

I2I-4-TELEHEALTH

Innovation to Implementation for Telehealth

I2I-4-TELEHEALTH: A PRACTICAL GUIDE
FOR KNOWLEDGE TRANSLATION IN
TELEHEALTH



CITATION

Theodoros, D., Hill, A., Hartley, N., Martin-Khan, M., Bird, D., Russell, T., Goodenough, B., & Gillespie, N. (2016). Innovation to Implementation for Telehealth: A Practical Guide to Knowledge Translation in Telehealth. CRE in Telehealth, Australia. www.cretelehealth.org.au

ADAPTED FROM

Innovation to Implementation: A Practical Guide to Knowledge Translation in Health Care. First published in 2012, and revised in 2014 by the Mental Health Commission of Canada.

Suite 320, 110 Quarry Park Blvd SE,
Calgary, Alberta, Canada T2C 3G3

Suite 600, 100 Sparks Street,
Ottawa, Ontario, Canada K1P 5B7

<http://www.mentalhealthcommission.ca>



ACKNOWLEDGEMENTS

Permissions: We thank the Mental Health Commission of Canada for support in the production of this Australian adaptation of the I2I, and for permission to revise the original I2I planning tool.

Funding: Production of this Australian Telehealth adaptation of the I2I was made possible by the National Health and Medical Research Council Centre of Research Excellence in Telehealth APP#1061183.

Formatting: We are grateful to Tracy Higgins and Joanne Grey for assistance with editing and design.

DISCLAIMER

The views expressed in this work are the views of its authors and not necessarily those of the Commonwealth of Australia. The reader needs to be aware that the information in this work is not necessarily endorsed, and its contents may not have been approved or reviewed, by the Australian Government.

COPYRIGHT

© 2016

This work is copyright. You may download, display, print and reproduce this material in unaltered form only (retaining this notice) for your personal, non-commercial use or use within your organisation. Apart from any use as permitted under the Copyright Act 1968 (Australia), all other rights are reserved. Requests and inquiries concerning reproduction and rights should be addressed to Professor Deborah Theodoros, School of Health and Rehabilitation Sciences, The University of Queensland, Brisbane, Australia, email: d.theodoros@uq.edu.au.

INTRODUCTION	
What is knowledge translation	4
The guide structure and how to use it	5
7-Step Model	6
THE GUIDE	
Step 1: STATE THE PURPOSE OF YOUR KT PLAN	7
Step 2: SELECT AN INNOVATION	9
CHECKPOINT – Check KT readiness for Telehealth	11
Step 3: SPECIFY KEY PLAYERS AND ACTIONS	14
Step 4: IDENTIFY AGENTS OF CHANGE	18
Step 5: DESIGN YOUR KT PLAN	21
Step 6: IMPLEMENT THE KT PLAN	23
Step 7: EVALUATE YOUR SUCCESS	25
ADDITIONAL TOPICS	
Readiness for change	27
Disseminating new knowledge	28
REFERENCES CITED IN THIS GUIDE	30

WHAT IS?		
Knowledge	Innovation	Implementation
Learning through: <ul style="list-style-type: none"> • Research, i.e. <i>Scientific</i> • Experience, i.e. <i>Experiential</i> • Action, i.e. <i>Pragmatic</i> • Being, i.e. <i>Cultural</i> 	Products, actions, services or relationships that have the potential to enhance health outcomes	The act of bringing a practice or a policy into effect

WHAT IS KNOWLEDGE TRANSLATION (KT)?

After new knowledge becomes available, there can be quite a time lag before it can be put into practice or inform policy¹. The field of Knowledge Translation (KT) has emerged as part of the response to reducing this time gap.

KT involves relationships between end-users and producers of knowledge. In practical terms:

Knowledge translation describes the process of changing what we do to match what we know – it is fact-based decision making, where the “facts” are best available evidence.

KT also includes the study of this process, because using new knowledge to change practice can itself create new knowledge. This includes learning about how to plan, disseminate and use evidence in certain contexts, and how to measure, monitor, and maintain changes^{2,3}.

KT AND THE I2I-4-TELEHEALTH GUIDE

The I2I approach was originally developed by the Mental Health Commission of *Canada*⁴. It is a 7-step guide to plan, implement and document change in health settings using KT activities. The approach has been adapted for Australian settings and used in dementia and aged care (I2I-A)⁵. This version of the guide – I2I-4-Telehealth -- builds on the Australian adaptation to support telehealth implementation and has been developed by the Centre of Research Excellence in Telehealth, The University of Queensland, Australia. The I2I approach is built around the concept of innovation: products, actions, services or relationships that can potentially enhance health outcomes.

This guide focuses on the KT activities required for effective telehealth implementation. It sets the foundation for change by specifying the innovation to be implemented, identifying the key stakeholders, and setting out a plan for communicating and engaging with these stakeholders. The actual implementation of the telehealth innovation requires a separate but complementary change management process, which should run in parallel with the KT process.

