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

Lisa A Cranley,1 Greta G Cummings,2 Joanne Profetto-McGrath,2 Ferenc Toth,2 Carole A Estabrooks2

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.

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 implementation5; some of these include individual (eg, education, attitude),6–8 organisational/contextual,9–14 system14 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 colleagues17 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...
evolved from a concept in the education and counseling literature\(^2\) to an implementation intervention in the healthcare and KT literature\(^3\ \text{and}\) has recently been situated in the organisational learning theory literature.\(^2\) 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 \textit{et al} updated Harvey \textit{et al}’s literature\(^2\) and has recently been guiding literature\(^22\) to an implementation intervention in 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 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;\(^1\) 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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\(^{1}\)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.
or intervention. We did not appraise the quality of data.

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. 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. 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).

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

example of search strategy: Medline

<table>
<thead>
<tr>
<th>Search terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. (facilitator* or facilitative or facilitation).tw.</td>
</tr>
<tr>
<td>2. facilitat*.ti. or reminder systems/</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>4. or/1–3</td>
</tr>
<tr>
<td>5. evidence-based practice/ or evidence-based dentistry/ or evidence-based medicine/ or evidence-based emergency medicine/ or evidence-based nursing/</td>
</tr>
<tr>
<td>6. (ebp or ebn or ebn or ebn* or best practice*).tw.</td>
</tr>
<tr>
<td>7. (evidence adj2 practice*).tw.</td>
</tr>
<tr>
<td>8. (guideline* adj2 (implement* or adher*)).tw.</td>
</tr>
<tr>
<td>9. guideline adherence/ or quality assurance, health care/ or benchmarking/ or guidelines as topic/ or practice guidelines as topic/</td>
</tr>
<tr>
<td>10. (quality adj1 (improv* or manage*)).tw.</td>
</tr>
<tr>
<td>11. ‘diffusion of innovation’/ or technology transfer/</td>
</tr>
<tr>
<td>12. (research adj2 (‘use’ or utili?* or adopt* or implement* or disseminat* or uptake or transfer* or translat* or support)).tw.</td>
</tr>
<tr>
<td>13. (knowledge adj2 (‘use’ or utili?* or adopt* or implement* or disseminat* or uptake or transfer* or translat* or support)).tw.</td>
</tr>
<tr>
<td>14. (evidence adj2 (‘use’ or utili?* or adopt* or implement* or disseminat* or uptake or transfer* or translat* or support)).tw.</td>
</tr>
<tr>
<td>15. (innovation adj2 adopt*).tw.</td>
</tr>
<tr>
<td>16. or/5–15</td>
</tr>
<tr>
<td>17. 4 and 16</td>
</tr>
<tr>
<td>18. facilitat*.mp.</td>
</tr>
<tr>
<td>19. 18 not 17</td>
</tr>
<tr>
<td>20. ‘outcome and process assessment (health care)/ or ‘outcome assessment (health care)/ or treatment outcome/ or ‘process assessment (health care)/</td>
</tr>
<tr>
<td>21. quality assurance, health care/ or benchmarking/</td>
</tr>
<tr>
<td>22. Quality Control/</td>
</tr>
<tr>
<td>23. ‘Delivery of Health Care’/og [Organization &amp; Administration]</td>
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<tr>
<td>24. og.fs.</td>
</tr>
<tr>
<td>25. or/20–24</td>
</tr>
<tr>
<td>26. 19 and 16 and 25</td>
</tr>
<tr>
<td>27. 17 or 26</td>
</tr>
<tr>
<td>28. (comment or editorial or letter or news or newspaper article).pt.</td>
</tr>
<tr>
<td>29. 27 not 28</td>
</tr>
</tbody>
</table>

Box 1 Example of search strategy: Medline

Table 1 Search results
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 framework17 (n=16), change theories (eg, Lewin’s theory of change)34 (n=10) and Rogers’ diffusion of innovation theory35 (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 facilitators41; conceptualise a nurse pain champion role40; 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 model37 51–54; Graham et al’s Knowledge to Action Framework41 48 56 57; and May et al’s 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

