* or adopt* or implement* or disseminat* or uptake or transfer* or translat* or support)).tw.
13. (knowledge adj2 ('use' or utili?* or adopt* or implement* or disseminat* or uptake or transfer* or translat* or support)).tw.
14. (evidence adj2 ('use' or utili?* or adopt* or implement* or disseminat* or uptake or transfer* or translat* or support)).tw.
15. (innovation adj2 adopt*).tw.
16. or/5–15
17. 4 and 16
18. facilitat*.mp.
19. 18 not 17
20. 'outcome and process assessment (health care)'/ or 'outcome assessment (health care)'/ or treatment outcome/ or 'process assessment (health care)"/
21. quality assurance, health care/ or benchmarking/
22. Quality Control/
23. 'Delivery of Health Care'/og [Organization & Administration]
24. og.fs.
25. or/20–24
26. 19 and 16 and 25
27. 17 or 26
28. (comment or editorial or letter or news or newspaper article).pt.
29. 27 not 28

Table 1 Search results

Database	Search results
ABI Inform	1710
Business Source Complete	2100
CINAHL	2539
Cochrane Library	2
EBMR Central	161
Embase	10 453
Medline including Medline in process	7777
PsycINFO	3278
Scopus	5661
Web of Science	4807
Total	38 488

irrelevant titles and abstracts. Approximately 10% of articles were screened together for training and reliability. The team met periodically prior to and during screening to ensure consistency between reviewers.

Data charting
We developed a data dictionary detailing information to collect, for consistency between reviewers throughout charting. Each reviewer was assigned one-third of the included articles and extracted the following data elements: citation, purpose, theoretical framework, study design/method, sample and setting, description of facilitation role, characteristics, process and/ or intervention. We did not appraise the quality of data

extracted as the aim of the scoping review was to identify facilitator roles and characteristics of facilitation from the literature.
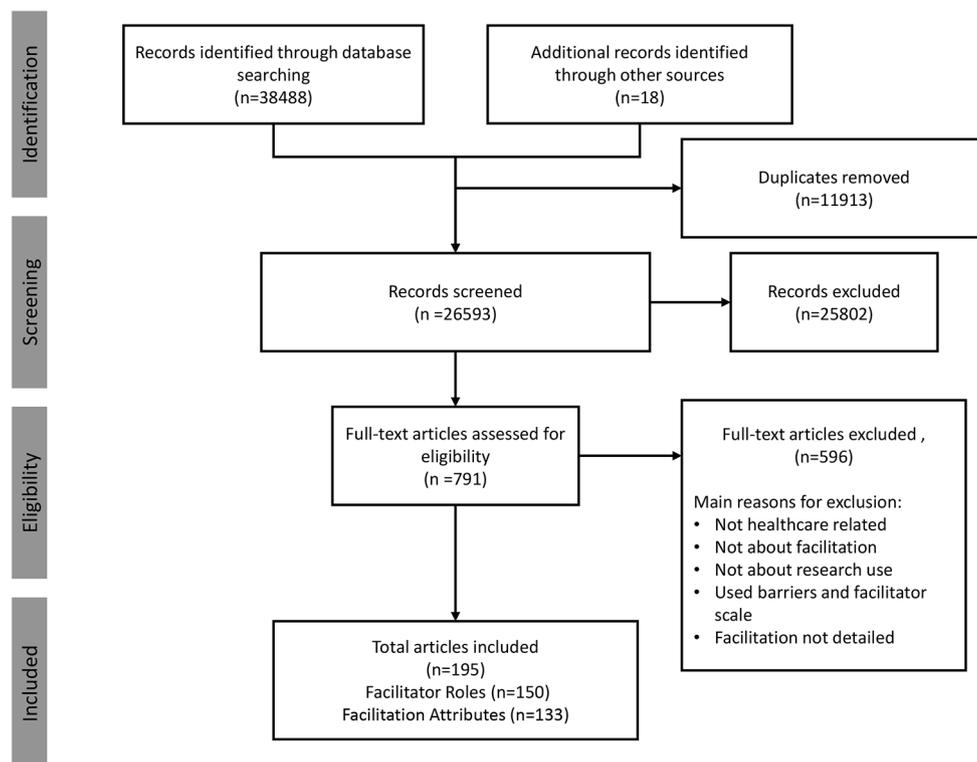
Data analysis and synthesis
We conducted a content analysis of extracted data to identify facilitator roles and characteristics of facilitation. Next, we conducted a thematic analysis using extracted data to further identify characteristics of facilitation. Because we conceptualised facilitation as an innovation, in the final analytical step, we used Rogers' attributes of an innovation as a framework to first sort and then to synthesise within each category our identified characteristics of facilitation.[15] We did not report literature review papers that included studies cited in our scoping review in our roles or attributes results tables to avoid duplication.

Stakeholder consultation
We consulted with stakeholders early in analysis to inform and validate findings.[28] Our decision-maker partner (CC) arranged for two study team members to meet with seven regional managers from a large healthcare organisation for feedback on the identified facilitator roles. These managers provided feedback on understandability, meaningfulness, and usefulness and relevance to practice of the facilitator roles.