The I2I guide and this Australian adaptation I2I-4-Telehealth are informed by research findings and practical experience indicating that a wider range of practices, participants and knowledge types need to be incorporated into KT activities^{6,7}. This guide is not intended to replace KT frameworks such as PARIHS or the Knowledge-to-Action Model. Rather, this guide can facilitate the application of these frameworks with an action-oriented planning tool^{8,9,10}.

As a practical goal-oriented guide, the I2I-4-Telehealth highlights the importance of bringing a wide range of participants to the planning table. This is not an academic or theoretical

document. It respects diversity and uniqueness, and emphasises the value, creation and contributions of different types of expertise (knowledge).

THE GUIDE STRUCTURE – AND HOW TO USE IT

There are 7 main steps in the I2I-4-Telehealth guide:

STEP 1	State the purpose of this KT plan
STEP 2	Select the innovation around which the KT plan will be built
Checkpoint	Check KT readiness for telehealth
STEP 3	Specify the people and actions: who needs to do what differently?
STEP 4	Identify the best agents of change: who should be delivering knowledge about this innovation?
STEP 5	Design the KT plan
STEP 6	Implement the KT plan
STEP 7	Evaluate the success

The I2I-4-Telehealth guide will explain the purpose of each step, and walk you through a series of guided questions to help you complete the step.

These steps are intended to be undertaken in the order listed, in an activity cycle, with each potentially involving some degree of monitoring, evaluation and documentation.

You'll notice that designing the actual KT plan does not come until step 5! There is a lot of planning in successful KT initiatives involving telehealth. This guide provides helpful tips, with space for you to make notes about your own work and action cycle.

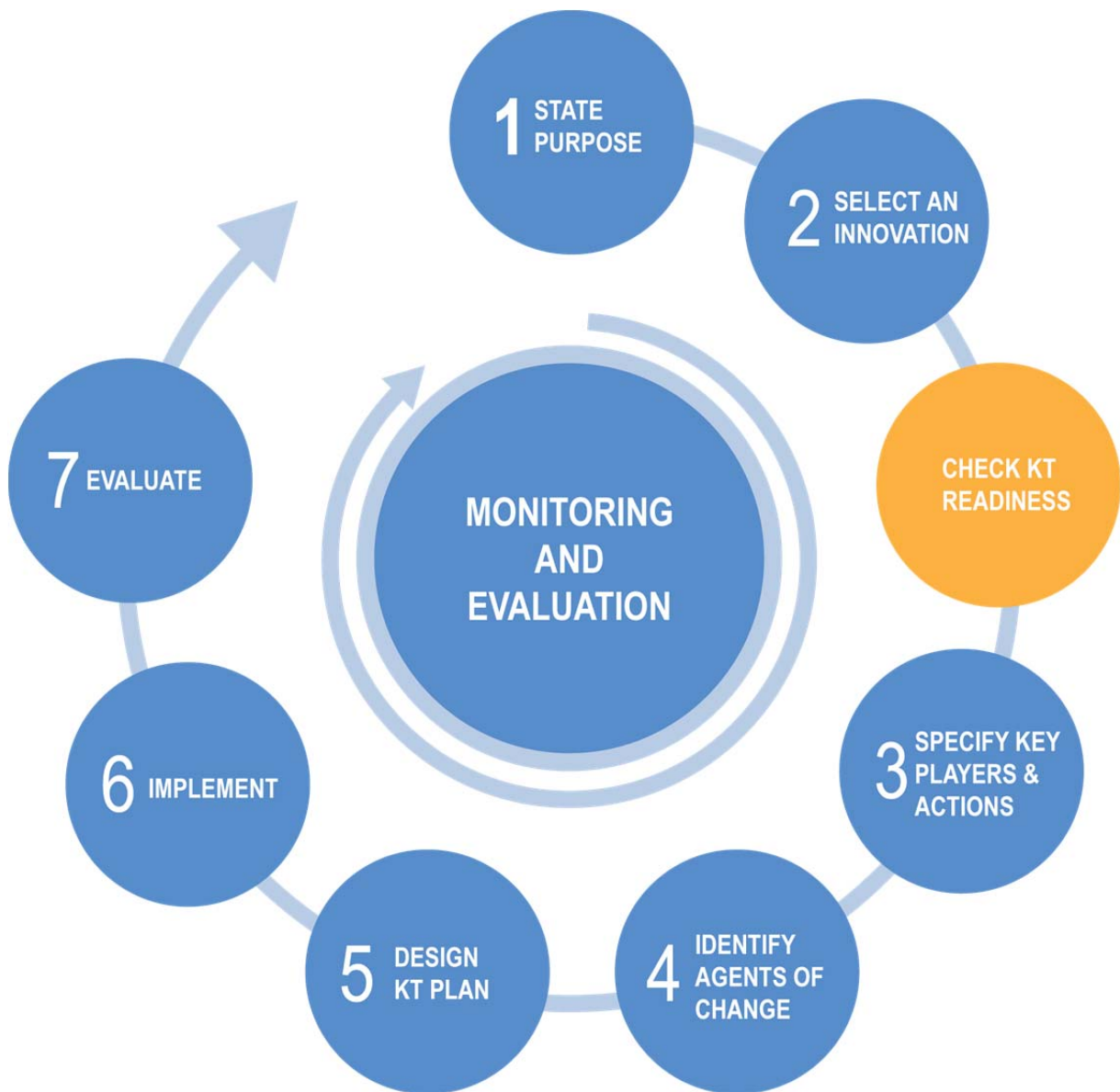
This Guide includes ADDITIONAL TOPICS with information about:

Readiness for change

Disseminating new knowledge

By the time the last step is completed, you will have implemented and evaluated a sophisticated KT plan. And potentially created and documented new knowledge!

THE I2I-4-TELEHEALTH GUIDE



1 State the purpose of your KT plan

It is important to begin a KT planning process by describing the goal you would like to achieve. What is the main reason for doing KT and what would success look like? To help formulate a clear goal, consider these key questions:

? KEY QUESTIONS

- 1.1. What is the main issue this KT plan is trying to address? [See [Box 1.](#)]
- 1.2. What is the practice you are hoping to improve or introduce?
- 1.3. What will be different when this new knowledge is translated?
- 1.4. What will “success” look like and how would it be measured as KT?

Read [Step 7](#) about [Evaluation](#) before you begin your KT process. It will help you to think about and potentially identify KT outcome measures from the start.

EXAMPLES

- 1A. Clients with Parkinson’s disease will have access to regular check-up sessions via telehealth with a speech pathologist.
- 1B. Children recently diagnosed with diabetes will have timely medical care via telehealth.
- 1C. Residents of aged care facilities will have access to telehealth consultations with a geriatrician.
- 1D. Children in rural areas with delayed development will have improved access to multidisciplinary therapy via telehealth.

Box 1. Reasons for KT Plan

Most KT plans in telehealth will be prompted by:

- **a problem**
e.g. inequity of access to services
- **an opportunity**
e.g. new technology, new funding models
- **a requirement**
e.g. mandated rollout of telehealth services

New knowledge includes expertise and experiences shared by colleagues or clients. You will explore these more fully at [Step 2.](#)

2 Select an innovation

Select a telehealth innovation that has the potential to enhance health outcomes. Sometimes these outcomes are about better processes as well.

? KEY QUESTIONS

Consider what might be an appropriate telehealth innovation by asking (yourself and others):

2.1. Is the innovation specific enough?

By clearly stating the knowledge and actions that make up the innovation, you're more likely to create an effective KT plan. It can be very difficult to achieve wide uptake of a vaguely explained practice change.

2.2. Is the innovation feasible?

Choose an innovation that can be realistically implemented to support your purpose (Step 1), given available financial, human and organisational resources. There is little advantage in focusing KT efforts on promoting a change that is so demanding or incompatible with current practice that few would actually implement it.

2.3. What is the knowledge base for this innovation?

Evidence for an innovation can be based on a variety of knowledge sources: scientific, experiential, pragmatic, and cultural. Consider selecting team members who can contribute different types of knowledge expertise [see [Box 2.](#)].

Box 2. Knowledge types

- **Scientific**
(learning through research): A systematic review points to a new practice as good as, or better than current care, or a series of qualitative studies highlights benefits from new policy.
- **Experiential**
(learning through experience): A model of care such as telehealth may be endorsed by health professionals based on their own positive experiences.
- **Pragmatic**
(learning through action): Health professionals recognise the benefits of using videoconferencing to include remote family members in consultations.
- **Cultural**
(learning through being/living): In certain cultural contexts, KT takes the shape of stories or teachings, including case studies, and personal or organisational histories e.g., compelling stories are often used by policy makers to communicate vision.



EXAMPLES

An innovation might involve:

- 2A. Videoconferencing being used for monthly check-up sessions between clients with Parkinson's disease in their home and their speech pathologist.
- 2B. Children with diabetes who are starting insulin having their blood glucose levels monitored remotely on a daily basis by a diabetic clinic.
- 2C. A geriatrician consulting via videoconference with a resident in an aged care facility while accessing the resident's health information previously uploaded by nursing staff to a web portal .
- 2D. Children and their families in a rural community receiving therapy services from an occupational therapist and psychologist in a capital city via videoconferencing.



Helpful Tips

- Examine the proposed telehealth innovation from several knowledge perspectives and expertise, and potential meaning for a range of audiences, for example:
 - If based on international scientific research in telehealth, consider also how it maps onto the Australian healthcare context
 - If based on the clinical telehealth experience of Australian healthcare providers, examine whether it is consistent with available research evidence or consumer perspectives on telehealth.
- Remember that an innovation can also involve stopping certain practices, such as reducing travel by families to consultations with a healthcare professional.
- Check that your selected innovation supports the purpose for setting up your KT plan [Step 1].

