

Improving older people's care in one acute hospital setting: a realist evaluation of a KT intervention

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Improving older people's care in one acute hospital setting: a realist evaluation of a KT intervention



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Content

List of Figures and Tables				
Abstract		1		
Introduction		2		
Method		3		
Development of the preliminary propositions	3			
Participants and Setting	4			
Research design	4			
Data sources and analysis	4			
Rigour	5			
Ethics	5			
Main Findings		6		
Stage 1: Preliminary Proposition Development and Testing	6			
Stage 2: The Four Emerging Generative Mechanisms	11			
Discussion		20		
Using Realist Evaluation method	20			
Lessons learned	21			
Challenges and limitations	21			
Conclusions		24		
Competing interests		25		
Authors' contributions				
Acknowledgements				
References				

List of Figures and Tables

-igure 1: TOPIC7 Project Overview	/
Figure 2: Mechanism 1 Build on existing structure and support	12
Figure 3: Mechanism 2 Optimising existing human potential	14
Figure 4: Mechanism 3: Focus on the patient	16
Figure 5: Mechanism 4: On-going support through facilitation	19
Table 1: Use of evidence based guidelines by KT improvement teams	8
Table 2: Summary of Preliminary Propositions	10

Abstract

Background: Older people make up an increasingly large group using acute care facilities yet the nature of the care is often not conducive to their personal needs, wellbeing and recovery. This research explored how a structured intervention (called the KT Toolkit) could help frontline clinical staff improve the care for older people going through one acute hospital setting in South Australia.

Methods/Design: The case study approach used draws on the overarching framework of realist evaluation, a methodology designed to test, refine and explain what is happening in complex situations. Seven parallel teams within the organisation selected one discrete clinical area each for improvement through the introduction of evidence based practice guidelines. Each improvement team's progress was recorded using multiple data sources including ethnographic observations, semi structured interviews, document reviews and other routinely collected data on nursing care. Each of the seven journeys was analysed and synthesised according to the principles of realist evaluation where the role of the researchers (and stakeholders) is to elucidate what things work for which teams in what particular circumstances thus arriving at a set of explanatory statements.

Results: Four broad mechanisms appeared to be affecting the way improvements were being introduced into the clinical areas by the seven different teams: building on existing structures and support; optimising existing human potential; focus on the older person and on-going support through facilitation. Within these mechanisms a range of different actions and behaviours were noted but collectively the teams were able to show how these mechanisms enabled them to make progress in improving discrete aspects of care for their older patients.

Conclusions: The use of realist evaluation as the overarching methodological framework enabled the research team to document and interpret the complex interactions happening at the level of everyday practice. Such interpretations enabled the research team to engage the clinical teams and work with them on on-going improvements. We found that even trying to improve the so-called simplest of aspects of care (e.g. weighing patients as part of nutritional care) was fraught with challenges. Also, our use of the realist method raised a number of theoretical and methodological questions that need further refining and in particular how realist evaluation relates to knowledge translation (KT) conceptual frameworks.

Introduction

This paper explores the use of realist evaluation as an integrative methodological framework for the evaluation of a structured facilitated KT intervention designed to improve the care of older people in the acute care setting. The paper describes the challenges in using the approach as well as outlining some of the conclusions drawn from the analysis.

Changing demographics has seen growth in not only the number of older patients but also in patients presenting with multiple co-morbidities across most advanced health systems.¹ On top of this is the increased risk of functional decline when in hospital, leading to more complex challenges in terms of effective and timely outcomes.² In response, Governments have prioritised Care of Older People.^{3,4,5} The success of such national policy strategies invariably comes down to the level of the hospital or health system with an expectation that the advice and guidance contained in the strategy will be implemented. Most often there is little understanding about how these strategies can be implemented, the level to which the recommendations are based on evidence and how they can build on existing improvement techniques already embedded in the local system.

It was in response to these trends and challenges that one tertiary hospital in South Australia developed a system wide program to support the implementation of evidence into practice using elements of existing patient safety, quality improvement (QI), and evidence based practice (EBP) methods. The program was called The Older Person and Improving Care Project (TOPIC 7). Frontline staff selected seven different topics for improvement (hence TOPIC7) within one acute hospital setting.

The intervention was known as the KT Toolkit. Wiechula et al have described it in detail elsewhere.⁶ Essentially it comprised three main elements: the 'local internal facilitators' (LIFs) who were recruited by the project lead to establish the project and introduce the toolkit using local clinical leaders; the 'facilitation' which was about negotiating access and resources, delivering the teaching and on-going support around the toolkit; and the 'technical content' of the toolkit which was made up of a variety of quality improvement, audit, action cycle tools techniques and strategies.

We used the PARIHS framework^{7,8} to guide our approach to the intervention. We introduced the four dimensions of evidence (from research in the form of guidelines, from clinical expertise and experience, from patients and from routine data) as described in the framework to participants. We demonstrated how different types of evidence⁹ could be integrated to create new standards. We addressed context¹⁰ by ensuring that the project participants were recruited from across the hospital system thereby 'mixing up' the potential effects of contextual elements such as culture and leadership characteristics. Finally, facilitation,¹¹ the third dimension was actively used to support the local knowledge translation (KT) teams setting up their KT projects and to address the multiple levels of negotiation and communication that were required throughout the project. We also created teaching material based on QI methods familiar to the staff in order to structure the introduction of the new evidence based practices.

Method

Realist evaluation is a largely qualitative approach to developing, testing and refining ideas or theories about the effectiveness of certain interventions or programs in the real world.¹² Drawing on the philosophical position of realism, the realist evaluation approach focuses particular attention on three core ingredients of every program: the context (C) or setting where the program operates; the mechanism (M) or elements that are considered to be pivotal in determining events; and the outcomes (O) or results of the program (both intended and unintended).

Pawson and Tilley have described a number of key principles to this approach.¹² They recommend stakeholder engagement in the whole evaluative process and describe mechanisms as theories (defined here as a set of propositions) that are based on a number of ideas or conjectures that make connections between what people plan to do in order to get a certain outcome. They also say contexts influence mechanisms.

They outline a set of steps to developing and testing the relationship between the mechanisms, outcomes and contexts which include mapping out the range of possible relationships (called conjectured CMOs), checking these preliminary ideas out against emerging data (called refined CMOs) and finally moving to more confident summaries of what they think is actually happening (called generative explanations). They reinforce the fact that these explanations are not causal; they are about explaining relationships. The evaluative process should be cumulative rather than explanatory.

The method lends itself to the use of multiple data sources in a pragmatic and reflexive manner and this flexibility enables the researchers to build up a picture of the case being studied and track its progress over time. It also enables the evaluation team to look at the 'whole process' and explore what factors and pre-conditions are likely to lead to positive outcomes. This approach does not offer definitive answers to whether certain programs or interventions work: rather it tells a story about what things are most likely to help make it a success.