RESULTS
Our searches found a combined total of 38 488 references (table 1). After removing duplicates and adding 18 articles from our manual search, we screened 26 593 articles and identified 791 as potentially relevant. Of these, 195 met our selection criteria and were included in our review (figure 1). We report characteristics of included studies (see online supplementary file 1), followed by facilitator roles (table 2) and characteristics (attributes) of facilitation (table 3).

Records identified through database searching
(n=38488)

Additional records identified through other sources
(n=18)

Duplicates removed
(n=11913)

Records screened
(n =26593)

Records excluded
(n=25802)

Full-text articles assessed for eligibility
(n =791)

Full-text articles excluded ,
(n=596)

Main reasons for exclusion:
- Not healthcare related
- Not about facilitation
- Not about research use
- Used barriers and facilitator scale
- Facilitation not detailed

Total articles included
(n=195)
Facilitator Roles (n=150)
Facilitation Attributes (n=133)

Identification

Screening

Eligibility

Included

Figure 1 Screening process.

Characteristics of included studies

Our sample included 130 primary research articles: quantitative (n=63), qualitative (n=39) and mixed methods (n=28) (used both qualitative and quantitative data collection methods). The remainder were descriptive papers (n=34), literature reviews (n=20) and theoretical/ conceptual papers (n=11).

Over half of the research studies (n=85/130) included a mix of healthcare providers in their samples (eg, nurses and physicians); the remainder included a single healthcare provider group. Study setting was reported in 120 studies; the most frequent were hospitals (34%), primary care (23%) and other community-based facilities (18%). Less frequently cited were studies with more than one setting (13%), long-term care (8%), home care (2%) and symposiums (2%). For studies that also reported the country (n=120), most were conducted in the USA (29%), Canada (23%), UK (18%), Europe (10%) and Australia (9%). Some studies included more than one country (6%). A few studies were conducted in Africa (3%) and one in Singapore (1%) and Nicaragua (1%).

Nine definitions of facilitation were used (table 4). The definitions of facilitation from the PARiHS framework were the most frequently cited (n=19). A common thread in seven of the nine definitions is that facilitation is viewed as a process of providing support to enable change to occur.[4 17 18 20 29–31] The other two definitions were notably different as they did not include process in their definitions. One article focused on relationships,[32] the personal contact and support required, while the other article highlighted facilitation as a strategy for learning.[33]

In 77/195 articles, a theory or conceptual framework(s) guided research or contextualised findings. Most frequently cited were the PARiHS framework[17] (n=16), change theories (eg, Lewin's theory of change)[34] (n=10) and Rogers' diffusion of innovation theory[15] (n=10). Sixteen papers used more than one theory or framework.[4 35–49] For example, papers citing the PARiHS framework had used it to: inform the decision to involve both external and internal facilitators[41]; conceptualise a nurse pain champion role[40]; guide design of a KT intervention for continuous improvement of patient care and evidence-based practice (EBP)[38]; and assist with the description of processes and outcomes of an EBP training programme.[50] Examples of other frameworks used are Donabedian's structure, process, outcome model[37 51–54]; Graham et al's[55] Knowledge to Action Framework[41 48 56 57]; and May et al's[58] Normalization Process Theory.[59]

Facilitator roles

We identified nine facilitator roles: *opinion leaders, coaches, champions, research facilitators, clinical/practice facilitators, outreach facilitators, linking agents, knowledge brokers* and *external-internal facilitators*. Of note, overlap exists in the terms used to describe a clinical facilitator and a practice facilitator, and a practice facilitator and outreach facilitator. We describe conditions under which each role is considered most appropriate based on locality (facilitators located internal to the organisation, external, or combined external and internal) and formality (formal appointed role vs informal role). These nine facilitator roles expand (both in number and scope) those