<table>
<thead>
<tr>
<th>Facilitator Role</th>
<th>Key Roles</th>
<th>Training</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internal Facilitators</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opinion leader</td>
<td>• Educational influence about EBP, a role model, and relationships</td>
<td>not trained for role</td>
</tr>
</tbody>
</table>
| Coach                                    | • Provide feedback about research  
• Provide encouragement/motivation  
• Assist others with learning process  
• Personal commitment to the project  
• Role model  
• Build relationships | not trained for role         |
| Champion                                  | • Persuade others to adopt an innovation  
• Facilitate research in a clinical setting  
• Advocate change  
• Provide educational sessions about the research process  
• Strengthen research skills of clinical staff  
• Provide peer support for participation in research activities  
• Establish local research programs, committees, workshops, steering groups | not trained for role         |
| Research facilitator                     | • Practice based research  
• Assess local needs for research use  
• Identify modifiable barriers to change  
• Identify resources for change  
• Provide education, peer support, shared learning  
• Monitor and evaluate practice change  
• Establish local research programmes, committees, workshops, steering groups  
• Some practice facilitators were external | not trained for role         |
| Clinical/practice facilitator1           | • Guideline implementation/care delivery  
• Serve as an ongoing resource person  
• Some practice facilitators were external | not trained for role         |
| Outreach facilitator                     | • Link research to practice  
• Help bring together two systems  
• Help maintain links across professional, team, organisational boundaries  
• Communicate information  
• Help build relationships and networks for research-based change | not trained for role         |
| Boundary spanner                         | • Intermediary between two communities, typically policymakers/decision makers and researchers, by sharing their expertise and establishing communication channels | not trained for role         |
| Linking agent                            | • External facilitators provided ongoing support and training needs may vary by setting | not trained for role         |
| Knowledge broker                         | • Build relationships of trust  
• Facilitate learning and exchange of knowledge  
• Establish communication channels  
• Conduct environmental scan/needs assessment  
• Knowledge management, capacity building, linkage and exchange activities | not trained for role         |
| **External Facilitators**                |                                                                          |          |
| Opinion leader                           | • Educational influence about EBP, a role model, and relationships         | trained for role1            |
| Champion                                  | • Persuade others to adopt an innovation  
• Facilitate research in a clinical setting  
• Advocate change  
• Provide educational sessions about the research process  
• Strengthen research skills of clinical staff  
• Provide peer support for participation in research activities  
• Establish local research programmes, committees, workshops, steering groups | trained for role1            |
| Research facilitator                     | • Practice based research  
• Assess local needs for research use  
• Identify modifiable barriers to change  
• Identify resources for change  
• Provide education, peer support, shared learning  
• Monitor and evaluate practice change  
• Establish local research programmes, committees, workshops, steering groups  
• Some practice facilitators were external | trained for role1            |
| Clinical/practice facilitator1           | • Guideline implementation/care delivery  
• Serve as an ongoing resource person  
• Some practice facilitators were external | trained for role1            |
| Outreach facilitator                     | • Link research to practice  
• Help bring together two systems  
• Help maintain links across professional, team, organisational boundaries  
• Communicate information  
• Help build relationships and networks for research-based change | trained for role1            |
| Boundary spanner                         | • External facilitators provided ongoing support and training needs may vary by setting | trained for role1            |
| Linking agent                            | • Build relationships of trust  
• Facilitate learning and exchange of knowledge  
• Establish communication channels  
• Conduct environmental scan/needs assessment  
• Knowledge management, capacity building, linkage and exchange activities | trained for role1            |
| Knowledge broker                         | • External facilitators provided ongoing support and training needs may vary by setting | trained for role1            |

*Note: The table continues with additional facilitator roles and their corresponding key roles and training information.*
Table 2  Continued

<table>
<thead>
<tr>
<th>Facilitation</th>
<th>Internal</th>
<th>Formal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal</td>
<td></td>
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<tr>
<td>Informal</td>
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<tr>
<td>Opinion leader</td>
<td>Peer nominated</td>
<td>Peer nominated</td>
</tr>
<tr>
<td>Coach</td>
<td>Negotiation skills</td>
<td>Negotiation skills</td>
</tr>
<tr>
<td>Champion</td>
<td>Expert knowledge of innovation</td>
<td>Expert knowledge of innovation</td>
</tr>
<tr>
<td>Research facilitator</td>
<td>Expert research knowledge/ experience</td>
<td>Expert research knowledge/ experience</td>
</tr>
<tr>
<td>Clinical/practice facilitator</td>
<td>Expert knowledge in work area/clinical work experience</td>
<td>Expert knowledge in work area/clinical work experience</td>
</tr>
<tr>
<td>Outreach facilitator</td>
<td>Experienced/skilled practitioners (eg, physicians, nurses)</td>
<td>Experienced/skilled practitioners (eg, physicians, nurses)</td>
</tr>
<tr>
<td>Boundary spanner</td>
<td>Strong critical thinking skills</td>
<td>Strong critical thinking skills</td>
</tr>
<tr>
<td>Linking agent</td>
<td>Expertise in both communities/ cultures (research and policy)</td>
<td>Expertise in both communities/ cultures (research and policy)</td>
</tr>
<tr>
<td>Knowledge broker</td>
<td>Skilled in interpretation/ tailoring and application of knowledge</td>
<td>Skilled in interpretation/ tailoring and application of knowledge</td>
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<tr>
<td>External</td>
<td></td>
<td></td>
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<tr>
<td>External-internal</td>
<td></td>
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</tr>
<tr>
<td>Opinion leader</td>
<td></td>
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<tr>
<td>Coach</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Champion</td>
<td></td>
<td></td>
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<tr>
<td>Research facilitator</td>
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<tr>
<td>Clinical/practice facilitator</td>
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<td>Outreach facilitator</td>
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<tr>
<td>Boundary spanner</td>
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<tr>
<td>Linking agent</td>
<td></td>
<td></td>
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<tr>
<td>Knowledge broker</td>
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</table>