Development of the preliminary propositions

Some studies recommend the structuring of the preliminary propositions on a detailed literature review or synthesis where high level statements or propositions are generated. In this project we used the PARIHS framework as the overarching theoretical framework and the structure of the KT Toolkit to direct local implementation teams. We then refined the emerging propositions based on our experiences of the implementation process and on our working knowledge of KT processes and methods. The preliminary propositions were consequently quite concrete and specific rather than operating at a high level of abstraction. In order to make it easier to understand how realist propositions work we have identified the elements of C, M and O within each proposition:

- Frontline staff (C) can be facilitated to use existing patient safety, quality improvement (QI) and evidence based practice (EBP) tools and other resources (the KT Toolkit) (M) to improve care of older people (O).
- 2. Fundamental aspects of care for older people (O) in the acute hospital setting (C) can be improved through the introduction and use of specific evidence-based guidelines (M) by frontline staff (C).
- 3. Clinical leaders (ward managers) can be supported to take on lead roles (M) in transforming care (O) across the whole hospital system (C).

- 4. Innovations can be introduced and improvements made to care (O) within a 12 month timeframe (C) with appropriate facilitation (M).
- 5. By engaging the whole system (both C and M) in introducing one aspect of innovation (i.e. improving care of older people) (M) the chances of successful implementation are increased (O).

These propositions were then used to test the data as it was analysed.

Participants and Setting

The project lead recruited the co-ordinating team (local internal facilitators) (n=5) on the basis of skills, experience, expertise and willingness to be involved. Team participants were recruited at the introductory workshop where seven clinical themes were prioritised (functional decline; nutrition; continence; pain management; clinical assessment; confusion; path best travelled). Fourteen clinical leaders volunteered to lead the groups, two co-leads selecting to work together on each topic.

Following the introductory workshop, team members (n=45) were recruited by the co-leads for the seven topics.

Four Service Heads of Medicine and seven Service Heads of Nursing were interviewed at the commencement of the study and on conclusion. Four consumers together with four clinicians were recruited to form part of a co-operative inquiry group¹⁴ that was established during the project. The consumers were all older people who were part of the hospital's consumer advisory network. The purpose of this group was to create another way of engaging clinicians and consumers in a structured dialogue about caring for older people.

The setting was a large (>670 bed) tertiary facility in South Australia operating as a referral centre for complex care across the state and managing a large volume of emergency care cases. The medical and nursing population was relatively stable with many personnel having worked together for several years. The hospital was at the centre of a major redevelopment plan during the time of study as well as experiencing multiple senior management re-organisations.

Research design

We selected an interpretative case study design for our method of data collection and analysis, drawing on the principles of realist evaluation as described above. The purpose was not to find out if the KT Toolkit worked but to find out more how the elements of the program were shaped, enabled and constrained by interactions between the context of the program and the chosen mechanisms of change. We defined a case as the activities of each of the seven implementation teams. Therefore we were analysing each team's actions as part of a composite story about improving care of older people in one hospital setting.

Data sources and analysis

In order to capture the complex and dynamic nature of change we used a range of data sources, both routinely available data and data collected by the evaluation team. These included direct observations at the facilitation workshops, team meetings, study days and on the ward interactions with KT leaders; semi-structured interviews with service managers, team leads and team members; examination of documentary and routinely collected process and outcome data and informal discussions with key stakeholders across the hospital system. We also set up a series of structured interactions with older people as consumers. The final data source we used was the application of a measure of context. 15,16

Due to the interactive and collaborative nature of the project, where the evaluation team were also the facilitators of the KT Toolkit intervention, we had the ability to know what was happening in a very direct and intimate way. This both helped us to keep the project on track and also created challenges for us in terms of the evaluation process: how much of the impact was due to our intervention as facilitators and how much was happening as a result of the teams being able to manage the process independently? These questions will be dealt with later on in the paper.

We used a combination of data analysis processes to draw our conclusions. These included:

- Collecting and coding primary data from a number of sources including direct observations, routinely collected data, facilitators' experiences and team members' experiences
- Using the summaries to inform and shape the on-going intervention which were informally fed back by the LIFs during interactions with team leads
- Providing feedback to the team leaders about the process at quarterly workshops and at the planned action learning set events
- Arranging a series of hospital wide presentations about the project in order to inform and update the wider constituency
- Engaging with different stakeholder groups throughout the process (e.g. setting up the cooperative inquiry process, facilitating a workshop for medical and nursing team leads, meeting
 with the allied health staff) and using these data to inform some of the wider elements of
 the interpretation
- Analysing the data at different levels of complexity beginning with straightforward descriptive accounts of the experiences' of each of the teams to collating these accounts to integrated representations
- Using these composite interpretations to explain what was happening and to move from the
 preliminary propositions to creating a more overarching set of propositions (or mechanisms) that
 might be influencing the overall processes.

Rigour

We approached the issue of rigour by following the basic principles of interpretative case study.¹⁷ Our cases were defined as the seven improvement teams and due to the nature of our roles as evaluators and facilitators, we were closely involved in what was actually happening on the ground, thereby addressing the concept of achieving immersion in the data. Data were collected in a timely and structured way with analysis being undertaken systematically. Different team members were responsible for different elements and this led to a healthy interdependency across the internal facilitator-evaluator team. Quarterly workshops throughout the implementation phase enabled us to reflect on progress and to develop theory iteratively as emerging data were analysed. We also watched out for examples in our data that did not match our emerging explanations and tried to think of other reasons why certain things were unfolding.

Ethics

The hospital's Human Ethics Research Committee approved the project (Protocol No: 080609).

Main Findings

Even though the proponents of realist evaluation talk about identifying mechanisms, in reality it proved to be quite challenging for us. As relative newcomers to the methodology, we were trying to bracket off our more traditional evaluation approaches (e.g. consider X and track it through Y context and conclude whether it works or not) in order to embrace the multiple possible ways of explaining what was influencing the processes under scrutiny. Our first attempts to create the preliminary propositions emerged from multiple conversations within the teams and trying to connect what was happening in the project to the wider theory shaping the project.

We did not experience a seamless transition from preliminary proposition testing to identifying overarching propositions or mechanisms that explain the project events. Indeed, the journey is better described as trying to make sense of smaller elements of the story and then building these up into an integrated narrative that would make sense to all the actors involved – the researchers, the participants and the reviewers of the story. The findings therefore are presented in two stages: the first set of findings describe how we produced and tested the preliminary propositions; the second stage presents our summary explanations (our generative mechanisms) which we argue best explain what 'things' (mechanisms) were influencing the whole project.

Stage 1: Preliminary Proposition Development and Testing

The overall design (summarised in Figure 1) consisted of three time phases: the preparation phase, the intervention phase and review and consolidation of learning. The Preparation Phase commenced in October 2007. The project team (LIFs) were recruited, roles and contributions clarified and a review was carried out around the range of tools and techniques staff currently used to evaluate their care. The governance structures for the project were agreed.