Table 2 Results: facilitator roles, n=150 articles

	Facilitation								
	Internal					External	Boundary spanner		External-internal
	Informal		Formal	Facilitator					
	Opinion leader	Champion	Coach	Research facilitator	Clinical/practice facilitator†	Outreach facilitator	Linking agent	Knowledge broker	External-internal facilitators
Definition	A peer-nominated individual who informally influences individuals' attitudes, decision making, research use, professional behaviour, clinically and educationally using their professional status to drive change	A local visionary who uses expert knowledge to persuade others to adopt an innovation, idea or project	An individual who assists with making behaviour changes to improve performance and/or to use EBP through motivation, encouragement and positive reinforcement	An individual who provides support to staff to strengthen their research skills and knowledge, and participation in research in a clinical setting	An individual who provides continuous (primarily) local assistance to others through a formal implementation process using peer support (eg, formal/informal education, shared learning and being a resource person)	Individuals external to the target organisation and/or practice (typically primary care) trained to assist others to improve performance (eg, uptake guidelines) through a formal implementation process using educational visits/AD/CQI	Individuals acting as intermediaries to span the boundary between research and practice to bring closer collaboration between the two systems	Intermediaries who build relationships between two communities, typically policymakers/decision makers and researchers, by sharing their expert knowledge and establishing communication channels	External facilitators (those external to the setting/off site) provided ongoing support to local facilitators implementing a practice change (eg, guidelines)
Key roles	▲ Educationally influential about EBP[35 36 42 61 63 65 110 142 180 188–190] ▲ Exert informal influence on individuals' attitudes, behaviours and decision making[60 61 68 180 191] ▲ Use professional status to drive change[67]	▲ Persuade others to adopt an innovation, idea or project[37 40 44 46 48 77–79 133 136 143 150 153 159 170 184 194] ▲ Advocate change[44 77 133 135 147 150 151 153 170 184 195 196] ▲ Motivate others[52 153 159 163 194 197 198] ▲ Personal commitment to the project[37 46 59 147 150 164 195 199]	▲ Provide feedback about research use[76 138 192] ▲ Provide encouragement/motivation, positive reinforcement to use EBP[75 76] ▲ Planning and goal setting[73 193] ▲ Assist others with learning process[73–75 192] ▲ Role model[76] ▲ Build relationships[73 76 138]	▲ Facilitate research in a clinical setting[39 80–83 158 160 161 177 182 200 201] ▲ Provide educational sessions about the research process[39 80 81 161 182] ▲ Strengthen research skills of clinical staff[39 80–82] ▲ Provide peer support for participation in research activities[39 80–83 158 160 161 182 200 201] ▲ Establish local research programmes/committees/workshops/steering group[80 160 182]	▲ Practice based[30 32 45 51 84–96 98 99 101 134 137 140 141 152 169 173 202 203] ▲ Assess local needs for research use[94 137 140] ▲ Identify modifiable barriers to change[137 141] ▲ Identify resources for change[30 137 140 141 152] ▲ Provide education, peer support, shared learning[30 32 45 51 84–101] ▲ Monitor and evaluate practice change[30 87 97 137 202] ▲ Serve as an ongoing resource person[45 89 91 95 97 140 152 202] ▲ Some practice facilitators were external[30 32 88 89 91 92 96 97 101 134 173]	▲ Guideline implementation/care delivery via educational outreach/AD visits (typically face-to-face)[26 69 102–120 145 175] ▲ or CQI[47 69 102 103 105 157 165 204] ▲ Provide feedback and support[47 103 105 108 109 111 112 118 120 204] ▲ Provide audit and support (performance) feedback[102–106 115 117 145 175] ▲ Provide information/resources to promote uptake of best practice[47 103 108 109 111 112 114 117 119 120] ▲ Build good working relationship between staff and facilitator[112 145]	▲ Link research to practice[29 123] ▲ Help bring together two systems[24 29] ▲ Intermediary[29 121 123] ▲ Help maintain links across professional, team, organisational boundaries[122 123] ▲ Communicate information[122] ▲ Help build relationships and networks for research-based change[122 123]	▲ Intermediary between researchers and policymakers,[124 125 128] decision makers/other stakeholders[128] ▲ Catalyst for system change[125] ▲ Promote research use in decision making[43 125 126 128 171 205] ▲ Build networks,[128 205] relationships of trust[125] ▲ Facilitate learning and exchange of knowledge[124–126 205] ▲ Establish communication channels[124 125 128] ▲ Conduct environmental scan/needs assessment[43 125] ▲ Knowledge management, capacity building, linkage and exchange activities[128 171]	▲ External facilitators provided ongoing support (eg, guidance, assistance, being available) to internal facilitators[41 49 56 57 129 130] ▲ Information sharing[49 56 57 129] ▲ Build relationships[57] ▲ Build capacity for improvement/change[49 130]
Training	▲ Not trained for role[42 60–67 142 190]	▲ May be trained for role[37 46 48 133 135 206] or may not be trained for role[52 59 163 164 194 195 199]	▲ May be trained for role[75 138] or may not be trained for role[192 193]	▲ Trained for role[82]	▲ Trained for role[30 32 93 94 98 100 134 137 140 178 202]	▲ Typically trained for role[47 69 102–107 111 112 114 117–120]	▲ Trained for role[24]	▲ Not trained for role,[43 125] however, optimal training remains unknown[43] and training needs may vary by setting[171]	▲ External facilitators trained internal facilitators[129]

