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Guiding principles for effective collaborative implementation strategies for multisite hospital improvement initiatives: a mixed-method realist evaluation of collaborative strategies used in four multisite initiatives at public hospitals in New South Wales, Australia

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ABSTRACT

Objective Large-scale, multisite hospital improvement initiatives can advance high-quality care for patients. Implementation support is key to adoption of change in this context. Strategies that foster collaboration within local teams, across sites and between initiative developers and users are important. However not all implementation strategies are successful in all settings, sometimes realising poor or unintended outcomes. Our objective here is to develop guiding principles for effective collaborative implementation strategies for multi-site hospital initiatives.

Design Mixed-method realist evaluation. Realist studies aim to examine the underlying theories that explain differing outcomes, identifying mechanisms and contextual factors that may trigger them.

Setting We report on collaborative strategies used in four multi-site initiatives conducted in all public hospitals in New South Wales, Australia (n>100).

Participants Using an iterative process, information was gathered on collaborative implementation strategies used, then initial programme theories hypothesised to underlie the strategies' outcomes were surfaced using a realist dialogic approach. A realist interview schedule was developed to elicit evidence for the posited initial programme theories. Fourteen participants from 20 key informants invited participated. Interviews were conducted via Zoom, transcribed and analysed. From these data, guiding principles of fostering collaboration were developed.

Results Six guiding principles were distilled: (1) structure opportunities for collaboration across sites; (2) facilitate meetings to foster learning and problem-solving across sites; (3) broker useful long-term relationships; (4) enable support agencies to assist implementers by giving legitimacy to their efforts in the eyes of senior management; (5) consider investment in collaboration as effective well beyond the current projects; (6) promote a shared vision and build momentum for change by ensuring inclusive networks where everyone has a voice.

Conclusion Structuring and supporting collaboration in large-scale initiatives is a powerful implementation strategy if contexts described in the guiding principles are present.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ A strength of the study is this realist research design, in which initial programme theories were developed using a dialogic approach and context–mechanism–outcomes configurations were hypothesised for collaborative implementation strategies.
⇒ The complexity of interventions and the settings in which they are implemented require a robust, theory-based approach such as realist evaluation.
⇒ Another strength was the design of the interview schedules, where they were tailored to each interviewee's area of expertise and experience to drill down on specific contexts and mechanisms.
⇒ Realist designs generate a wealth of rich and nuanced findings, which can limit their translation into generalisable results.
⇒ Access to informants was limited by the service pressures hospitals were experiencing during the second wave of COVID lockdowns.

INTRODUCTION

Multisite hospital improvement initiatives can ensure high-quality, evidence-based care is delivered to patients. For example the QUARISMA (Quality of Care, Obstetrics Risk Management and Mode of Delivery)

intervention in Quebec, Canada implemented best practice guidelines into 32 hospitals, safely reducing the rates of clinically unwarranted caesarean sections in low risk mothers.[1] Implementation support is key to adoption of change and a range of implementation strategies has been developed and used in this multisite hospital context.[2] Frequently used strategies identified in a realist review of these multisite hospital initiatives included involving executive boards, creating multidisciplinary teams, promoting adaptability, assessing for readiness, and identifying barriers and facilitators.[2]

Both healthcare contexts and interventions are complex and multifaceted which is not always accounted for when using a one-size-fits-all approach to implementation. Not all implementation strategies are successful therefore when applied in different contexts, and sometimes can result in unintended or undesirable outcomes. Wand and colleagues, for example, document the loss of one site taking part in a multisite mental health nursing initiative (using the strategy: creating multidisciplinary teams) when the appropriateness of the intervention was disputed by a small number of physicians at the site.[3] Realist studies are useful therefore in that they aim to examine the underlying theories that explain these differing outcomes, identifying key mechanisms and the contexts required to trigger them.[4 5] In realist studies, relationships are stated as context–mechanism–outcome (CMO) hypotheses, and evidence to support or refute them are collected from key informants involved in the initiatives. For example: when executive or management support is visible to the implementers (Context), perceptions of feasibility and organisational capacity increases (Mechanism), resulting in increased engagement and commitment to the change (Outcome).[2]

Deconstructing collaboration

A key implementation strategy for large-scale initiatives is collaboration. Collaboration as an implementation strategy has several features and has been ascribed multiple benefits. First, collaboration at its core encompasses social processes within and across local implementers such as shared decision-making, learning together, supervisory and peer mentoring activities and interdisciplinary working (shared care of patients, robust referral networks, pooling of expertise). Collaboration may reach across departments or hospitals. For example, when genomic sequencing as a diagnostic tool was introduced into clinical settings in Australia, two large surveys of medical, genetic and lab-based health professionals involved in genomics reported that informal 'hands on' group learning was the most influential learning method for genomic practice, ranked above formal learning.[6] Such collaborative processes are important for developing a shared understanding of what the new initiative means, defining how tailoring and adaptation to local conditions is to be done, and building local capacity to achieve the change.