AD, academic detailing; CQI, continuous quality improvement; EBP, evidence-based practice.
### Table 3  Results: characteristics (attributes) of facilitation, n=133 articles

<table>
<thead>
<tr>
<th>Rogers’ attribute of an innovation</th>
<th>Characteristics of facilitation</th>
<th>Illustrative examples from the literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative advantage</td>
<td>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.</td>
<td>Encourages assessment of current practice</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Helps others understand gaps between the knowledge and practice of the target audience.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- 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.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Facilitation occurs in the context of a recognised need for improvement (e.g., supports best practice).</td>
</tr>
<tr>
<td></td>
<td>Presents ideas to others</td>
<td>► Encourages the assessment of current practice/performance gaps.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>► Helps others understand gaps between the knowledge and practice of the target audience.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>► 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.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>► Facilitation occurs in the context of a recognised need for improvement (e.g., supports best practice).</td>
</tr>
<tr>
<td></td>
<td>Creates useful communication networks</td>
<td>► Introducts the existence of desirable new ideas and enhances the knowledge base about new ideas.</td>
</tr>
<tr>
<td></td>
<td>Provides support and resources to achieve goals</td>
<td>► Facilitator as ongoing support or resource.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>► Offers or identifies resources to assist with the process of change.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>► Monitors progress.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>► Builds organisational support for new practices.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>► Provides structure for learning.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>► Supports a goal-oriented process.</td>
</tr>
</tbody>
</table>

Continued...
Table 3  Continued

<table>
<thead>
<tr>
<th>Rogers’ attribute of an innovation</th>
<th>Characteristics of facilitation</th>
<th>Illustrative examples from the literature</th>
</tr>
</thead>
</table>
| 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\(^{34}\)  
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\(^{366}\)  
► 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\(^{62,121,141,159}\) |

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\(^{50}\) and infrastructure to facilitate success of the innovation\(^{148,153}\)  
► Facilitator must understand the practical realities of healthcare and clinical settings\(^{50,99,164}\)  
► 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\(^{166}\)  
► Facilitator activities tailored to local context, needs and circumstances\(^{49,50,56,61,75,103,142,150,165-171}\) |
<table>
<thead>
<tr>
<th>Rogers’ attribute of an innovation</th>
<th>Characteristics of facilitation</th>
<th>Illustrative examples from the literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complexity</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supports the development of new knowledge and skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▶ Supports the development of new knowledge and/or skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▶ Helps staff to learn to access and/or appraise evidence to answer clinical questions and apply it to their practice</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▶ Guides the learners</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▶ Asesses and meets staff learning needs</td>
<td></td>
</tr>
<tr>
<td>Facilitator training</td>
<td>Ongoing support for the facilitator role</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Facilitators require training</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Facilitators are experienced mentors, and must have a basic knowledge of the problems experienced by staff</td>
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<tr>
<td></td>
<td>More than one facilitator (champion) was needed when an improvement required people to change behaviours</td>
<td></td>
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<tr>
<td>Multiple components</td>
<td>Use of multiple strategies (eg, reminders and a nurse facilitator)</td>
<td></td>
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<tr>
<td></td>
<td>(eg, opinion leader education and audit and feedback)</td>
<td></td>
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<tr>
<td>Bidirectional process</td>
<td>Facilitation is proactive and dynamic</td>
<td></td>
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<tr>
<td></td>
<td>Facilitation drives a process of change; a two-way process of communication, building relationships/reciprocal relationships, and mutual goals and opportunities</td>
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<tr>
<td></td>
<td>An iterative process in which the next step is informed by the conditions preceding it</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flexible and purposeful</td>
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<tr>
<td></td>
<td>A process of interactive problem solving</td>
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<tr>
<td></td>
<td>Internal/external facilitation or a combination thereof</td>
<td></td>
</tr>
<tr>
<td>Trialability</td>
<td>The literature provided some examples of facilitation interventions that were pilot tested on a small scale prior to full implementation</td>
<td></td>
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<tr>
<td>Trialability</td>
<td>Pilot test; feasibility studies</td>
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</tbody>
</table>