Continued

Table 2 Continued

	Facilitation								
	Internal			External					External-internal
	Informal	Formal		Facilitator			Boundary spanner		
	Opinion leader	Coach	Champion	Research facilitator	Clinical/practice facilitator[†]	Outreach facilitator	Linking agent	Knowledge broker	External-internal facilitators
Key attributes and skills	▲ Peer nominated[42 60-68] ▲ Influential[35 42 60 62 69 207] ▲ Credible/trustworthy[62 68] ▲ Clinical knowledge/experience[42 63 69-71] ▲ Role model[180] ▲ Communication skills[60 68 156 180]	▲ Negotiation skills[73] ▲ Problem-solving skills[73 76] ▲ Active listening and communication skills[76 193] ▲ Leadership skills[76 192]	▲ Expert knowledge of innovation[40 52 164 179 199] ▲ Persuasive[37 40 136 143 159] ▲ Mentorship skills[77 135 143 153 179] ▲ Visionary[37 163] ▲ Enthusiasm[151 198 199] ▲ Creativity[37] ▲ Driven[151] and passionate about their work[206] ▲ Communication skills[40 59 159 208]	▲ Expert research knowledge/experience[39 81-83 158 160 177 182 200 201] ▲ Leadership skills[80 158]	▲ Expert knowledge in work area/clinical work experience[30 45 84 86 87 90 91 93 94 98-101 140 141 152] ▲ Communication skills[93 95 137] ▲ Credible[141] ▲ Empowering leadership style[141] ▲ Reciprocal relationships between leaders (eg, managers) and facilitators[203]	▲ Experienced/skilled practitioners (eg, physicians, nurses)[26 69 102-105 112 119 175 204] ▲ Experience in management/business or health administration[103 104] ▲ Knowledgeable[112 204] ▲ Encourage others/provide positive reinforcement[104 109 112] ▲ Approachable, flexible and available[112] ▲ Credible[112 204] ▲ Communication skills[107]	▲ Strong critical thinking skills[29] ▲ Strong interpersonal and communication skills[29] ▲ Clinical credibility and research knowledge[29]	▲ Expertise in both communities/cultures (research and policy)[43 125] ▲ Skilled in interpretation/tailoring and application of knowledge[43 124 125] ▲ Collaboration/networking skills[124] ▲ Motivational skills[43] ▲ Communication skills[124 125 205]	▲ Organisational skills[56 57] ▲ Relationship skills[56 57] ▲ Communication skills[56 57] ▲ Leadership skills[56 57]

AD, academic detailing; CQI, continuous quality improvement; EBP, evidence-based practice.

Table 3 Results: characteristics (attributes) of facilitation, n=133 articles

Rogers' attribute of an innovation	Characteristics of facilitation	Illustrative examples from the literature
Relative advantage	Facilitation could be considered advantageous because it is described in the literature as a process for making change easier for others by: (1) encouraging assessment of current practice, (2) presenting ideas to others, (3) creating useful communication networks, and (4) providing support and resources to achieve goals	Encourages assessment of current practice ▲ Encourages the assessment of current practice/performance gaps[4 32 101 140–142] ▲ Helps others understand gaps between the knowledge and practice of the target audience[36 171] ▲ Helps individuals and teams to understand what they need to change and how they need to change it in order to apply evidence into practice[17 101 145 146] ▲ Facilitation occurs in the context of a recognised need for improvement (eg, supports best practice)[4 56 77 143–145] Presents ideas to others ▲ Introduces the existence of desirable new ideas and enhances the knowledge base about new ideas[48 67 78 79 148] Creates useful communication networks ▲ Facilitates effective communication[56 57 159 205] ▲ Establishes/navigates communication channels[4 60 128 152] ▲ Networks with other health professionals about best practices[143 180 205] Provides support and resources to achieve goals ▲ Facilitator as ongoing support or resource[4 30 41 48 49 56 57 78 86 92 94 95 133 141 142 147–156] ▲ Offers or identifies resources to assist with the process of change[32 33 44 78 142 151 156 190 198] ▲ Monitors progress.[56 57 111 147] ▲ Builds organisational support for new practices[151 157] ▲ Provides structure for learning[33] ▲ Supports a goal-oriented process[4 118]

Continued

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Table 3 Continued

Rogers' attribute of an innovation	Characteristics of facilitation	Illustrative examples from the literature
Compatibility	A key purpose of facilitation is to make change more compatible with existing practice. There are several characteristics of facilitation that promote compatibility with existing practice including: (5) mobilising existing knowledge and skills, (6) enhancing staff readiness for change and empowering staff, (7) supporting/promoting a culture for change, and (8) tailoring facilitation activities to local context, needs and circumstances	Mobilising existing knowledge and skills[94] Enhances staff readiness for change; empowers staff ▲ Increases perceptions of professional acceptability and subjective norms[35] ▲ Enables individuals and teams to analyse, reflect and change their own attitudes, behaviours and ways of working[3 66] ▲ Facilitator belief that the change is needed[59 76] ▲ Facilitator framed knowledge so that it was relevant to staff practice[158] ▲ Empowers staff to be equal participants[95 121 141 159] Supports and promotes a culture for change; creates a supportive climate; creates a vision for research use/evidence-based practice ▲ Creates a local climate in which research activities are encouraged[128 130 160] ▲ Creates a culture to sustain the implemented change[40 44 45 75 128 130 144 145 161 165] ▲ Addresses and develops organisational systems[20] and infrastructure to facilitate success of the innovation[148 153] ▲ Facilitator must understand the practical realities of healthcare and clinical settings[99 164] ▲ Helps others make choices based on their own context[134] ▲ Addresses individual concerns and helps others to change behaviour through the provision of information or evidence[66] ▲ Creates and supports an organisational vision for evidence-based practice[62 163] Tailors facilitation activities to local context, needs and circumstances ▲ Facilitator helps the group to consider and address the local issues that might negatively affect the use of the recommendations[166] ▲ Facilitation activities tailored to local context, needs and circumstances[49 50 56 61 75 103 142 150 165–171]