Second, collaboration can traverse the relationship between knowledge generators and knowledge users: that is, between researchers or developers of care pathways or guidelines, clinicians and consumers.[7 8] The value of communication between designers, implementers and receivers of care is well established in the translational research literature, in which groups bring their respective expertise to the table to set appropriate and acceptable agendas, look for innovative, feasible solutions and effect sustainable change.[9 10]

Setting

We conducted a realist evaluation of four 'first tranche' multisite patient improvement initiatives that were rolled out to all public hospitals (n>100) within the 16 local health districts (LHDs) in New South Wales (NSW), Australia commencing in 2017–2018. The Leading Better Value Care (LBVC) initiatives were supported by the NSW Ministry of Health, the Agency for Clinical Innovation, the Bureau of Health Information and the Clinical Excellence Commission.[11] The initiatives aimed to implement evidence-based models of care to ensure the right care in the right setting at the right time, to reduce unwarranted practice variation, and to promote patient-centred care.[12] Since 2018, a second tranche of projects has begun.

The four LBVC initiatives studied: Renal Supportive Care (RSC), Osteoporosis re-fracture prevention (ORP), High-risk Foot Service (HRFS) and Osteoarthritis Chronic Care Programme (OACCP) (for details see online supplemental table 1f). To emphasise the multisite, large-scale nature of these initiatives, figure 1 shows the location of two multidisciplinary ambulatory care model initiatives within the 16 health districts: the High-risk Foot Service (n=25 services now established) and Osteoarthritis Chronic Care Programme (n=26 now established).

The Expert Recommendations for Implementing Change (ERIC)[13] taxonomy of 73 implementation strategies includes a number of strategies involving collaboration that are relevant to the large-scale, multisite context of our study. These were mapped to key strategies used in the LBVC implementation. Our focus was on collaboration across sites. Table 1 shows the ERIC strategies and how they were used in the LBVC programme. The main strategy employed in the LBVC initiatives was the provision of structured peer mentoring activities.

The aim of this study is to conduct a realist evaluation of the four LBVC initiatives, concentrating on the implementation strategy of *structuring and supporting collaboration*. Evidence for the CMOs that facilitated success in implementation strategies around collaboration was collated. We then distilled from this data, guiding principles for collaborative implementation strategies of multisite initiatives that will be of relevance to support agencies and implementers.