Note: Some innovations are more "KT ready" than others.

Is this telehealth innovation “KT ready”?

The decision about whether new knowledge is ready for translation will be necessarily specific for each KT plan and context. In part, the decision about “KT ready” will reflect:

- The quality of evidence for the telehealth innovation you are considering.
- Balancing potential risk and benefit (do the benefits of using telehealth outweigh the potential costs?).
- The required technology infrastructure is available for the telehealth innovation to be implemented.

Evidence quality

Quality of evidence can be measured in many ways. Some key concepts for KT planning are:

- Source – where does the new knowledge come from and is it credible?
- Design – in the case of research evidence, how good is the science and is there bias?
- Reproducibility – is the evidence a ‘one off’ or has it (or a component) been replicated?

The Australian National Health & Medical Research Council (NHMRC) has a hierarchical guide to assessing evidence quality¹¹. Generally speaking, an innovation based on evidence synthesis (i.e. a recent systematic review of many studies) and/or corroboration (e.g. scientific data plus expert recommendation or local record audit), is preferred to a “single study” innovation. Roll-out of KT plans based on one study or case report should seriously consider risk and benefit issues.

Risk and benefit

The field of innovation tends to be, by nature, connected with risk. Some major risk types are:

- *Risk of harm* – an innovation is implemented but
 - (a) has adverse effects greater than expected or different to ‘best evidence’, or
 - (b) desired outcomes are found to be a poor fit with context.
- *Risk of doing nothing* – this type of risk is a focus of the “KT time lag”.
- *Risk of poor implementation* – the innovation is sound but the application to a specific context is problematic e.g. poor connectivity. Insufficient resourcing can be a major culprit for this sort of risk type and underscores the value of rigorous KT planning.
- *Risk to the organisation* – from a management perspective, an innovation that provides modest clinical gain at substantial financial cost or negative staff impact (e.g. client and clinician dissatisfaction, staff absenteeism and turnover) may not be a worthwhile return on investment. A KT plan that includes organisational risk may need to provide a business case to relevant management.

Business case/funding model

A realistic business case and appropriate funding model for telehealth services should be outlined prior to KT planning so that the implementation of the innovation can occur and be sustainable over time.

Key questions in determining “KT readiness” for telehealth include:

- What are the current sources of funding for telehealth services?
- What is the willingness to pay for telehealth?
- What are the additional costs in setting up and maintaining a telehealth service?
- Are current service volumes sufficient for viability of a telehealth service?
- What other telehealth services can be introduced?

Technology infrastructure

Technology infrastructure to deliver services by telehealth is crucial to the implementation and success of such services.

Key questions in determining “KT readiness” for telehealth include:

- Is there access to Internet in the home or facility?
- What is the quality and capacity of the network?
- Is there a process for setting up the technology for consumer and clinician use?
- Is the technology ‘fit for purpose’?
- Is the environment conducive to telehealth?

Specify key players and actions

If a telehealth innovation is to be taken up by your organisation or community, then it is likely that it will impact numerous stakeholders (KT players or 'actors'). For example, they may need to adopt new behaviours (actions).

Step 3 helps you recognise the people with a stake in the innovation and the actions required of them. Thinking ahead about these people will put you in a stronger position to plan your KT activities: you will know who you are presenting the innovation to and consulting with, and will be clearer about actions to be adopted.



KEY QUESTIONS

- 3.1. Who are the key people (players or 'actors')?
- 3.2. Which actions would these key people need to adopt?

Box 3 lists possible key players who are often involved in telehealth KT and need to be consulted.

Box 3. Possible key people/agencies

- Person accessing health service
- Caregiver/family
- You
- Health professional
- Professional service provider
- Administrative support team/services
- Technology provider and support staff
- Other care providers
- Community organisations
- Peak body in health service area
- Government agency
- Research personnel
- Intern/trainee/student
- Policy maker
- Accreditation/care consultant
- Funder of the innovation
- Management team/team leaders
- Associated funding bodies
- Media/PR agencies
- Human resources personnel



EXAMPLES

3A Innovation: Medical specialist consultations via videoconference to patients in rural hospital	
Key players*	Actions
Patient	Agree to participate in telehealth consultation
Medical Specialist	Complete induction to telehealth best practice Conduct consult (plus routine notes and correspondence)
Telehealth coordinator	Select appropriate telehealth mode Make appointment/liaise with rural hospital
Management team on both sites	Approve new model, and expenditure for equipment and support Check infrastructure allows telehealth
Technical teams both sites	Install equipment
Accounting department	Prepare invoicing system
Rural hospital health professionals	Provide clinical support during consultation Complete medical records at rural site Assist with attendance to consult
Carer/family	Decide if want to attend
Rural hospital receptionist	Confirm appointment and welcome consumer
Pathology/radiologist rural site	Transfer of clinical data prior to or during consultation
3B Innovation: In home physiotherapy following knee surgery (large private practice)	
Key players*	Actions
Physiotherapist	Complete induction to telehealth best practice Work with practice manager to select most appropriate technology Select and encourage appropriate clients for telehealth consultations Conduct consultation, complete routine notes and correspondence
Practice manager	Approve new model and expenditure for equipment and support
Practice receptionist	Promote and book telehealth consultations Prepare invoicing system
Technical team (could be contracted or physiotherapist)	Check infrastructure supports telehealth Install equipment
Consumer	Agree to participate in telehealth consultation
Carer/Family	Assist with attendance to consult Assist during consultation Decide if want to attend