Continued

Table 3 Continued

Rogers' attribute of an innovation	Characteristics of facilitation	Illustrative examples from the literature
Complexity	Facilitation can assist others with the implementation process. Facilitation capitalises on existing skills and (9) supports the development of new knowledge and skills, (10) requires facilitators to be trained or have experience with this role, (11) may comprise several strategies, and (12) is described as a bidirectional process that fosters relationship building	Supports the development of new knowledge and skills ▶ Supports the development of new knowledge and/or skills[45 68 78 79 94 99 108 114 126 128 150 156 165 170 171 181 191 196 208] ▶ Helps staff to learn to access and/or appraise evidence to answer clinical questions and apply it to their practice[21 52 83 122 161 200] ▶ Assesses and meets staff learning needs[70 201] ▶ Guides the learners[33] Facilitator training ▶ Ongoing support for the facilitator role[18 48 56 57 82 94 129 209] ▶ Facilitators require training*[32 37 46–48 68 69 102–107 118–120 129 133–139] ▶ Facilitators are experienced mentors,[75 90 140 153] and must have a basic knowledge of the problems experienced by staff[101 119 141 175 194 206 210] ▶ More than one facilitator (champion) was needed when an improvement required people to change behaviours[151] Multiple components ▶ Use of multiple strategies (eg, reminders and a nurse facilitator)[47 48 84 142 185] ▶ (eg, opinion leader education and audit and feedback)[63] Bidirectional process ▶ Facilitation is proactive and dynamic[211] ▶ Facilitation drives a process of change[19 30 56 130 141]; a two-way process of communication, building relationships/reciprocal relationships,[203] and mutual goals and opportunities[4] ▶ An iterative process in which the next step is informed by the conditions preceding it[74] ▶ Flexible and purposeful[4] ▶ A process of interactive problem solving[4 56 73] ▶ Internal/external facilitation or a combination thereof[3 17 18 20 21 49 146 176]† ▶ Enabling approach[3 4 20 21 146 176]
Trialability	The literature provided some examples of facilitation interventions that were pilot tested on a small scale prior to full implementation	Pilot test; feasibility studies[46 90 103 105 118 138 149 150 163 174 177–179]

Table 3 Continued

Rogers' attribute of an innovation	Characteristics of facilitation	Illustrative examples from the literature
Observability	Observability reflects whether one can see the results of facilitation, that is, observing an individual using research as a result of facilitation. Observable characteristics of facilitation identified in the literature were: (13) facilitators encouraging others to role model the change (use of research evidence) and (14) maintaining momentum by reinforcing change	Role models the change[33 45 56 68 78 86 99 126 180–182] Maintains the momentum and encourages/motivates staff in the process[33 86 139 152 153 181 194 198 203] by reinforcing the change[75 108 109 184] and supporting sustainability[18 27]

*Intervention studies.
†Theoretical literature—PARiHS framework/i-PARiHS.

identified in previous reviews.[19 20 24] For each role, we provide a definition, key features, training requirements, and key personal attributes and skills (table 2). As each facilitator role included change agent activities,[24] we did not include change agent as a separate role.

Stakeholder feedback on the identified facilitator roles was positive and validated our findings. Stakeholders indicated that roles and characteristics were understandable and meaningful. They commented that understanding the key role and skills of each type of facilitator, and whether training was required, was useful in hiring processes.

A key goal and responsibility in all nine facilitator roles is to drive and motivate a practice change and to act as a resource for making the change. Overall, facilitator roles included attributes and skills such as credibility, trustworthiness, expertise, enthusiasm and good problem-solving and networking skills. Opinion leaders, coaches, champions, research facilitators and clinical/practice facilitators all work internally (locally) within the organisation. Two main features of opinion leaders as facilitators are: they are peer nominated[42 60–68] and they are informal leaders who are influential because they are knowledgeable and experienced.[42 63 69–71]

Opinion leadership stems from medical literature[71] and is based on diffusion of innovation[15] and social influence theory.[24 72] Opinion leaders have wide interpersonal communication networks[60 61] and therefore have a key role in assisting others to recognise the need for improvement and communicating information about innovation within professional networks.[42] Coaching has been used in the business/management literature as an approach to training,[73] and more recently has been theoretically positioned in the context of EBP as a relational approach.[74] A coach assists others with making a change particularly in guiding their learning during implementation using motivation, encouragement and positive reinforcement.[75 76] A champion, whose role is also based on diffusion of innovation[40] and social influence theory,[24] is a local visionary who uses expert knowledge and vision to persuade others to adopt an innovation[24 37 48 77–79]; and help others to see the advantages of making a practice change and mentor them through the process.