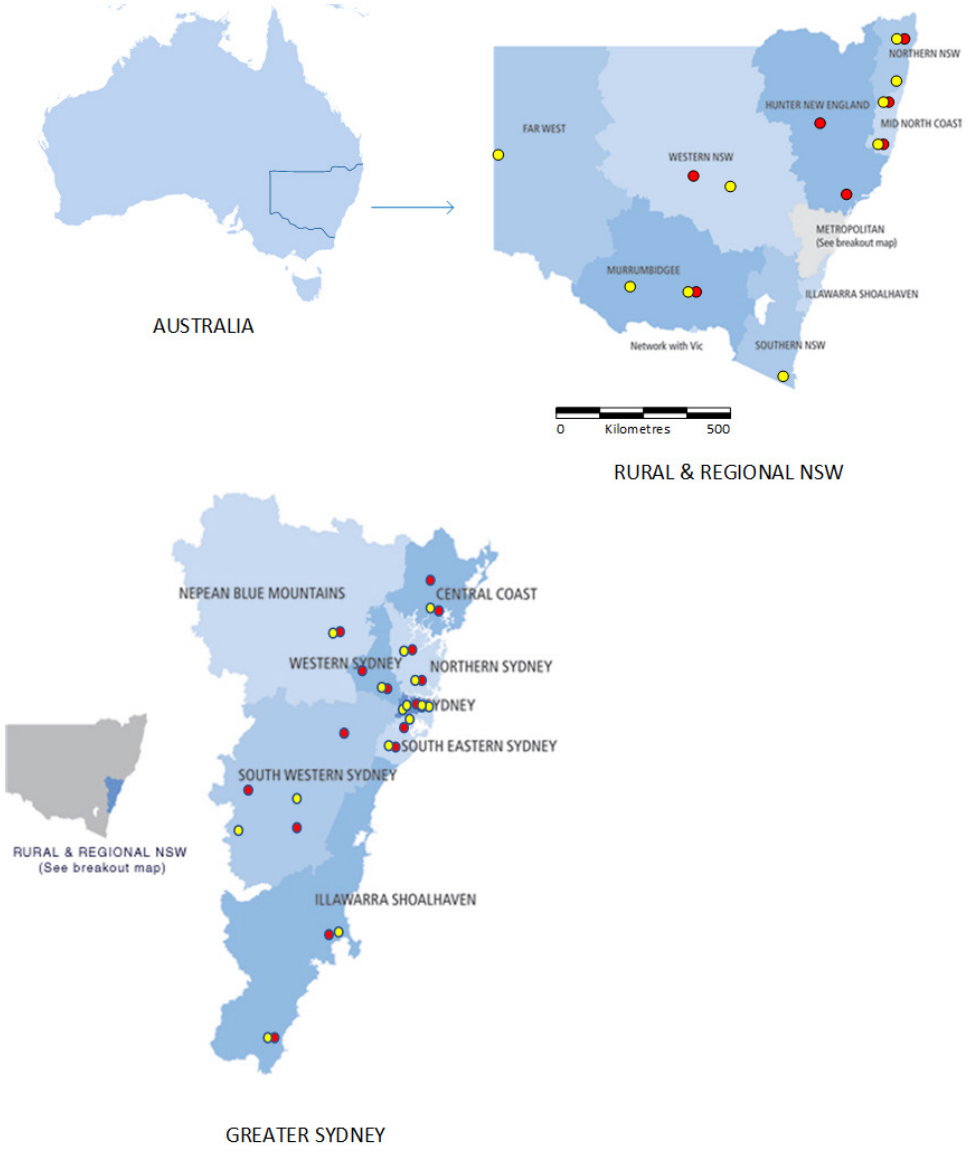

Figure 1 Multidisciplinary, ambulatory care initiatives in New South Wales across the 16 local health districts. High Risk Foot Services; Osteoarthritis Chronic Care Services (Maps from NSW Health website https://www.health.nsw.gov.au/lhd/Pages/default.aspx).

METHODS

Overview

The mixed-method realist evaluation used an iterative process that has been reported in detail in a methodology paper elsewhere.[11] Briefly, the first stage involved a realist review of implementation strategies for large-scale multisite initiatives,[2] and review of publicly available LBVC initiative documents. Implementation strategies described in documents and informal talks with the study partners, NSW Ministry of Health, Agency for Clinical Innovation and Bureau of Health Information, were also collated and explored. Next, research team members surfaced initial programme theories that were thought to underlie the implementation strategies' outcomes in workshops using a realist dialogic approach that brought all these data sources and the expertise of the researcher team together.[14] Initial programme theory areas were used to design realist interview schedules (eight different schedules) to elicit evidence to support, refute or refine CMO configurations.[15] The eight initial programme theory areas identified were business case for change, monitoring and evaluation, 'tight loose tight' approach, resource provision, capability development, leadership, audit and feedback, and collaboration.

Schedules were matched to appropriate informants. Participants were: (1) NSW Ministry of Health participants involved in overall design of the programme, authorisation, governance and provision of resources and data; (2) Agency for Clinical Innovation participants who were involved in the clinical design of the interventions, and structured and delivered implementation support; and (3) LHD participants—the implementers themselves—who worked at the hospital sites. A total of 142 participants were invited to an interview across all eight

Table 1 Implementation strategies involving collaboration (Powell *et al* 2015) and how they were enacted in the New South Wales initiatives

Strategy	Details	How the strategy worked in the studied initiatives
Capture and share local knowledge	Capture local knowledge from implementation sites on how implementers and clinicians made something work in their setting and then share it with other sites	Monthly peer mentoring meetings involving implementers from multiple sites facilitated by ACI
Create a learning collaborative	Facilitate the formation of groups of providers or provider organisations and foster a collaborative learning environment to improve implementation of the clinical innovation	Monthly peer mentoring meetings facilitated by ACI
Promote network weaving	Identify and build on existing high-quality working relationships and networks within and outside the organisation, organisational units, teams, etc to promote information sharing, collaborative problem solving and a shared vision/goal related to implementing the innovation	ACI encouraged and facilitated relationship-building across sites and teams
Provide ongoing consultation	Provide ongoing consultation with one or more experts in the strategies used to support implementing the innovation	ACI facilitated access to the clinical network managers involved in developing the initiatives
Use an implementation advisor	Seek guidance from experts in implementation	ACI facilitated access to the clinical implementation team with implementation expertise
Visit other sites	Visit sites where a similar implementation effort has been considered successful	Local implementers could visit other sites as appropriate; facilitated by ACI or by the implementers themselves

ACI, Agency for Clinical Innovation.

initial programme theory areas, but this paper is based on 20 short-listed informants who were invited to be interviewed. These 20 informants were identified as having key experience on the collaboration programme theory area. Fourteen of these informants accepted our invitation. Figure 2 provides a summary of the steps.