**Examples in this table are not necessarily inclusive of all the key people who could be engaged – just a sample to showcase how you might approach this step.*

4 Identify agents of change

An agent of change is someone who motivates key players [Step 3] to adopt new actions. Agents of change for a telehealth innovation include individuals who can effectively communicate knowledge and foster action. The most appropriate agent of change will vary depending on the stakeholders they are influencing. Box 4 lists some examples.



KEY QUESTIONS

- 4.1. Which agents have the most credibility overall in relation to your innovation?
- 4.2. Which agents have the most credibility for particular players?
- 4.3. Which agents are most likely to persuade others to adopt new actions, or at least to “give it a try”?

Box 4. Agents of change

Who to look for:

- Opinion-leader
- Champion
- Early-adopter
- Advocate
- Peer
- Carer/family
- Manager
- You



EXAMPLES

4A. In **Step 3**, example 3A was an **innovation involving medical specialist consultations via videoconferencing to patients in a rural hospital.**

If one of the key players is the medical specialist conducting the consultation, then effective agents of change might include:

- a physician viewed to be an opinion leader by peers
- an experienced telehealth coordinator
- the rural hospital registered nurse who provides clinical support prior to, and during consultations and
- the rural hospital management team.

4B. In **Step 3**, example 3B is an **innovation involving private in-home physiotherapy teleconsultations following knee surgery.**

If one of the key players is the physiotherapist providing the treatment, then effective agents of change might include:

- the practice manager who sets up processes for telehealth
- a physiotherapist who wishes to engage in telehealth
- a client who has experienced telehealth and requests it and
- the receptionist promoting adoption of telehealth.



Aim to involve all agents of change in the KT process at some level – even if it is in an ‘advisory’ capacity or a ‘one-off’ information forum.

KT agents in telehealth will often include:

- **Peer leaders**

It is powerful when a peer with high credibility is a model and supporter of an innovation. It gives the message that if someone in their role is able to embrace this change, then others can too! It will be more effective if an early-adopting peer can also champion ongoing uptake (‘sustainability’). Supporting these people will be vital.

- **Organisational champions**

Innovations are more likely to be acted upon when they are endorsed by an organisation of high credibility to the target participants, e.g. a respected authority in a specific healthcare area. Where possible, effective agents of change will establish a relationship of respect, engagement and support with the key people (actors) they seek to influence. The best KT occurs in good conversations and the best conversations occur in high quality relationships.

- **Consumer or end-user advocates**

The consumer and end-user voice is important. As healthcare systems in Australia embrace consumer-directed care philosophies, a powerful change agent can be a representative for service recipients, their family caregivers and service deliverers.

5 Design the KT plan

You're here! Many people – especially the practical 'can do' types – want to start at **Step 5**.

KT is most effective when it is carefully planned and has an active rather than passive quality. This is why it's important to have the first four steps in place first.

KEY QUESTIONS

- 5.1. Which KT methods are available?
- 5.2. Which methods are most appropriate for the people who will adopt this innovation?
- 5.3. Which methods are proven to be most effective with these kinds of key people?
- 5.4. Will this KT project require ethics review and approval?

EXAMPLES

It is important to tailor (one or more) specific methods of KT to your setting and resources. The table below gives examples of KT methods that may be used in your plan via a range of key people (and maybe different time-points) – i.e., the people you identified at **Step 3**:

Box 5. Features of KT method success

- **Interactive:** Shared expertise is valued, develops comfort with new behaviours
- **Tailored:** Content specifically directed to fit the known need and flexible to feedback
- **Engaging:** Content delivery is concise, entertaining and persuasive
- **Endorsed:** Innovation endorsed by high credibility organisation/peer group
- **Championed:** Innovation embraced by a respected early-adopting peer
- **Action-oriented:** Content directly/practically translates to action, given real-life constraint
- **Persuasive:** Convincing messages regarding importance and feasibility of implementation