Research facilitators, clinical/practice facilitators, outreach facilitators, linking agents, knowledge brokers and external-internal facilitators were considered more formally appointed roles, and the majority of these facilitators were typically trained for their role. Research facilitators, described in the context of EBP, have expertise (research, clinical background) to support staff to strengthen their research skills, knowledge and participation in research in a clinical setting.[39 80–83] A clinical/practice facilitator, also described in the context of EBP (eg, guideline implementation), provides ongoing education and support through the implementation process[30 32 45 51 84–101] (though some were external). Facilitator roles considered external to the organisation included outreach facilitators, linking agents and

Table 4 Results: Definitions of facilitation

First author/year	Definition of facilitation	Number of citations
PARiHS framework Kitson (2008, 1998)[3 17]	Facilitation is 'a technique by which one person makes things easier for others' (p 152). 'The term describes the type of support required to help people change their attitudes, habits, skills, ways of thinking, and working.' (p 152)	n=19
Harvey (2002)[20]	Facilitation refers to 'the process of enabling (making easier) the implementation of evidence into practice' (p 579). 'Facilitation is achieved by an individual carrying out a specific role (a facilitator), which aims to help others.' (p 579)	
Bashir (2000)[32]	'Facilitation uses personal contact between the facilitator and the professional to encourage good practice and better service organisation.' (p 626)	n=0
Schwartz (2002)[212]	'A process of enabling individuals, groups, or teams to work effectively together to achieve a common goal.' (cited in ref 18, p 296)	n=1
Ferguson (2004)[29]	'Facilitation involves helping others to identify questions of practice; providing support to enable others to meet specific goals, including research use; attending to the process of achieving those goals; and knowing the system in which change is proposed and implemented.' (p 325)	n=0
Lekalakala-Mokgele (2005)[33]	'Facilitation is both a method and a strategy for learning. Facilitation promotes critical thinking in the learners and both become reflective learners.' (p 25)	n=0
Stetler (2006)[4]	'Facilitation is a deliberate and valued process of interactive problem solving and support that occurs in the context of a recognized need for improvement and a supportive interpersonal relationship. Facilitation is primarily a distinct role with a number of potentially crucial behaviors and activities.' (Abstract paragraph 4)	n=4
Petrova (2010)[30]	'Facilitation is the process of providing support to individuals or groups to achieve beneficial change' (p 38). It has been described as 'the provision of opportunity, resources, encouragement and support for the group to succeed in achieving its own objectives and to do this through enabling the group to take control and responsibility for the way they proceed.' (p 38)	n=1
Dogherty (2010)[19]	'Facilitation is viewed as both an individual role as well as a process involving individuals and groups.' (p 86)	n=3

knowledge brokers (the latter two being boundary spanner roles). An outreach facilitator assists healthcare providers (eg, those in primary care practices) through a formal implementation process (eg, using educational outreach visits/academic detailing/quality improvement).[69 102–120] A clinical/practice facilitator or outreach facilitator role may be useful when staff are required to learn new skills for research implementation. The linking agent role is based on the concept of spanning the boundary between research and practice to bring about change.[24 29 121–123] The knowledge broker role is based on the concepts of linkage and exchange (eg, establishing communication channels),[43 116 124–126] knowledge management and capacity building (eg, builds relationships between two communities, typically policymakers and researchers).[127 128] Recent studies focus on using external-internal facilitators based on the PARiHS framework—described as external facilitators (eg, research team members) supporting internal (local) facilitators to assist healthcare providers with implementing a practice change.[49 56 57 129 130]

Training requirements were a key distinguishing feature of the facilitator roles. External facilitators tended to be formally trained for their role but internal facilitators may or may not have received training.

Only the opinion leader role was described as informal (with no training required).[42 60–67 131 132] Of the 63 intervention studies, 24 identified training facilitators.[32 37 46–48 68 69 102–107 118–120 129 133–139] Seventeen of these 24 studies described training components, with nine studies including length of training, ranging from 4 hours,[107] 40 hours,[118] 1–3 days[68 102 137–139] to 6–7.5 months.[32 106] Training components typically included course work (theoretical knowledge),[37 47 102 119 120] or both course work and practical experience (skills training).[32 48 106 107 118 137–139]

In a recent article describing the i-PARiHS framework, Kitson and Harvey[18] outline facilitator activities, and further identify three distinct facilitator roles: novice, experienced and expert facilitator. For example, the novice facilitator is skilled at clarifying tasks, and identifying key stakeholders; experienced facilitators support novices, assess system-wide activities and contextual issues, and develop skills in sustaining change; expert facilitators are positioned at a strategic level to provide project coordination and leadership for the initiative, and includes engaging stakeholders and political negotiation skills.[18]

Characteristics of facilitation
Within our sample of 195 articles, there were 133 articles from which we identified 15 characteristics of facilitation

associated with research use by healthcare providers, and mapped these onto Rogers' five attributes of innovation: (1) relative advantage (four characteristics), (2) compatibility (four characteristics), (3) complexity (four characteristics), (4) trialability (one characteristic) and (5) observability (two characteristics).[15] Each of these attributes is described next and shown in table 3.