Recruitment

The partner investigators at Ministry of Health and Agency for Clinical Innovation identified potential key informants who were then invited by the research team to an interview. Participants were provided with study information and gave written consent. LHD participant

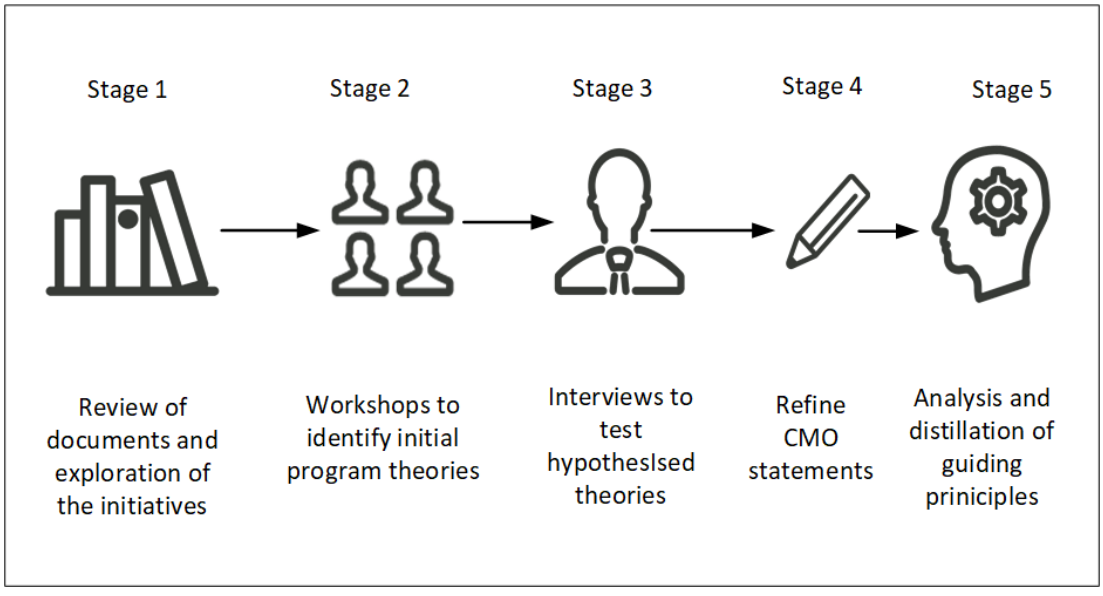

Figure 2 Methods overview. CMO, context–mechanism–outcome statements.

recruitment was facilitated by members of the statewide LBVC Steering Committee. Interviews were conducted via videoconference and were audiorecorded. Interviews were conducted between November 2020 and August 2021, access to participants being difficult during COVID-19 response. Interviews were conducted by two postdoctoral researchers (EFA (sociologist) and MNS (clinician)) experienced in qualitative research. Data were transcribed verbatim and retroductively analysed in NVivo V.20. Participants and sites were deidentified for the reporting.

Analysis

Analysis was undertaken by the research team (EFA, MNS, NR (psychology), and JL (clinician)) working individually and together, with weekly meetings to discuss findings and interpretation. Interviews were coded within the initial programme theory area (eg, capability development, collaboration) to identify CMOs. Data were analysed and synthesised across initiatives and initial programme theory areas to craft CMO statements, each supported by a bank of representative quotes. This ensured that collaborative strategies were not analysed in isolation but considered as part of a suite of strategies. Interim findings were presented to the broader research team (including partners from the Ministry of Health and Agency of Clinical Innovation) who gave feedback on the interpretation, and at times filled in useful background information, and then validated final results. In the final step, the CMOs were distilled into guiding principles for agencies and individuals implementing multi-site initiatives.

We report on the collaboration initial programme theory area and CMOs with interview informants from Ministry of Health and Agency for Clinical Innovation (who were knowledgeable about all initiatives) and clinical leads and project officers from the Osteoarthritis Chronic Care Service, High Risk Foot Service, Renal Supportive Care and Osteoporosis Refracture Prevention initiatives.

Patient and public involvement

Consumers were not included in this research. Consumers are an integral part of our research strategy and provide advice in our annual research consultation and in other ways.

RESULTS

The initial steps identified two main implementation strategies used by the LBVC programme to support collaboration[1]: peer mentoring opportunities (for OACCP, ORP, HRFS, RSC initiatives) in the form of (i) monthly face-to-face meetings of project leads, again organised and facilitated by the Agency for Clinical Innovation[2], and (ii) an online collaboration portal on which people involved in the initiatives could post questions, discuss challenges and find project information. The portal was facilitated by the Agency for Clinical Innovation. Initial programme theories of how collaboration facilitates implementation were drafted although outcomes of collaboration were at this time only articulated in general terms:

1. When support agencies provide infrastructure for collaboration (C) it enables access to peer mentoring workshops and online collaboration (M), leading to establishment of professional networks, communication pathways and an active community of practice (O).
2. Where funding to attend face-to-face peer mentoring workshops is not provided for all project leads (C), access is limited (M) and the network is restricted to those able to attend (O).

The collaboration interview schedule was directed to interview participants for whom this was a prominent strategy. An example of the questions used for this initial programme theory area is:

> Can you tell me initially what's involved in successful collaboration? What does that lead to? (O) Why does it work like that? (M) Prompt: Equal access? (M) What are the ingredients for [insert mechanism] (C) How did you find that out?