The Intervention Phase involved the development and introduction of the KT Toolkit and the refining of the evaluation measures. The intervention (KT Toolkit) was introduced to the fourteen interdisciplinary team leaders who went through a structured programme around training, support and communications. The Review and Consolidation of Learning phase covered a three-month timeframe and involved participants in active dissemination strategies along with the analysis of the learning that had taken place and future planning.

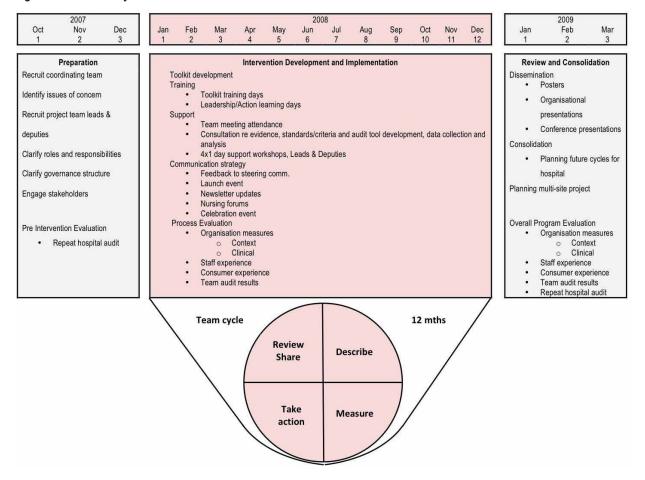
Proposition 1: Frontline staff can be facilitated to use existing patient safety, quality improvement (QI) and evidence based practice (EBP) tools and other resources (the KT Toolkit) to improve care of older people

The facilitation approach was structured and pragmatic: it involved a range of strategies designed to provide a uniform structure for the teams. The LIF team provided education workshops, complemented with action learning sets. On-going support was also provided.

The items in the toolkit corresponded to particular phases of the project. The lower portion of Figure 1 describes the four parts of the individual KT projects. In the describing part three tools were introduced: the Affinity diagram, the Ishikawa cause and effect diagram and the Pareto chart. Selection and use of evidence-based guidelines was informed by the Joanna Briggs Institute Best Practice Guidelines.²⁰ The PDSA tool (Plan, Do, Study, Act) was used to guide teams in the taking action part, with structured support to summarise and present findings.

We found that of the seven teams, three teams were able to demonstrate positive improvements in care (functional decline, pain management and nutrition), three teams were able to refine the problem and identify a particular aspect for further work (confusion, continence and path best travelled) and one team (clinical assessment) was unable to progress through all phases of the project.

Figure 1: TOPIC7 Project Overview⁶



Specific local improvements are reported elsewhere^{6,18} confirming that teams were able to use the KT Toolkit to make local improvements. However, scrutiny of the audit data at hospital level comparing annual trends in these elements of care, could not demonstrate any significant improvement when calibrated across the whole system. Given these system wide data were not differentiated out for older people but gave generic audit data on standards of nursing care these may not be surprising results but they do reflect what most leaders on the ground were telling us: achieving and sustaining change, despite being able to use the tools, is a challenging process.

Proposition 2: Fundamental aspects of care for older people in the acute hospital setting can be improved through the introduction and use of specific evidence-based guidelines by frontline staff

In addition to the QI tools and techniques, we wanted to test how front line teams responded to the task of identifying best evidence and using existing guidelines to shape their local standards and audits. A summary of the journey taken by each group and how well they met the task is provided in Table 1.

Table 1: Use of evidence based guidelines by KT improvement teams

	Local Standards		External Standards			
Team	Number available	Applicability	Number available	Applicability	Comments re evidence base	
1	5	Not one specific standard	1	Guideline from the Victorian Government addressed some aspects of practice	Some primary sources from the literature	
2	1	Needed considerable modification	0	Most external evidence was specific to Residential Aged Care only		
3	1	Good fit with the focus area of assessment	0	Not sourced	Local standards supported by a number of external sources of evidence.	
4	1	Not specific to the elderly	1+	Very specific to elderly in acute setting	The guideline from the National Guideline Clearinghouse was specific and had very appropriate evidence based standards	
5	1	Standard was specific although somewhat broad	0		One Joanna Briggs Institute information sheet	
6	2	No standards specific enough	3	Useful in supporting modified standards	A number of national and international evidence based guidelines available	
7	0	No local standard was applicable	1	Victorian standards were very broad	Reasonable evidence base to Victorian guidelines	

We found that teams required considerable assistance and support to identify relevant evidence-based guidance. Challenges included: defining the clinical issue precisely to find the relevant evidence; judging the evidence base of the local standards; accessing relevant guidelines on the clinical topic and for older people in acute care settings; knowing how to take the criteria or items within the guideline and breaking them into measurable criteria; constructing a template that converts evidence-based criteria into audit criteria.

In terms of assessing the impact of this mechanism on the overall intervention, our findings would suggest that the introduction and use of evidence-based guidelines continues to be challenging at the level of practice. What is produced by expert panels rarely takes account of the timeframes, complexity or practice challenges of having to break down the guidelines into very small chunks of knowledge to turn into actions.

Proposition 3: Clinical leaders (ward managers) can be supported to take on lead roles in transforming care across the whole hospital system

The project was perceived by local clinical leaders involved as a useful educational and awareness raising exercise, bringing clinical staff together in networks that had previously been difficult to set up. Clinical leaders liked the practical focus of the project and the fact it was structured and time limited. The major challenges were the leadership role itself which few felt prepared for or familiar with – and in particular leading an interdisciplinary, cross-functional KT team. Many talked about how this aspect of the project extended their skills and experiential base.

For most leaders refining the clinical topic area and developing the audit tool were challenging exercises, although two leads reported being able to do this with little effort. One emerging conclusion for the leads was that the whole team required training in teamwork from the outset.

Team members agreed the importance of clarifying the role of leads and team members at the start of the process. Confusion arose when team members perceived their role in the group as 'advisors or information givers' rather than active participants. Most effective teams distributed work roles early on and supported each other in carrying them out. Effective teams started and finished on time; they invited team membership from the start and had constancy and consistency of membership. Of primary importance therefore was the leader's ability to keep on top of the process.

The data confirmed the development of a range of leadership skills in the ward leads. They showed that a collaborative, systematic program does create a momentum within the system. However, what the study did not achieve within the timeframe was an organisation wide shift in changing the way care was delivered to older people. By the end of the project clinical leads were more confident and had grown from the experience of leading interdisciplinary teams and being recognised as leaders. But they also recognised that this was merely the beginning of a much longer journey.