Table 3 Continued
Table 3  Continued

<table>
<thead>
<tr>
<th>Rogers’ attribute of an innovation</th>
<th>Characteristics of facilitation</th>
<th>Illustrative examples from the literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observability</td>
<td>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.</td>
<td>Role models the change, maintains the momentum and encourages/motivates staff in the process by reinforcing the change and supporting sustainability.</td>
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</tbody>
</table>

*Intervention studies.
†Theoretical literature—PARiHS framework/i-PARiHS.
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.\(^{39, 50, 57, 129, 130}\)

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.\(^{32, 37, 46-48, 66, 69, 102-107, 118-120, 129-133, 159}\) Seventeen of these 24 studies described training components, with nine studies including length of training, ranging from 4 hours,\(^{107, 108}\) 1–3 days,\(^{68, 102, 157-159}\) to 6–7.5 months.\(^{32, 106}\) Training components typically included course work (theoretical knowledge),\(^{37, 47, 102, 119, 129}\) or both course work and practical experience (skills training).\(^{32, 48, 106, 117, 138-139}\)

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.\(^{38}\)

### Characteristics of facilitation

Within our sample of 195 articles, there were 133 articles from which we identified 15 characteristics of facilitation (Table 4).
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). 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. 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 and to acknowledge the need for improvement. Facilitators can assist others to understand the relative advantage of making a change, 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. For example, a facilitator builds organisational support for new practices and provides structure for learning.

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; enhancing staff readiness to change and empowering staff; supporting a culture for change; and tailoring facilitation activities to local context (eg, social, cultural). For example, a facilitator understands the climate and practical realities of the organisation, and frames knowledge so that it is relevant to staff practice.

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. 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). Eleven studies used multiple interventions (ie, more than one intervention arm), for example, reminders and a nurse facilitator, and opinion leader education and audit and feedback. However, facilitation as an innovation need not be complex. Facilitation is an enabling approach that can help reduce the (perceived or actual) complexity of a multifaceted intervention. Facilitation involves building trust and fostering mutual opportunities. 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, monthly for 12 months, and on average 25 visits per site lasting 1 hour for 18 months.

Trialability
The ability for potential adopters to test an intervention can enhance its adoption. We located examples of researchers who pilot tested a facilitation intervention (or its components) prior to full-scale evaluations. For example, in one study six nurses were trained for their facilitator role and gained experience conducting outreach visits in pilot general practices.

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. Two characteristics of facilitation that reflected observability were facilitators encouraging others to role model the change and reinforcing the change (research use) and supporting sustainability. Some examples of role modelling included sharing examples of good practice and providing opportunities for formal shadowing. An example of reinforcing the change was a follow-up visit by a nurse facilitator to reinforce guideline implementation.

Facilitation process
Although facilitation is identified in the literature as a process of enabling implementation of evidence into practice, 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. Elnitsky and colleagues 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. Others have described facilitation as an interactive problem-solving process requiring supportive interpersonal relationships. Dogherty and colleagues described key factors to successful facilitation of EBP such as...
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. 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 out-of-patients 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. 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). Using Rogers’ framework enabled us to highlight characteristics of facilitation that may influence its adoption as an innovation. Relative advantage was the most frequently cited attribute of facilitation in our review. Rogers’ attributes of an innovation 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. 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. 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 under-taken 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 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.\(^7\) 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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**Collaborators** Caroline Clark: Associate Executive Director, Brain Care Centre, Edmonton, AB.

**Contributors** CAE and LAC conceived of the study and secured funding for the study. LAC and FT screened search results for inclusion and extracted data from included articles. CAE conceived of the data analysis framework. LAC, GGC, FT and JPM participated in data analysis and synthesis. LAC and FT drafted the manuscript. All authors provided critical comments on the manuscript.

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