Participants

Fourteen participants took part in the interviews: four informants from Ministry of Health and the Agency for Clinical Innovation (from seven that were invited). These informants are referred to collectively as 'facilitators' as their primary role was support for collaboration. Ten out of 20 invited participants from the LHD sites (clinical leads, project officers, clinicians) also took part in an interview. These participants are collectively referred to as the 'implementers' on the ground who were participating in the collaboration. Questions were tailored to facilitators or implementers depending on their role. Demographic data on the 10 implementer participants is given in table 2. This shows the spread of disciplines, the equal number of male and female participants and that most were experienced mid-career clinicians, reinforcing their selection as key informants able to give detailed, rich and nuanced data.

Collaboration through peer mentoring meetings

Collaboration was most frequently referred to in association with peer mentoring meetings convened, structured and run by the Agency for Clinical Innovation, and opportunities to work with others arising from those events. An implementer of the ORP initiative described how the peer mentoring meetings were conducted.

> So, mainly all the fracture liaison coordinators went but it was also sometimes other allied health staff that worked within the ORP clinics, and usually they were there a whole day. When I went it was pre-COVID so they were all face to face, and it was usually like a couple of hours of presentations from either a doctor or a site on what they were doing and what was working well; some education around medicines for the management of osteoporosis because most of us

Table 2 Demographic information about implementer informants

	Frequency (n=10)
Age group	
<30	1
31–45	2
46–60	5
61+	1
Gender	
Male	5
Female	5
Profession	
Nursing	3
Medical	2
Allied Health	5
Years in healthcare	
6–10	1
>10	9
Years at the LHD	
6–10	2
>10	8

LHD, local health district.

were allied health background, and then lots of interaction with other sites about what they're doing well, what they're not doing well and then activities to begin with when we were all setting up our services, like group activities where it was like, what are your problems and how are you solving them and who has a similar problem so we can help each other to solve them. And then once the services were more up and running, it was people sharing success stories and how they've managed to overcome a challenge, or you know, sharing business cases for how they managed to get funding, that sort of stuff so other sides could learn from each other, rather than as I saw, reinventing the wheel and doing the same thing 20 different ways. (Implementer 2306 ORP)

CMO statements

Four CMO statements were formulated from the interviews:

1. (C) Provision of infrastructure for collaboration that fosters professional networks, communication pathways and communities of practice across LHDs and sites (M) allows clinical champions to support each other by sharing experiences, learnings and documents that are 'tried and tested'. (O) This reduces duplication of effort and renews energy to scale-up solutions.
2. (C) In situations where there is uncertainty around lines of accountability, tailored support is needed to (M) manage relationships and align conflicting information and priorities from different sources. (O) This external support helps to legitimise and authorise initiative activities, improving situational awareness of who is responsible for what.
3. (C) When part of a mature community of practice, which includes all the key players, that can open doors to those with different levels of experience, (M) clinical champions are primed to work out how to (O) practically apply the initiative locally.
4. (C) When conscious efforts are made to remain solutions-oriented and remove hierarchies from peer mentoring activities, (M) a common understanding of what is needed to deliver the initiative fosters (O) effective collective action.

Guidelines for supporting effective collaboration

The CMO statements and the evidence on which they were based were distilled into guiding principles for implementation strategies that foster collaboration, especially across sites. These are presented in figure 3 and below with supporting evidence from the interviews.

(1) Structured opportunities for cross-site collaboration should be built into large-scale initiatives

Participants spoke of the value of having an external agency (here, the Agency for Clinical Innovation) that took responsibility for structuring opportunities for collaboration. The monthly peer mentoring meetings were built into the LBVC initiatives' support for the health districts.

I think if the ACI [Agency for Clinical Innovation] weren't there organising the days, organising the space, coordinating those events, I don't think that would have happened if it was just relying on the clinicians to try and make time to have those events as clinicians. …I think it's probably impossible if you don't have someone like the ACI to facilitate it. (Implementer 2306, ORP)

These structured meetings fostered professional networks, communication pathways and helped communities of practice to be formed and maintained. Networking across the health districts was particularly valued, where collaboration could clarify objectives, understand differences necessitated by different contexts and generate ideas for sites based on similar contexts.

I think, for me, one of the main benefits was networking. You know, it gives you an opportunity to hear the different models, and particularly for us, in a regional…rural setting [we have] challenges slightly different than in metro areas. So, you know, it was good to hear what other regional sites were doing and how they are overcoming similar barriers and issues within their services. (Implementer 2104, all initiatives)

The value of learning from implementers at other sites was emphasised. This collaboration allowed an increase