Proposition 4: Innovations can be introduced and improvements made to care within a 12 month timeframe with appropriate facilitation

Existing evidence based guidelines were found to be too unwieldy for clinicians and often not relevant to the care of older people. This led to delays as teams sought to refine specific criteria and as a result, created some frustration with the process. In addition, all teams found the clinical topic areas very broad and complex, with each topic having the potential to generate multiple subgroups considering just one aspect (for example, the team looking at functional decline (FD) discovered several guidelines relating to multiple aspects of managing FD in the hospitalised elderly. They decided for this project to focus on mobility). It was apparent that going around the whole audit cycle (see Figure 1) was a new experience for many participants, resulting in significant and valuable learning. Each team experienced a dip in energy and enthusiasm at about 6 months into the project. The view of teams and leads was that the whole cycle could be shortened without any detrimental effect on the outcome.

The general consensus was that the cycle should have had more preparation and planning time to get the teams together, the group dynamics sorted and everyone to participate in a team learning experience at the start. Then, ideally, tackling a clearly identified issue the teams felt they would be able to demonstrate small improvements within a nine-month cycle.

Proposition 5: By engaging the whole system in introducing one aspect of innovation (i.e. improving care of older people) the chances of successful implementation are increased

None of the medical service managers interviewed (n=4) at the end of the project felt they could identify tangible improvements either to the service or to the nursing leadership capability. They did however identify elements of the broader change strategy they were involved in that would be enhanced by the project, e.g. addressing service redesign and workforce issues, addressing the issue of a geriatric assessment unit and recognising that some clinical issues needed to be led by nursing. In contrast, the majority of the nursing service managers commented that they could see changes in the leadership behaviours of the ward leads. Characteristics such as increased confidence, the ability to work in effective multidisciplinary teams, increased knowledge base and moving from a "can't do" to a "can do" attitude, were all specifically identified by them. Areas for further development related to the spread of the learning from the senior nursing staff to the more junior members of the nursing team.

The conclusion therefore is that despite the interest and enthusiasm generated within the groups, which crossed the whole hospital, there was insufficient impetus created within the study timeframe to embed any deeper cultural or behavioural change. However, when taken together, the evidence from each of the propositions was creating a consistent picture of those factors that enable and those which frustrate the introduction of evidence based guidelines to improve the care of older people going through one hospital setting (refer Table 2).

Table 2: Summary of Preliminary Propositions

Preliminary Propositions	What worked	Where did it work	For whom
Frontline staff can be facilitated to use existing quality improvement tools and techniques and other resources (the KT Toolkit) in order to improve care of older people in the acute hospital setting.	The structured program worked for 6 out of the 7 teams. Feedback identified where a number of improvements could have been made, e.g. separating the prioritisation exercise from the recruitment of volunteer leads; involving all team members in the training and focusing on group dynamics.	The ability of the clinical leads to engage in the exercise was evident across all clinical sites – medical; surgical; orthopaedics; emergency department; oncology; intensive care.	Those individuals who found it did not work for them identified issues around commitment to the project, feeling 'pressured' to volunteer and not feeling comfortable to lead interdisciplinary groups.
2. Fundamental aspects of care for older people in the acute hospital setting can be improved through the introduction and use of specific evidence-based guidelines by frontline staff.	Most teams found evidence-based guidelines but had to adapt and amend them for older clients in the acute care setting. General view from clinicians that guidelines were too big to be used in everyday practice.	Teams that were able to define the topic in a very precise and focused way were more successful.	Leads who established effective working relations with team members and co-leads. Saw the role as developmental
Clinical leads can be supported to take on lead roles in transforming care across the whole hospital system.	Having a co-lead worked as the two leads worked together and shared responsibility. Mixing leads from different clinical units also helped to create new and different networks. Generally leads felt they had started on a journey but they had not been able to spread their experience much further than their immediate teams and clinical areas.	Challenges were the clinical demands of the clinicians' day jobs and the cancellation of planned study time or sickness that frustrated plans.	The majority of leads reported that they had learnt a lot from the experience and felt more confident as a result. Only one lead said they would not do it again.
Innovations can be introduced and improvements made to care within a 12-month cycle/timeframe with appropriate facilitation.	The structured program was well received by the majority of participants. The quarterly training sessions were well attended. The Action Learning sessions were not successful. All teams ran into challenges at the implementation stage. For some this derailed them and they had problems maintaining the momentum; for others it was a temporary blip that led to resolution.	The project implementation phase coincided with the winter months, which meant that the hospital was extremely busy during the time that leads were trying to introduce some changes. Where these two aspects came together, it was invariably the project that was relegated and often not resurrected.	Leads talked about having to keep the momentum and interest going of the teams particularly during the implementation and second audit phase. They suggested a tighter and quicker cycle in order to keep the momentum of the project.
5. By engaging the whole system (i.e. the whole hospital) in introducing one aspect of innovation (improved care for older people) the chances of successful implementation are increased.	Having executive team support was important for the project. However, there was little connectivity between the different policy layers of the system and between service managers about the overall aims of the older persons' care strategy. This resulted in confusion and feeling of policy overload for many clinicians at the front line. The project did not succeed in creating a shared vision of what the care of the older person could look like in an acute hospital setting but it did contribute to more discussion and debate.	Clinicians were cynical of the multiple policy initiatives. The TOPIC7 project was treated with the same suspicion to begin with but it was perceived differently as it "was doing something practical". The integration and connectivity around policy and practice was not fully explored although the leads were exposed to a lot more conversations with policy makers as a result of the project.	Multiple conversations need to happen at multiple levels of the organisation to introduce and sustain any improvements that have been made. The criticism from staff was that the project would come to an end and any improvements would be wiped out. The TOPIC7 team and the executive promised to support a further cycle of activity if the clinicians wanted to do it. They did.

Stage 2: The Four Emerging Generative Mechanisms

From this preliminary analysis four broader generative mechanisms have been constructed. These refined propositions integrate the mechanisms as first identified in the preliminary propositions with data from the study around the contexts and the desired and actual outcomes desired and realised. Realist analysis of the experiences of the different teams identified aspects of context and mechanisms that accounted for observed outcomes. Each broad mechanism comprises a number of sub mechanisms. The seven KT teams collectively experienced all of these mechanisms and sub mechanism but not all teams experienced all mechanisms.

Using a presentational method first outlined by Greenhalgh and colleagues¹⁹ a summary of the four mechanisms (building on existing structures and support, optimising existing human potential, focus on the older person, on-going support through facilitation) the key enabling and constraining factors that appeared to make each mechanism more or less likely to produce a desired outcome are briefly described.

Mechanism 1: Building on existing structures and support

From both our reading and experience with the teams we were struck by the similarity around the QI, safety and KT methods but also how disaggregated they were. We therefore made the conscious decision to build on the structures and processes that were already being used in the system and to demonstrate how the different methods could work together in a more synergistic way. From this theoretical perspective, three sub mechanisms were revealed.