Relative advantage

Relative advantage is one of the strongest predictors of successful implementation and an innovation's adoption rate, and was the most frequently cited attribute of facilitation in our review.[15] The relative advantage or benefit of facilitation is that it involves a process for making change easier for others. We found four characteristics of facilitation considered advantageous to those involved in implementing research into practice: (1) encourages assessment of current practice; (2) presents ideas to others; (3) creates useful communication networks; and (4) provides support and resources to achieve goals. A facilitator can help healthcare professionals to identify gaps between knowledge and practice,[4 32 36 101 127 140–142] and to acknowledge the need for improvement.[4 56 77 143–145] Facilitators can assist others to understand the relative advantage of making a change,[17 101 145 146] as well as the benefit of facilitation as an implementation innovation itself. A facilitator provides continuing support and identifies resources to help with the process, and monitors the change.[4 30 41 48 49 56 57 78 86 92 94 95 111 133 141 142 147–156] For example, a facilitator builds organisational support for new practices[151 157] and provides structure for learning.[33]

Compatibility

A key purpose of facilitation is to make change more compatible with existing practices. Several characteristics of facilitation promote compatibility of the change with existing practice including: mobilising existing knowledge and skills[94]; enhancing staff readiness to change and empowering staff[3 35 66 76 95 121 141 158 159]; supporting a culture for change[20 27 40 44 45 62 66 75 99 128 134 144 145 148 153 160–165]; and tailoring facilitation activities to local context (eg, social, cultural).[49 50 56 61 75 103 142 150 166–171] For example, a facilitator understands the climate and practical realities of the organisation,[27 99 128 160 164] and frames knowledge so that it is relevant to staff practice.[158]

Complexity

Facilitation supports the development of new knowledge and skills, requires facilitators to be trained or have experience with this role, may have multiple components, and is described as a bidirectional process that fosters relationship building. A complex intervention typically contains several interacting components.[172] Most intervention studies in this review described a single intervention but interventions tended to be multifaceted, with several components or strategies typically delivered by a facilitator (eg, audit and feedback, consensus building).[103] Eleven studies used multiple interventions (ie, more than one intervention arm),[47 63 68 69 84 125 129 142 173–175] for example, reminders and a nurse facilitator,[84] and opinion leader education and audit and feedback.[63] However, facilitation as an innovation need not be complex. Facilitation is an enabling approach[3 4 20 21 146 176] that can help reduce the (perceived or actual) complexity of a multifaceted intervention. Facilitation involves building trust and fostering mutual opportunities.[4 30 74] Facilitators are experienced or are trained for their role to support others with implementation. The frequency and duration (dose) of facilitation varies; for example, some studies included daily facilitation for 3 months,[90] monthly for 12 months,[104] and on average 25 visits per site lasting 1 hour for 18 months.[105]

Trialability

The ability for potential adopters to test an intervention can enhance its adoption.[15] We located examples of researchers who pilot tested a facilitation intervention (or its components) prior to full-scale evaluations.[46 90 103 105 118 138 149 150 163 174 177–179] For example, in one study six nurses were trained for their facilitator role and gained experience conducting outreach visits in pilot general practices.[105]

Observability

Observability is seeing the results of an innovation, in our case being able to ascertain that individuals use research as a result of facilitation.[15] Two characteristics of facilitation that reflected observability were facilitators encouraging others to role model the change[33 45 86 99 126 180–182] and reinforcing the change (research use)[75 108 109 183 184] and supporting sustainability.[18 27] Some examples of role modelling included sharing examples of good practice[68] and providing opportunities for formal shadowing.[126] An example of reinforcing the change was a follow-up visit by a nurse facilitator to reinforce guideline implementation.[109]

Facilitation process

Although facilitation is identified in the literature as a process of enabling implementation of evidence into practice,[19 20] few studies identified the actual process. Dogherty and colleagues outlined four stages of facilitation that include activities to facilitate research use in nursing: (1) planning for change, (2) leading and managing change, (3) monitoring progress and ongoing implementation, and (4) evaluating change.[19 27 56] Elnitsky and colleagues[141] described an internal facilitation process (within the organisation): learning the role of facilitator, assessing the culture, facilitating external programmes, negotiating and getting buy-in. They mapped this process to Dogherty and colleagues' facilitation taxonomy (above) and subdomains of the PARiHS framework.[155] Others have described facilitation as an interactive problem-solving process requiring supportive interpersonal relationships.[4] Dogherty and colleagues[185] described key factors to successful facilitation of EBP such

as development of strategic partnerships, use of multiple strategies to effect change, and facilitator characteristics and approach (eg, leadership and team building skills). Barriers influencing the facilitation process were largely contextual constraints such as lack of engagement and resources and team functioning.