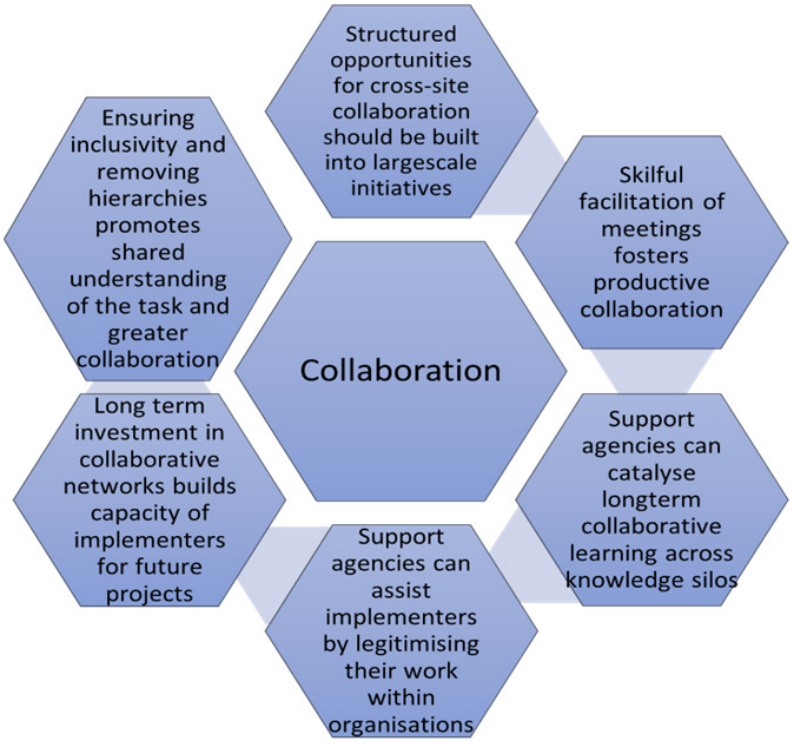

Figure 3 Guidelines for supporting effective collaboration as an implementation strategy in large-scale initiatives.

in the implementers' knowledge and skills and meant that effort was not duplicated.

> I think probably one of the most useful things to me, because obviously I knew what osteoporosis was, as a physio, but I've never really directly treated it. So, a lot of the resources that other sites have put together, whether they were like education handouts on information or exercises that they use with the patients in my clinics, being able to use those things or refer to those things and then create some bits, [make a] specific one. That was really useful for me. (Implementer 2306 ORP)

The peer mentoring workshops were not just for progress reports from each of the sites but for practical sharing of how each group had solved problems and developed new workflows. Again, the idea of collaboration allowing the spread of good ideas and ways of solving problems was evident.

> It's not about pointing out who's doing what and where it's at in this district. But you know, it's showcasing who's doing this amazing work: here's how they do it. Here's how they develop the model and then other networks and leads catch onto that and eventually take that back to their own service. Talking about scale and spread, it's not necessarily within your own district, it can be across districts as well. (Facilitator 0008)

Structured opportunities for collaboration were also useful within health districts to coordinate and learn from the other hospital sites within the same district. Strategic staggering of implementation across the sites meant that those starting first were able to mentor those following.

> **Interviewer:** We're curious about how that kind of networking stuff helps when implementing something on the ground…
>
> **Participant:** For me, I use it the most to find contacts with people we work locally with, so I would always talk to [Hospital A, B and C] the most, because we also share the same [patient management system]… So, we always have the same issues…I probably didn't use them as much as they used us at [Hospital D]. Yeah, because they came down a lot to see how we put our [multidisciplinary team] initiatives in practice… probably because we started a few months before them. (Implementer 0106 OACCP)

(2) Skilful facilitation of meetings fosters productive collaboration

A number of participants described the value of skilful facilitation in the peer mentoring groups (also referred to as communities of practice) and the usefulness of having access to people with extensive networks across the state hospitals. Facilitators from the Agency for Clinical Innovation directed discussions to practical concerns and solutions and could act as brokers across sites and knowledge silos as requested.

> It's supposed to be an informal community of practice, that's led by them [the implementers]…so often, you know, someone might say 'oh can you connect me to one of your [contacts]' and we do that. So, we're very much a conduit in enabling those connections. (Facilitator 0008)

(3) Support agencies can catalyse long-term collaborative learning across knowledge silos

Outside of the peer mentoring meetings, implementers gave examples of collaboration and learning that they initiated themselves. Once implementers had met the key implementers from other sites, they exchanged information and offered help outside of the meetings. This self-organisation of collaborative partnering was clearly catalysed by the peer mentoring meetings where individuals had formally met for the first time and broke the ice. Interviewees talked of feeling free to seek advice from other implementers they had met, as well as how implementers reached out to them to provide advice and support.

> You learnt, who the Fracture Liaison Coordinator is at other sites [through the meetings]…so, I could just email someone if I had a question or I knew they were doing something really great at another site, then I could email the questions…For new sites that were coming online, [they said] 'come out and have a look at what we've actually done', or even once we were up and running, and you're looking at expansion. Some sites like [Health District X] especially had a really good MDT [multidisciplinary team] set up. So, you know, they were offering for other sites, and other Fracture Liaison Coordinators to visit them to see how they do it and what they've got set up. (Implementer 2306 ORP)

(4) Support agencies can assist implementers by legitimising their work within organisations

Ensuring executive support and engagement is another frequently advised implementation strategy. From this engagement flows good communication, clear expectations, support for changed workflows and recognition for implementers making the changes. This support however can wane or cease if new people take over executive roles mid-project. Similar issues exist if heads of department or senior doctors are not engaged and supportive. Participants described how the presence of external support agencies were useful in adding legitimacy to the initiatives and spurring greater engagement across organisations.