KT Methods	Description and notes
Meetings	Gathering key people in an interactive context to build capacity <ul style="list-style-type: none"> • Explore: think-tank, stakeholder forum, webinar
Professional Educational Outreach	Brief engagement intended to change professional behaviour <ul style="list-style-type: none"> • Optimal for simple behaviour, e.g. initiating a videoconference • Consider academic detailing for senior experts
Educational Materials	Product to convey a key message <ul style="list-style-type: none"> • Pamphlet, poster, web-page, newsletter, 'logo product', videos
Reminders/Prompts	Print, electronic, telephone or web-based messages to trigger action <ul style="list-style-type: none"> • Can include app-based/software prompts in electronic records • SMS texts
Social Marketing Campaign/Media	Using marketing techniques to create/sustain behaviour change <ul style="list-style-type: none"> • A marketing expert may be a useful consultation for this method • Consumers can often readily participate and respond
Audit and Feedback	Performance summary over a period of time to inspire/sustain change <ul style="list-style-type: none"> • This can be suitable for group presentation in a staff meeting • Use de-identified summaries, unless consent to do otherwise
Citizen Briefings	Print and web-based materials to address knowledge and skill gaps <ul style="list-style-type: none"> • Non-jargon summaries of science prepared for 'non-researchers'
Demonstrations	Live or recorded demonstrations of telehealth in action <ul style="list-style-type: none"> • Live demonstrations to organisations and staff • YouTube videos of telehealth in action
'Connect with Us' – live experience	Opportunities for service providers and clients to experience telehealth first-hand <ul style="list-style-type: none"> • Short interactions with service providers and clients

6

Implement the KT plan

You might choose to implement your KT plan all at once or gradually. Where there is low readiness to adopt the innovation, it may be best to use a phased implementation approach, i.e. gradually introduce the KT plan to different parts of the organisation, system or community¹².

Also, as you implement your plan, it is useful to get feedback about its perceived relevance, acceptability and feasibility (See **Box 6**). You can do this by consulting representatives of each type of key person [see **Step 3**], e.g. by interview, survey, focus group. Each person will have a unique perspective on appropriate methods and can provide feedback valuable for potentially revising the implementation of the KT plan. When choosing the types of key people ('actors') to involve in this consultation and feedback process, consider:

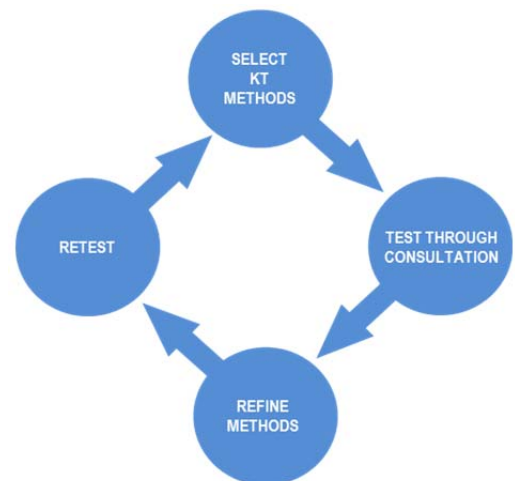
"... which experts possess technical knowledge about the subject, which decision makers can shed light on the issues related to the feasibility or acceptability of the policy, etc. The actors invited may come from the health sector, but they may also come from other sectors concerned by the issue ... and represent public, private or community perspectives"¹³.

?

KEY QUESTIONS

- 6.1. Is the KT plan perceived as appropriate and acceptable by the relevant players?
- 6.2. Are there elements of the plan that are not seen as acceptable or appropriate?
- 6.3. Has the KT plan resulted in the innovation being perceived to be effective and important?
- 6.4. Has the KT plan resulted in the innovation being perceived to be feasible for an organisation, system or community?

Box 6. Refining KT method



#

EXAMPLES

- 6A. In **Step 3**, example 3A was an innovation involving medical specialist consultations via videoconferencing to patients in a rural hospital. This innovation may depend on the staff at the rural hospital supporting the specialist consultation being convinced that this innovation will not add to their workload. If they are reluctant to participate, then the KT plan may need to include a detailed flowchart outlining the process, the time required, workload adjustments, and workplace benefits.
- 6B. In **Step 3**, example 3B was an innovation involving private in-home physiotherapy follow-up after knee surgery. This innovation may depend on other physiotherapists in the practice being convinced that it is possible to conduct a consultation with a client without 'hands on' capability. The KT plan may need to include additional training for physiotherapists alongside a physiotherapist experienced in telehealth.