Assess existing processes/methods to measure quality

The first task of the expert facilitator and the project team was to assess the level of engagement by the clinical leaders in routine quality improvement activities. This was done at the introductory two day workshop were routine quality and safety data were shared with the clinical leads across the whole hospital focusing particularly on the care of older people. Trends over the last five years were shown and these quantitative data were augmented with patient narrative data derived from clinical leaders' experiences. This combination of data enabled the leaders to acknowledge that quality could be improved and that they did have a responsibility to set and achieve the standard of (evidence-based) care on their ward. Most leaders were aware of the quality and safety processes but few had actual first-hand experience of undertaking an improvement cycle from start to finish.

Assess existing resources to link evidence, QI and safety mechanisms

As part of the intervention process, clinical staff were supported in accessing relevant local and national evidence-based standards related to their topic for improvement. The nursing standards had been based on best practice guidelines but were out of date and not particularly focused on the specific needs of older people. A local resource used to help develop and refine the local standards and to access the latest evidence was the Joanna Briggs Institute.²⁰ Most clinicians knew what an evidence-based guideline was but had little personal experience of retrieving and adapting them. Members of the project team were skilled at finding and adapting evidence and so were able to help the clinical leads and their teams.

Encourage volunteers

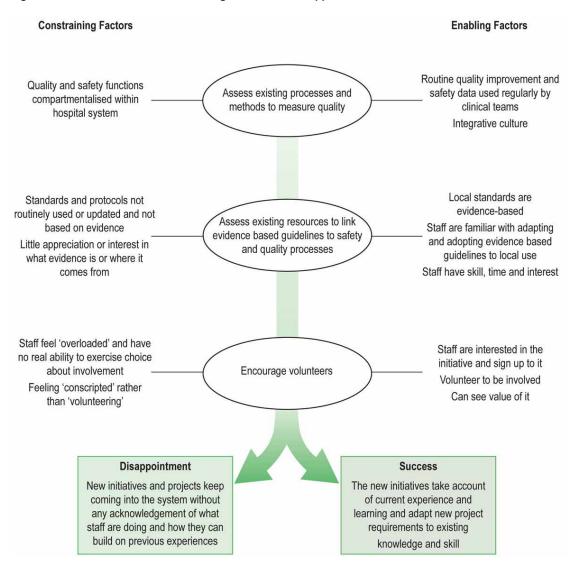
Part of the preparatory phase of the study focused on getting clinicians to acknowledge the problems associated with caring for older people in their system and to turn that sense of futility into a positive feeling of transformation. Using data and patient narratives at the introductory workshops was a powerful mechanism to engage the wider constituency. Clinical leaders were invited to prioritise topics for improvement and then to volunteer to lead the piece of work. Each team had two co-leads. Co-leads selected to work together across the twelve-month implementation phase. Constraining factors to this approach were when volunteers felt they had been expected to get involved and therefore weren't really

volunteers; where the dynamics between the co-leads did not work or when the stress of the 'day job' undermined the lead's ability to keep the project running.

Summary

New initiatives are more likely to succeed if they take account of the existing experiences and methods used by frontline staff and build upon them rather than replace or ignore them. A structured approach with clear milestones is also beneficial as is the recruitment of willing volunteers to engage in the initiative. It is important to acknowledge the busy world of the clinician and build implementation project around this fact.

Figure 2: Mechanism 1 - Build on existing structure and support



Mechanism 2: Optimising existing human potential

The importance of clinical leadership to achieve evidence-based improvements is acknowledged.^{21,22,23} Early clinical leadership development programs^{24,25} have assumed that clinical leaders have both the positional authority and experience to successfully execute the role as well as developing and refining their skills around improving patient services. These questions have been more fully explored in Kitson et al.^{26,27} Four sub mechanisms have been developed to explain what worked in the project and what factors constrained success.

Identify and develop local leaders

As noted in the previous mechanism, the project team worked with existing systems and processes and then devised a process of recruiting volunteers to lead the initiative. Leaders were selected from their 'positional' roles as ward or clinical leaders based on interest in the topic, commitment to the lifespan of the project and commitment to work with the project team. Prior leadership development training did show in terms of confidence and personal authority and having a co-lead or buddy from another part of the hospital increased networking opportunities and provided mutual support and learning.

Invest in interdisciplinary teamwork

Leaders described their overall lack of 'on the ground' experience in leading interdisciplinary improvement teams. For some the challenge of bringing a team of allied health, medical and nursing representatives together to look at improving care was a daunting and risky thing to have to do. Important to the success was for the project team and managers to provide a psychologically safe environment for them to undertake their work. Also important was preliminary training in group process skills and the basis of facilitating groups.

Invest in work based teaching and learning

One major finding was the need for continuous teaching and learning sessions to be provided at ward level. Whether this was at the beginning of the project when the co-leads were identifying the evidence base for the standards or whether it was part of the PDSA cycle, every team engaged in significant educational activity. For example, the continence team discovered that most of the interns on the audit wards had not been taught about managing incontinence in older hospitalised patients. This led to both the medical and nursing staff producing a short PowerPoint presentation about the diagnosis and active management of urinary incontinence.

Such training sessions were scheduled for planned education times on the wards and a systematic approach was used to make sure everyone had an opportunity to attend the session.

Increase networking and take multiple small steps

Many clinical nursing leaders at the beginning talked about the 'siloed' mentality of the wider organisation and how the project provided them with the opportunity to network across the organisation. Their experiences of working in the KT implementation teams had led to working with allied health professionals in new and exciting ways. Equally nurses from different units and wards who had volunteered to be part of the KT improvement teams described how their involvement had led to them discovering things about the hospital and nursing practice that was quite new and exciting. What was beginning to happen by the end of the project was the redefinition of many existing boundaries: the boundaries were beginning to be redrawn not just between professional groups (in particular between nursing and allied health), but also across service areas, between managers and clinicians and between nurses and other service areas (e.g. ward areas and catering or maintenance areas).

Summary

Local clinical leaders were excited and energised by the opportunity to get involved. They were able to develop their leadership skills and gained valuable experience in cross-organisational, interdisciplinary team work. Intrinsic to the experience of greater communication and networking was the need for ward-based learning: about the new clinical evidence being introduced, about teamwork, about audit, about successful change management. This learning was led by the clinical leads and their team members.