> **Interviewer:** We've heard some stories that having [Agency for Clinical Innovation] come in helps to give a bit of legitimacy to different initiatives, whereas other people said it was really more about getting a certain doctor or certain groups of doctors on board. How did it work for you?
>
> **Participant:** Interestingly, it probably gave us more leeway with the more senior executive, so more support around the Director of Medical services or the Director of Nursing at the hospital, trying to get them on board. As far as we were going, we already had a clinic operating up at [Hospital C], so we knew that the staff specialists were on board. (Implementer 1506 OACCP)

(5) Long-term investment in collaborative networks builds capacity of implementers for future projects

The investment in collaborative meetings over time and growing networks across sites were not just useful for LBVC projects. The increased capability and experience of the implementers were thought to become useful resources for other projects. Moreover, the facilitators described their role to be like scaffolding of developing networks which could be removed once the collaborations had been built.

> Yeah, and [the implementers who attended the meetings were] very collaborative; they are happy to share—people speak up, it's a very safe place…And when we've [Agency for Clinical Innovation staff] moved on to other projects where there's other stakeholders involved, that still continues. So, I think the foundation has been really set and sort of maintained over time that they feel safe around the ACI or the network as a support mechanism for them…I think it's really helped [to have the monthly peer mentoring meetings] and we don't really have any evidence from this but anecdotally, we know that they link up with each other so it takes some time in terms of a sustainability approach but it needs to be done over a number of years to get to that point, that they link, they go to each other so that we don't necessarily have to be the holder of all that information, but that they can link up. You know, with their peers and get that clinical advice across, you know sites and networks. (Facilitator 0030)

> Yeah, look certainly [the peer mentoring meetings] are very foundational. It is fair to say really when I was starting—my background is in physio and acute health I've worked in a lot of areas—so I had a good understanding working along the sort of types of patients, types of interventions, surgeries and stuff like that. But what they [Agency for Clinical Innovation] brought to the table was the evidence and the model of care and I guess a working model of care within that space. So that, that was really what, you know, what we were able to take forward as something that has been successful and worked, was based in evidence and really set a strong foundation for replicating that service more globally. (Implementer 2104 all initiatives)

(6) Ensuring inclusivity and removing hierarchies promotes shared understanding of the task and greater collaboration

The idea of psychological safety to speak up in meetings was mentioned as a major facilitator of collaboration and learning by several informants, as was an inclusive multidisciplinary team approach. This was achieved through a conscious equalising of roles and traditional, hospital profession-based hierarchies, where nominated leaders took a back seat and respect was shown for all members and professions.

I feel like with the peer mentoring activities, everyone participates really openly, really respectfully. Everyone brings examples of things that aren't working, or things they have done differently…Even though [Name] was the [Facilitator Lead], she sat back and tried to foster communications. She wasn't there as the boss, or the head. She was just there as a facilitator and guide and gave assistance to us. There was no service that tried to be bigger and better than other services. We all were on an even playing field and just shared and learnt from each other. It was invaluable. (Implementer 2505 ORP)

It was good to learn about all that stuff [different hospital's model of care] in the peer mentoring [meetings] and collaborate from that perspective. For the best thing we did was the *Health Change Australia* training and having all of the clinicians attend at one point or another, and then utilising that as we set ourselves up. So, once we had our physio, dietitian, occupational therapists, and social workers on board, and we had all done the training, we all sat down quite regularly to get our language the same. We talked about osteoarthritis, the same way, and used the same terminology. (Implementer 0106 OACCP)

When I became [lead of the community of practice], I made sure that we modified the terms of reference of the committee to include representation from rural and regional areas…We made sure that there was representation of dietitians and social workers and nursing into that committee. (Implementer 1606 RSC)

I think certainly the dynamics were really positive. I can't recall any issues. I think everyone was generally fairly engaged. Everyone was given an opportunity to speak and to be heard. The learnings were positive. So yeah, the engagement was really good. You know, I guess like anything, you'd go to a few of these things, and some people are always there and other people are conspicuous by their absence. But generally, I thought there was always a pretty good roll out. I think everyone that went there generally got something out of it. And even if you weren't speaking directly, or had much to offer at that time, you certainly came away feeling a little bit more informed and confident. (Implementer 2104 all initiatives)