7

Evaluate success of the implemented KT plan

Many evaluation frameworks have been proposed. This guide applies the **RE-AIM** framework as it emphasises sustainable system-level changes¹⁴. The five RE-AIM components are overviewed below, with key questions, examples of measurement and tips. *It is possible to evaluate the implementation of the KT plan both before and after the innovation commences.*

REACH – To what extent has the KT activity engaged the key players ('actors')?	
<p><i>Example measures:</i></p> <ul style="list-style-type: none"> Attendance at training events Website traffic Number of staff who have attended training in telehealth service delivery Number of health consumers who have agreed to receive telehealth services Variety of 'key' players engaged in telehealth activity 	<p style="color: #0056b3;">Tip: Establishing partnerships with organisational champions will greatly enhance reach.</p>
EFFECTIVENESS – What has been the impact on the attitudes, knowledge and skills of KT participants?	
<p><i>Example measures:</i></p> <ul style="list-style-type: none"> Survey of staff attitudes, knowledge and skill before and after a KT activity Survey of key players' readiness to sustain innovation 	<p style="color: #0056b3;">Tip: It is more informative to objectively measure increased skill or knowledge (e.g. quiz) than to ask for perceptions from KT participants. Self-ratings are often affected by "don't know what you don't know" or confidence.</p>
ADOPTION – Have key people ('actors') adopted actions relating to the Innovation?	
<p><i>Example measures:</i></p> <ul style="list-style-type: none"> Number of occasions of service conducted by telehealth for specific department/provider Change in behaviour as a result of innovation – receptionist always offers telehealth in a practice Practice manager evaluated all options and selected and purchased viable technology 	<p style="color: #0056b3;">Tip: It is easy to get data on knowledge acquisition, attitudes and 'intention to change', but these are poor substitutes for measuring actual behaviour change.</p>
IMPLEMENTATION - How well was KT carried out, including achieving specified targets and timelines? Did key people implement the innovation as planned?	
<p><i>Example measures:</i></p> <p><u>How well was KT carried out?</u></p> <ul style="list-style-type: none"> Participant surveys on perceived acceptability and quality of KT activities <p><u>Innovation implementation?</u></p> <ul style="list-style-type: none"> Key staff interviews on how well a telehealth model of care has been implemented Record/file audit in healthcare facility/organisations to ascertain how well telehealth was delivered Number of repeated uses of an individual service Proportion of caseload receiving telehealth service Cost savings 	
<p style="color: #0056b3;">Tip: Providing cues, such as handouts that outline key steps to implement the innovation, may improve implementation by relevant key players.</p>	
MAINTENANCE - Was this innovation maintained over time, whether following a single KT intervention or in the context of ongoing support for the Innovation?	
<p><i>Example measures:</i></p> <ul style="list-style-type: none"> Interview service providers about ongoing delivery of the new model of care using telehealth Monitor number of telehealth services over time Monitor consumer outcomes and satisfaction 	<p style="color: #0056b3;">Tip: Reminders about an innovation, long after an initial KT intervention, are likely to enhance maintenance.</p>

ADDITIONAL TOPICS

READINESS FOR CHANGE

Understanding whether the key players in your KT plan are ready for change is crucial to planning your KT project and its success. In doing so, it is important to distinguish between organisational and individual readiness for change¹⁵.

Organisational readiness

Organisational readiness refers to the extent to which members of the organisation are psychologically and behaviourally prepared to implement the change¹⁶. Organisational characteristics that contribute to readiness include¹⁷:

- A clear change vision and leadership
- A perceived need for change (e.g. internal or external pressures for change)
- Employee participation and voice in change management
- A knowledge management strategy and effective communication during change
- Trust in the change leaders and open discussion about change events
- Organisational support for employees, including training and development
- Adequate resourcing, including technological resources
- A positive culture that values organisational learning and adaptability
- Flexible organisational structures.

Individual readiness

Research on change readiness has looked at the individuals involved with or affected by a change, and in particular, the factors that might predict which people may show some resistance to organisational change. Below is a range of individual readiness factors that often arise during organisational change, along with suggestions for how each can be addressed:

- Appropriateness (e.g. "is this change appropriate for the organisation?", "is it relevant for my group?") – address through education, evidence and communication
- Personal valence (e.g. "what's in it for me?", "will this demand more of me?") – address through communication, participation, involvement and negotiation
- Self-efficacy (e.g. "can I do this?") and group-efficacy (e.g. "do we have the capability to achieve the change?") – address through training, facilitation, support and small wins
- Perception of contextual factors, particularly management support (e.g. "this won't work here – is management supporting it?") – address through visible leadership, communication, support and resourcing, and small wins.

Can you measure 'change readiness'?

Yes, there are validated measures for organisational readiness¹⁶. These scales could be considered for a KT plan supported by a researcher as a key player, and/or a rich multi-factor data collection design and write-up^{18,19}.



Dealing with a 'readiness' barrier

- Get support – from management (at all levels) for proposed change(s) and KT plan.
- Communicate – about drivers for change in the KT plan plus desired change outcomes.
- Be proactive – work with managers (and/or team leaders) to:
 - a. specify change behaviours for relevant key players
 - b. identify possible inappropriate responses to change
 - c. think about best strategies for dealing with issues early.

DISSEMINATING YOUR NEW KNOWLEDGE

Your new knowledge is what you have learned through the KT experience. Feedback to the stakeholders and participants is both vital and courteous. It could also affect the likelihood of follow-up projects. Feedback can be a purpose-specific communication, or could be a personal information provision of feedback prepared for another forum (e.g. a copy of a journal publication or newsletter article).