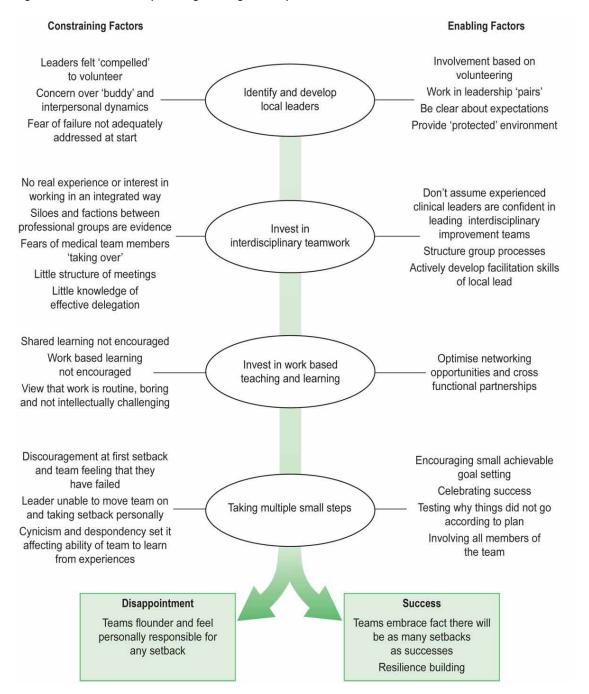


Figure 3: Mechanism 2 - Optimising existing human potential

Mechanism 3: Focus on the older person

Part of this study was to try and get a shared understanding of what it was like to be an older person in an acute care setting. Many conflicting emotions were stirred during this process. ¹⁴ The complexity behind so-called simple care (for example being able to offer older patients appropriate, appetizing food and drinks at appropriate times) were thwarted by the seeming inability of the professional staff and the system in general to co-ordinate a patient centred response. Embedded in these challenges was the notion that patient centred care was not really about 'evidence'; more about common sense – which did not seem to be that 'common'.

The practical and pragmatic – what's seen and talked about

Older people and professional staff put different emphasis on perspectives related to improving care. Solving the so-called 'simple' problems like getting discharge planning right and providing appetising food are perceived by consumers as relatively straightforward things to do. However, from the professional perspective they represent the 'tip of the iceberg' in terms of representing the ability of the system to work co-operatively and cohesively to deliver basic services.

Important for the collaborative efforts of both professionals and patients is the ability of the staff to recognise the complexity of these issues, their importance to patients and to work collaboratively with patients to solve these problems. Yet, this relatively straightforward conclusion was not being acted upon because of the multiple levels of complexity within the system to achieve improvements in these areas. The next two sub elements or mechanisms were the deeper aspects of this first sub mechanism.

What's experienced and felt – effective teamwork and promoting a culture of continuous learning

Older people can detect dysfunctional and poorly performing teams. They expect their doctors and nurses to work together for their benefit and do not expect teams to use excuses such as poor communication and disrespect to explain why certain basic services such as the provision of food and discharge planning and managing waiting times are so hard to get right.

Older people do not want to be disempowered and want consistent messages: if they are to be self-caring and autonomous, then that approach to their care has to be consistent across the whole hospital experience.

Peoples' values and beliefs - what's valued and respected

The driving force for improvement was seen to be anchored to the system's values and beliefs about how it cared for older people – and for staff. Two aspects of interpersonal behaviour and attitudes were seen to be sensitive indicators to whether the organisation was really committed to patient centred care. These included the level of respect proffered to older people (in relation to waiting and interaction) how 'being old' was perceived (by older people themselves and professionals); and communication - being actively involved in care and not being ignored or 'talked over' as if you didn't exist (called 'patient in the room').

Summary

Staff, by the end of the project, acknowledged the complex processes involved in trying to address so-called 'simple' challenges such as ensuring that older patients received warm tea and coffee and that they were involved in their care planning. Such problems can be analysed on at least three levels: the issue itself; the underlying team and system issues; and finally issues of beliefs and values. By working through the practical problem, the deeper, more complex issues are addressed.

Constraining Factors Enabling Factors Patients treated as 'objects' and Ability of staff and patients to used to 'rubber stamp' so-called engage in constructive consumer involvement. Active conversations around so-called The practical and the pragmatic: process within the system where simple issues that are of concern professional staff understand what what's seen and talked about to both parties patient centred care actually means. Process enables reflection and Clear processes in place where action around improvements practices that compromise these core values are challenged Staff recognise that patients expect a level of integrated Staff view patients as lacking in teamwork and effective insight or understanding about communication from them as the way systems operate What experienced and felt: befits their professional standing Patients are best managed in a teamwork and system wide activity Staff are able to transform routine non-personalised way effective local teamwork activities that speeds up the efficiency of to wider improvements across the system, albeit reducing the the system personal touch Active process within the system Patients feel alienated from the where professional staff service and perceive activities to understand what patient centred engage them as tokenistic care actually means View that the needs of patients Peoples' values and beliefs - what's There are clear processes in are low on the list of priorities valued and respected. place where practices that despite the clinical excellence compromise these core values there is a lack of basic care are challenged Disappointment Success Staff try repeatedly to improve care By structuring dialogues between but don't engage their patients and patients and staff, new ways of tackling routine problems (like feed don't know how to solve some of the most frustrating problems. and discharge planning) are identified. Staff and patients work Morale suffers together on the solutions

Figure 4: Mechanism 3 - Focus on the Patient

Mechanism 4: On-going support through facilitation

There is still no agreement about the role or contribution of facilitation to the success or otherwise of KT initiatives. Facilitation for the purpose of this study is defined as a process of making things easier for others (ref) and is carried out by a skilled facilitator – someone who is trained in supporting individuals and teams to introduce new ideas into everyday practice. It requires the facilitator to be able to diagnose the learning and development needs of the participants around concepts such as their understanding of evidence, where to locate it and how to use it and participants' understanding of the way context needs to be actively managed to achieve improvements.

Facilitators can be external to the organisation, expert (i.e. experienced in facilitation approaches) and involved in the whole implementation process.

In their external facilitation role, facilitators are responsible for identifying and recruiting 'local internal facilitators', i.e. staff members who work alongside the external expert helping to identify and support the local leaders who will be introducing the evidence or new initiatives. Many aspects of the facilitator's role are embedded in other KT type roles such as boundary spanners, knowledge brokers, local opinion leaders, and linkage and exchange workers. However, to date, there has been no systematic analysis of

the similarities or differences between these roles so it is difficult to say whether they are all variants of one skill set or theoretically distinct.

Despite this conceptual challenge, the project did employ an approach to facilitation that did elucidate a number of discrete sub-mechanisms around facilitation.

External expert facilitation at multiple levels of the organisation and across the system

The role of the external, expert facilitator (EEF) was pivotal in negotiating support for the project across the whole organisation and across healthcare, academic and policy boundaries. The EEF had the authority to negotiate access and support from key clinical medical, nursing and allied health leads and with the support of the executive sponsor (the Director of Nursing) established a steering group for the project early on in the process. The EEF then recruited her internal facilitator team who were responsible for both the introduction of the intervention (the seven new pieces of clinical evidence) and the evaluation of the project. Potential local internal facilitators (LIFs) were not known to the EEF prior to the commencement of the project.