DISCUSSION

Our six guiding principles of collaborative implementation provide clear advice to initiators of multisite interventions on how to structure context to trigger key mechanisms, resulting in desired outcomes. Collaboration across sites and health districts as they implement a state-wide initiative is seen as a potent implementation tool with three main benefits described. First, collaboration with implementers from other sites was described as resulting in reduced implementation effort through the mechanism of learning from each other: how to set up the project initially, or to solve common barriers. Renewed energy and commitment to the initiatives were triggered through hearing of the success of others, and there were reports of a general increase in knowledge and confidence around the project through time spent reflecting on and discussing work so far. Second, participants articulated positive outcomes from the collaboration between implementers and the Agency for Clinical Innovation and Ministry of Health. Collaboration here triggered increased legitimacy for the site-based implementers in the eyes of the executive resulting in greater buy-in from senior managers. Third, collaboration with the Agency for Clinical Innovation staff gave implementers access to a source of information about the interventions (from clinical network managers and staff who helped develop the initiatives) and implementation (from the implementation officers). Agency for Clinical Innovation personnel also acted as knowledgeable go-betweens who could link up clinicians with other implementers or services from across the sites that would be beneficial.

The guiding principles describe the contexts necessary to trigger these positive mechanisms and outcomes; structuring and facilitating externally convened peer mentoring meetings and ensuring protected time and assistance from the health districts for implementers to attend the meetings triggered group problem solving, sharing of skills and good ways to do things and encouraged flagging teams (guiding principle 1). Structuring this support requires early planning for change architects, to ensure there are expert resources available. Knowledgeable and supportive facilitation of meetings provided a safe space for health professionals from different disciplines to contribute equally, enhancing learning and utilisation of all members' skills and knowledge (guiding principle 2, 3, 6). The value of psychological safety in multidisciplinary teams and meetings is well established.[16] A focus on long-term outcomes triggered the emergence of lasting relationships which led to collaboration well beyond the current project (guiding principles 3, 4, 5).

Externally convened, structured opportunities for collaboration across sites and health districts took the burden of initiating these meetings from time-stretched implementers, but they had a second beneficial outcome. Implementation guides often advise choosing clinical champions to lead implementation efforts—people who already have broad experience, expertise and network connections.[17] However, staffing issues often mean that choice of a project officer or clinical lead may be more about staff availability than their personal attributes. The peer mentoring meetings convened by agencies that have access to staff across all the health districts, provided a tailored opportunity for project officers and other implementers to build their experience, knowledge and networks with others, transforming them into clinical champions. This, in turn, built capability around each initiative, with skills that could be carried forward into future initiatives.

Accounts of where cross-site collaborative strategies did not work as intended were scarce. One informant noted that not all people invited to the peer mentoring sessions participated: 'Some people are always there and other people are conspicuous by their absence'. Failure to engage may not be intentional. For instance, the implementers concerned may not have had support from executive or senior management to travel to the meetings, or in a climate of staff shortages, service delivery may have taken precedence over meetings. There were a few references to the disruptive nature of staff turnover, where collaboration lost momentum while the new person in the position learnt about the initiative. There were also accounts of senior clinicians or executive members 'not being on board' and railroading progress. The presence of external facilitation agencies went some way to legitimise the efforts of implementers and the initiatives at some sites.

The implementation support described by the participants closely fit the *emergent innovation levers* for change described by Levesque and Sutherland.[18] Participants benefited from *Cognitive levers* (being informed about what had worked at other sites), *formative levers* (training to increase capability, group problem-solving) and *supportive* (facilitation and provision of information on models of care). Given the externally initiated and governed nature of the LBVC programme, it was surprising that the *planned innovation levers* (coercive, normative, competitive and structural) were not described by participants. While this may be because the interview schedule deliberately focused on collaboration, it is still notable that the most effective levers for change fit the emergent model.

Strengths and limitations

Our exploration of implementation strategies that were based on theories of collaboration yielded rich data from across the LBVC initiatives' implementers and support agencies. Rigorous interview design, administration and analysis by a team of experienced researchers ensured nuanced and detailed results.[14] High-level findings are generalisable to other large-scale hospital initiatives but ramifications of different contextual factors (eg, implementation of mandated initiatives linked to incentives) need to be considered. Our focus was on cross-site collaboration and so says less about collaboration within sites. The Australian context of state-run public hospitals, overseen and supported by government needs to be considered also before generalisation to other international sites can occur.

CONCLUSIONS

This realist evaluation of implementation strategies based on building collaboration used a multistep process to understand the underlying reasons why implementation strategies work as intended in some contexts but not in others. Our detailed results from interviews with key informants were distilled into six guiding principles. Large-scale hospital initiatives should be accompanied by structured opportunities for collaboration, taking the burden from clinicians. Skilful facilitation of these meetings can foster learning and problem solving across sites and broker useful long-term relationships. Support agencies can assist on the ground implementers by giving legitimacy to their efforts in the eyes of senior management which can lead to greater support. A key strategy to promoting a shared vision and momentum for change was ensuring inclusive networks where everyone had a voice and a valued opinion.

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