Some ideas –

Local outlets

- Newsletter: if the project has not set up a newsletter as part of the regular communications plan (this is possible for some types of projects), then consider drafting a piece for a relevant stakeholder bulletin
- Stakeholder or consumer forum to share results
- Popular media, including community newspapers
- Social media
- White Papers (can be shared online via a website or through social media)
- Presentations (formal and informal) to key stakeholder groups.

Peer-reviewed outlets

The concept of “peer-review” means that the write-up of your KT experience and outcomes has been assessed by experts and peers in the field. Typically this process is blind (i.e. you do not know the identity of the reviewers) and in some cases (e.g. a journal article) you will have an opportunity to consider the feedback and revise your report in response.

- Conferences: These include scientific symposia (attended by researchers) and professional meetings for continuing education (attended by clinicians)
- Publications: Many journals will consider a well-written case study. For speed of turnaround consider an open access online journal (some do charge a fee, however).

REFERENCES CITED IN THIS GUIDE

- ¹ Lang ES, Wyer PC, Haynes RB (2007). Knowledge Translation: Closing the Evidence-to-Practice Gap. *Ann Emerg Med*.49:355-363
- ² Canadian Institutes of Health Research (2012). About knowledge translation. www.cihr-irsc.gc/e/29418.htm
- ³ Graham ID, Tetroe JM. (2009). Getting evidence into policy and practice: perspective of a health research funder. *J Can Acad Child Adolesc Psychiatry*. 218(1):46-50.
- ⁴ Mental Health Commission of Canada. Innovation to Implementation: A Practical Guide to knowledge Translation in Health Care. <http://www.mentalhealthcommission.ca/English/node/568>
- ⁵ Goodenough B, Young M. (2014) *Innovation to Implementation - Australia: A Practical Guide to Knowledge Translation in Health Care (with examples from aged care and dementia)*. Dementia Collaborative Research Centres, Australia. dementiaresearch.org.au/i2i-a
- ⁶ Goldner EM, Jeffries V, Bilsker D, Jenkins E, Menear M and Petermann, L. (2011). Knowledge translation in mental health: A scoping review. *Healthcare Policy* 7: 83-98.
- ⁷ Goldner EM (2014). Knowledge translation. In KL Bassil and DM Zabkiewicz (eds.) *Health research methods: a Canadian perspective*. Oxford University Press.
- ⁸ Lavis JN, Robertson D, Woodside J M, et al. (2003). How can research organizations more effectively transfer research knowledge to decision makers? *The Milbank Quarterly*, 81(2),221–248
- ⁹ Graham ID, Logan J, Harrison M., et al. (2006). Lost in translation: Time for a map? *Journal of Continuing Education in the Health Professions*, 26, 13–24.
- ¹⁰ Stetler CB, Damschroder LJ, Helfrich CD. et al. (2011). A Guide for applying a revised version of the PARIHS framework for implementation. *Implement Sci*. 2011; 6: 99. doi:10.1186/1748-5908-6-99
- ¹¹ NHMRC levels of evidence and grades for recommendations for developers of guidelines. 2009. nhmrc.gov.au/_files_nhmrc/file/guidelines/developers/nhmrc_levels_grades_evidence_120423.pdf
- ¹² Rogers, E. M. (1995). *Diffusion of innovations*. New York: Free Press
- ¹³ Morestin F, Gauvin F-P, Hogue, M-C, Benoit F. (2010). Method for synthesizing knowledge about public policies. Institut National de Sante Publique.
- ¹⁴ Glasgow RE, Vogt TM, Boles SM. Evaluating the public health impact of health promotion interventions: the RE-AIM framework. *American Journal of Public Health*. 1999 Sep;89(9):1322-7.
- ¹⁵ Rafferty, A., Jimmieson, N. & Armenakis, A. (2013). Change Readiness: A Multilevel Review. *Journal of Management*, 39: 110-135
- ¹⁶ Shea CM, Jacobs SR, Esserman DA, Bruce K, Weiner BJ. (2014). Organizational readiness for implementing change: A psychometric assessment of a new measure. *Implementation Science*, Vol9, No. 7, 1-15. DOI: 10.1186/1748-5908-9-7
- ¹⁷ Peirson L, Ciliska D, Dobbins M, et al. (2012). Building capacity for evidence informed decision making in public health: a case study of organizational change. *BMC Public Health*, 12:137 doi:10.1186/1471-2458-12-137
- ¹⁸ Oreg S. (2003). Resistance to Change: Developing an Individual Differences Measure. *Journal of Applied Psychology*. 2003, Vol. 88, No. 4, 680–693.
- ¹⁹ Holt D, Armenakis A, Field H, Harris S (2007). Readiness for Organizational Change: The Systematic Development of a Scale. *Journal of Applied Behavioral Science* June 2007 vol. 43 no. 2 232-255

“Translating research into practice”