The EEF and the LIF team, together with the executive sponsor and the steering group drew up a detailed communication plan at the beginning of the project. This was to ensure that everyone was kept up to date with developments, and as identified by the local staff themselves, it would guard against a common problem – starting projects and never finishing them.

Building facilitation capacity

The project team, led by the EEF, met regularly on a monthly basis and every four months had a project planning and development day. Roles were negotiated according to skill set and task: one LIF was highly skilled and experienced in evidence synthesis and audit and their role was to guide the seven teams around the start of the cycle. Another team member was experienced in system redesign methodology and their contribution was to think through how the discrete pieces of teamwork could be connected together to spread across the whole hospital. Others had experience in clinical leadership development, quality and audit and general project management and together the project team worked at setting up the study and introducing the intervention.

Once the project team was established a series of short workshops were planned to start the support and training of the volunteer clinical leaders. Again, drawing on existing materials and processes the project team pulled together the KT Toolkit in a way that was accessible and practical for the participants. Timelines were negotiated with the leads at each of these training sessions and LIFs provided support to individual clinical teams on regular basis during their setting up and action phases.

The clinical leaders, by the end of the project, were demonstrating greater confidence in leading their interdisciplinary improvement teams. Many of them acknowledged the shift in their own behaviour from thinking that a leader 'has to do everything' to realising that a leader 'enables others to get involved to contribute to the overall task'. In this sense the clinical leaders themselves were also experiencing how to actively facilitate teamwork.

Local facilitator role vs local clinical opinion leader role

Local Internal facilitators (LIFs) were part of the project team and had a peripatetic role across the organisation. They were able to engage the improvement team members in their local contexts; talk to the service managers; negotiate and troubleshoot potential problems that were emerging for the clinical leaders. The clinical leaders in contrast were relatively static at the beginning of the project – they tended to recruit team members from their own wards and the benefit of having two co-leads was that there was some crossover of staff from different wards.

By the end of the project however, the situation was beginning to change – local clinical leads were beginning to feel much more confident about talking to colleagues from other wards and units about their clinical topic and several were being used as 'local experts' to support other small projects that had emerged as a result of the larger project.

What seemed to be emerging was that a central element of a LIF role was the ability to move across clinical and geographical boundaries and be acknowledged by peers as someone who could 'get things moving at local level'. For the purpose of the setting up of the project, LIFs with existing 'peripatetic' roles were recruited but by the end of the project the local clinical leads were already developing into the new wave of potential LIFs in the system. This will be an interesting phenomenon to observe over time as it may help us to understand more clearly how facilitation processes can be integrated into existing clinical roles (e.g. service manager and unit lead) and how networking and sharing clinical expertise can speed up the adoption of new evidence into practice.

The facilitator-evaluator relationship

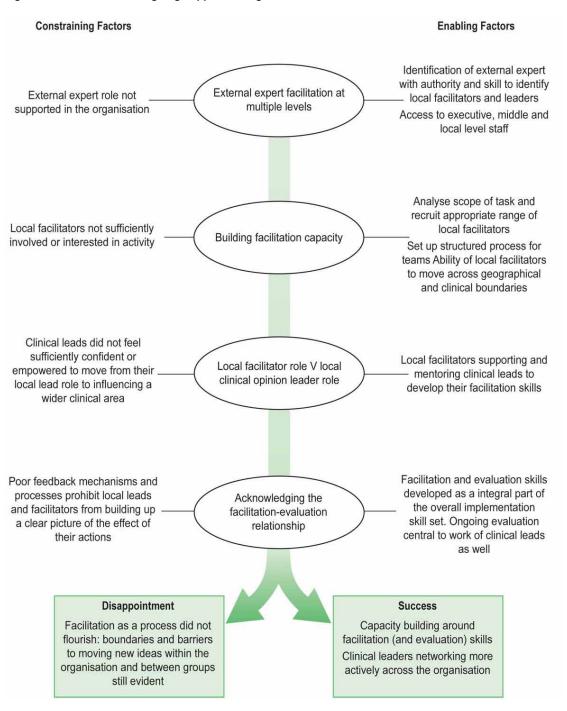
The EEF and the LIF team also undertook the role of evaluating the whole implementation process. Traditional evaluation approaches do not encourage this level of intimacy between the intervention under investigation and the evaluation. However, given the evaluation approach selected (realist evaluation) and the methodological framework used (case study analysis), there is more acceptance that this is an approach that can be taken. The multiple sources of data and the multiple perspectives and interpretations that were interrogated in order to arrive at the final 'storyline' go some way to ensuring methodological rigour.

However, from a theoretical perspective, it could be argued that the less acceptable approach is actually to separate the facilitation from the evaluation process. Intrinsic to every improvement and learning cycle is the need to be able to evaluate the effect of one's activities. Therefore the LIF team was conducting its own (proper) evaluation of its ability to introduce new evidence into practice. Important in all of this is the critical dialogue between peers and users of the service being evaluated. If the implementers of innovations also take on the role of evaluation they need to demonstrate from multiple stakeholder perspectives that the improvements they claim are recognised and acknowledged by others.

Summary

Facilitation is a process whereby individuals can help others to achieve improvements in their activities and tasks. Two types of facilitator roles were identified: external expert facilitators (EEFs) and local internal facilitators (LIFs). The EEF role was responsible for setting up the project and recruiting and training the local team. The LIFs were responsible for working with the local clinical leads of the improvement teams across the organisation. Through structured support clinical leads were demonstrating facilitation skills by the end of the project. This reflects the dynamic process of facilitation and how it can add to the overall skill base of the local clinical team.

Figure 5: Mechanism 4 - On-going support through facilitation



Discussion

Using Realist Evaluation method

The approach enabled us to tell a story and identify a number of elements (mechanisms; M) that seem to have made a difference within certain contexts (C) to achieve particular outcomes (O). The overall outcome we were investigating was improvement to care for older people while in the acute care setting. Clinical leaders selected the seven specific clinical topics. Despite the fact that the project was undertaken in one organisation we had evidence to demonstrate that the units differed significantly in terms of a number of contextual variables (culture, leadership, feedback in particular as measured by the Alberta Context Tool; see Schultz and Kitson¹⁶ for more detailed description). For each improvement team different contextual variables were at play. This may have influenced the variable pace with which the teams executed their task. We also observed that the more discrete and focused the clinical topic, the easier it was for the team to complete the task. Yet, combining specificity with speed did not necessarily lead to improvements in patient outcomes. For example, the nutrition group discovered that routine nutritional screening was not being undertaken. On exploring this issue they also discovered that patients were not being weighed on admission (as per the hospital policy). So the first task set by this team was to work out how to weigh patients accurately on admission. That discrete piece of work took nine months and while it changed the behaviour of the ward staff it did not translate into any significant clinical improvement for the patients. Did that mean the process had not succeeded?