DISCUSSION

Our review suggests that facilitation has become an important aspect of implementing research into practice, and has potential to be an effective innovation. Our literature synthesis advances previous reviews on facilitation by broadening our understanding of the roles of facilitators and the characteristics of facilitation.[19 20 24] Our first research question addressed the key facilitator roles identified in the literature. We identified nine types of facilitator roles, the majority of which are formal appointed roles. Facilitators share a common goal of implementing an EBP change, and some roles share theoretical underpinnings—opinion leaders and champion roles are based on diffusion of innovation and social influence theory, and a linking agent and knowledge broker act as intermediaries/boundary spanners to bridge gaps. However, we have also highlighted some notable differences in these roles. Clearly, many facilitator roles are being used in healthcare systems. Our findings shed light on the variety, complexity and need for these roles. Policymakers can use these findings to design role statements and processes to impact outcomes for care providers and patients. Knowing the various types of facilitator roles can assist administrators and managers to implement a facilitator role that best supports change activities in their setting. For example, an outreach facilitator could be potentially useful in settings such as outpost nursing and home care. Boundary spanner facilitator roles may be most useful to bridge practitioners with internal and external stakeholders involved in planned change. The importance of external facilitators supporting internal facilitators in creating organisational facilitation capacity is highlighted in the literature.[27 41 49 56 57 129] Building internal facilitation capacity may create sustainable infrastructures to support implementation activities designed for improving patient safety and quality of care delivery. Further research should be undertaken on external-internal facilitator roles as they may foster a more integrated approach to facilitating the use of research into practice.

Our second research question addressed the characteristics of facilitation that contribute to research use by healthcare professionals. Characteristics of facilitation are important because they identify those features that may potentially lead to greater success in implementing change. In the KT literature, the knowledge itself is typically considered the innovation. Studies have shown that facilitation itself should be operationalised as an innovation or tool used to influence implementation of other innovations (eg, guideline implementation via facilitation).[32 46 51 63 69 75 103 105 107 109 136] Using Rogers' framework enabled us to highlight characteristics of facilitation that may influence its adoption as an innovation.[15] Relative advantage was the most frequently cited attribute of facilitation in our review. Rogers' attributes of an innovation[15] covered all of the results that we found and therefore it is confirmed to be a comprehensive model to describe characteristics of an innovation.

Further research could examine whether facilitation strategies with Rogers' innovation attributes lead to successful implementation. For example, facilitation that is tailored to local context and offers ongoing support may be better received than a complex intervention. According to Greenhalgh et al, Rogers' concept of reinvention (innovation adaptability) can be considered another innovation attribute that could lead to innovations being adopted more readily.[15 186] Though we did not include the concept reinvention in our data analysis, three articles from our review described reinvention of the innovation as an important quality to enhance adoption.[41 148 183] For example, Miller et al suggested designing a KT intervention with reinvention in mind, which involves knowing the attributes of the intervention that must be maintained for effectiveness[183]; this is important for adoption and sustainability of an innovation.[41] Facilitators can assist with reinvention during implementation to individualise the innovation to better meet adopters' needs.[148] Reinvention as an attribute of an innovation could be explored in future reviews. Understanding these innovation attributes can lay the groundwork for well-designed and well-evaluated facilitation interventions to improve practice in healthcare delivery. However, we noted key gaps in the literature on the characteristics of facilitation. First, the process of facilitation remains unclear and largely implicit, which challenges descriptions of facilitation interventions for future study. Second, few studies were conducted in home care and long-term care settings, which is important to address as Canada and other countries are experiencing a shift in population demographics towards an ageing generation.

Two main limitations of our review, which may introduce the potential for publication bias, are that we did not include grey literature, nor did we conduct a quality appraisal of included studies as this is not part of a scoping study undertaking[28 187] nor the purpose of our review. The scoping review enabled us to synthesise a breadth of literature that characterises the quantity, nature and extent of research evidence on facilitation[187] and the roles undertaken to facilitate the uptake of evidence. Our search was further restricted to the English language. However, we tracked non-English language studies and could have included four of them. Our review was focused on research use specifically among healthcare professionals, which has a considerable body of literature that theorises, conceptualises and operationalises facilitation. While this diversity creates some inconsistencies in naming facilitator roles, it has a notable strength; the diversity of the disciplines that describe facilitator roles and characteristics of facilitation from various theoretical perspectives helps us to better understand facilitation.

High-quality rigorous studies are needed on facilitation to distinguish those characteristics or components that have greatest impact and effectiveness. While we did not assess rigour in this scoping review, others have noted a lack of rigorous studies evaluating facilitation.[27] Our team is currently completing a systematic review to examine the effectiveness of facilitation as an implementation innovation in healthcare. Such work could also help to shed light on the process of facilitation, what facilitator role is best used and when, and what types of training are most effective for facilitators.

CONCLUSION

This scoping review highlights a diverse and broad literature on the concept of facilitation that can expand our current thinking about facilitation as an innovation and its potential to support an integrated, collaborative approach to improving healthcare delivery. Implementing research into practice to improve patient care is complex and requires dedicated facilitators to support the change process. This scoping review advances the field of KT science by contributing to the evidence base needed to develop measures of facilitation and to design and test facilitation interventions for successful research use.

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