Our data tended to focus on the experiences of the clinical leads and teams so it is not totally surprising that many of the sub-mechanisms identified as contributing to the success of the initiative were related to personal development, leadership characteristics and effective teamwork. Again, complexity arises even within this definition as we see from the measure of context that leadership is identified as a key variable. At what point does investing in leadership potential move from a mechanism (M) to a contextual variable (C)? The answer to this question may be related to whether it is being actively manipulated or used during the intervention.

Our overall intervention in the study was called the TK Toolkit and it comprised three main elements: the recruitment and training of the local internal facilitators (LIFs); the facilitation process itself and the technical components around evidence, audit and introducing new evidence. As the facilitation team, our conclusion was that the structured support over the project lifespan was an important element to its overall success. Many clinical leads talked about how the support had kept them on track and in particular, having a co-lead or buddy was seen as very beneficial. The facilitation team also negotiated several contextrelated issues such as access to resources, engaging in conversations with medical staff, networking across the organisation and ensuring regular communication about the project across the organisation. In this sense we concluded that facilitation itself was a mechanism (M) that was actively influencing certain contexts (C). One example of this was the series of meetings that were organised between the project team and the geriatrician team. Early in the project the medical staff did not feel involved in the project and voiced concern over its effectiveness and utility. The project lead met with the geriatricians and a series of workshops was arranged. The first workshop involved all the clinical leads of the improvement teams, allied health and the medical staff and from this the geriatricians committed to identifying one geriatrician per team to work on the topics. This dialogue was facilitated by the project team and over the course of the project improved the relationship between the medical staff and the other members of the healthcare team.

Lessons learned

From this study we learnt that trying to improve even very discrete elements of clinical practice (e.g. routine weighing of patients, providing warm drinks, managing post operative pain, ensuring that older patients are mobilised appropriately) was very challenging. The broad policy imperatives (we must improve the experience of older people going through the acute hospital sector) are rarely translated into smaller evidence informed real time goals ('we can do this by x, y and z'), much less supported by implementation plans that take account of the real life work pressures of frontline staff. We found that after clinicians' natural defensiveness was overcome ('we've heard all this before and we are not interested...') they began to acknowledge the problems in the system and were relieved and reassured that they were getting help and support to start to move things forward.

Clinicians were not particularly interested in formally evaluating the improvement and often interpreted the support they received as 'common sense'. Once they had experienced it themselves they were keen to share their knowledge with others. They accepted the project team, appreciated the facilitation, and got excited about presenting their work to their colleagues. These were interesting general observations as it would suggest that the theory generation activity that goes on within the realist evaluation process is not something that clinicians are either interested in or find useful. But if we are to create more explanatory theories about what works, for whom, in what circumstances then one would have to argue that the key stakeholders for whom it must make most sense would be the clinicians (and patients) themselves.

Challenges and limitations

An emerging theoretical challenge is the relation between the CMO (C+M=O) configuration of realist evaluation (RE) and the theoretical construction of the PARIHS Framework – $SI = \int (E, C, F)$ where the successful implementation (SI) of a new innovation or piece of evidence is a function (\int) of the nature of the evidence (E), the context (C) into which it is being introduced and the way the innovation is facilitated (F). Kitson et al⁸ have argued that PARIHS can be used as both a diagnostic and evaluative framework – clinicians and facilitators assessing the elements as they relate to evidence and contextual variables to determine what facilitation approaches need to be used. If SI is equivalent to O (the outcome desired within RE), then does C in RE equal C in PARIHS and does M in RE equal E + F in PARIHS (Figure 6)? If this is the case, then we have a method by which clinicians on the ground (key stakeholders) can begin to diagnose and evaluate what works for them in what circumstances and why.

Figure 6: Equation for diagnosis and evaluation

Realist Evaluation
$$C + M = O$$
Context + Mechanism = Outcome

PARIHS $SI = \int (E, C, F)$
Successsful Implementation = function of Evidence, Context and Facilitation

 $SI = O$
 $C = C$
 $E+F = M$

Thus, if engaging stakeholders in this way emerges as a common mechanism to enhance the uptake of new evidence into practice, it then becomes part of facilitation (F). In the TOPIC7 study the local internal facilitator (LIF) team actively supported the clinical leaders who in turn, by the end of the project, were beginning to demonstrate a range of facilitation skills. Both the LIFs and the clinical leads were looking for the active mechanisms that were able to alter their particular context (C). This may help when we come to creating explanatory theory in that we are assuming that action, whatever its form, requires agency from human actors embedded in the context.

A further challenge is the order in which propositions are generated. Rycroft Malone et al have recently described an approach that generates preliminary propositions from a realist review and synthesis of the literature. We did not approach the task in this way. Rather than starting at the broad end to create provisional propositions we started with discrete and specific propositions that were based both on the existing evidence, our own experiences and the views and opinions of our stakeholder groups. This may have caused our propositions to be too specific but from them we were still able to extrapolate up to broader levels of generative explanations. We would argue that this more inductive approach has merit.

The project recorded data from one cycle of improvement only and one could argue that this is insufficient time to observe and test the emerging mechanisms. However, we are confident that our findings are robust for at least two important reasons: because the project team were both evaluators and facilitators of the process, we had intimate first-hand knowledge of what was really going on. Secondly, we know from subsequent cycles of activity (post 2009) that several teams have continued with their work and are continuing to use the skills they acquired during the TOPIC7 project (the nutrition team is about to roll out a hospital wide project on nutritional screening and support of patients when eating and a further project has just been completed on defining a model of patient centred care).

Conclusions

Our primary conclusion is that realist evaluation (RE) is a useful method for analysing complex evaluations of knowledge translation (KT) improvement studies. It enables the researchers to tell the story and to acknowledge the complexity of everyday reality. However, the flip side is that trying to generate cogent explanations is fraught with challenges.

Out of the complexity we have identified four mechanisms that we think impact on older peoples' experiences of care. We summarise this as:

- The ability to build on existing structures and support systems around quality and safety
- The ability to identify local leadership potential and build effective interdisciplinary teams
- The ability to focus improvement on the older person
- Integrated facilitation of the process and continuous learning

However, it is important to remember that the approach of separating change processes into discrete mechanisms, while useful at the analytical level, is artificial and fails to reflect their interdependent nature. What the whole process seems to be about is unpacking complexity, illuminating or explaining it, repacking and enabling people in practice to use the information to change things more effectively. Perhaps, because of these underlying dynamics, it may be more appropriate to reconceptualise the mechanisms, outcomes and contexts (CMO) configuration as explicitly requiring an active agency in the form of something like facilitation.

Competing interests

None

Authors' contributions

ALK conceived, designed and led the project; recruited the team and led the analysis and writing and drafting of the paper. RW, KZ, HS, TP and DM facilitated the introduction of the KT Toolkit, supported the teams and were actively involved in all stages of data collection and analysis. All authors have contributed to the contents of the paper and have commented on previous drafts.

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