A Practical Guide for all HSE Researchers and Those Who Use Research Findings

Find

Use

Research Knowledge

Create

Share

Guide No 3

Knowledge Translation Frameworks: what are they, how and when to use them

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1. What are knowledge translation frameworks?

Knowledge Translation frameworks (KTF) provide a model for the transfer, exchange, synthesis, dissemination, and implementation of research knowledge into practice or policy. They guide the planning and process of knowledge translation (KT) and the process of adoption and spread of innovation.

2. The HSE knowledge translation process

These are the core components of the HSE KT process of finding, creating, sharing, and using your research knowledge. A KT framework is mapped on to each component.
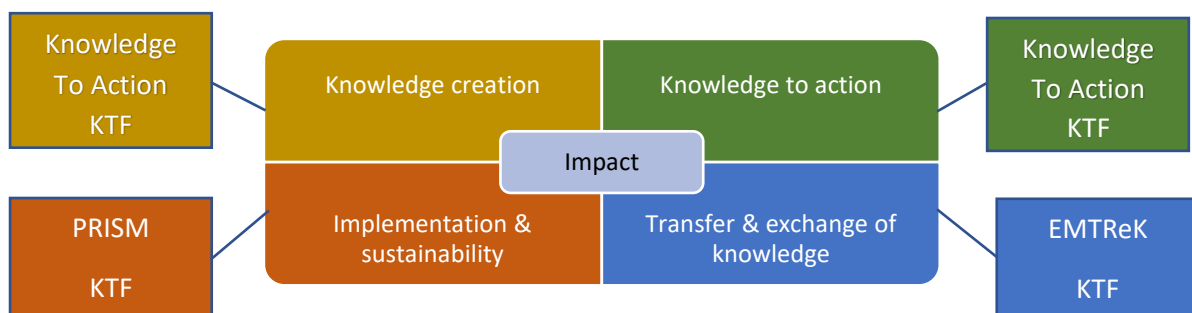
Knowledge creation
This involves identification of the problem and developing a research question, searching and reviewing the literature to decide whether research is needed or whether it already exists. It also involves identifying those who are interested or can benefit from the research and how they can be involved and at what stage.

Knowledge to action
This involves looking at the knowledge created from the point of view of the local context and identifying anything that can help or hinder using that knowledge. It also means identifying the best way of using the knowledge, where and when, and how to put it into practice, policy, guidance, or training, and then monitoring how and whether it is used and what might be needed to help the process.

Transfer and exchange of knowledge
This is the 'how' research knowledge is communicated to those who need to know or will benefit. It is about identifying the right messages for different stakeholders and situations and finding the opportunities to share those messages.

Implementation and sustainability
This is about reducing the gap between research and practice. It involves making sure that those things that support implementation, such as organisational and management support, including staff and providing them with the evidence of what works, and keeping the patient, service user, and the public at the centre of the process, are in place. It also focuses on how changes in practice are sustained and maintained over time through regular monitoring and review.

HSE Research and Development (R & D) is recommending three KT frameworks for use by HSE researchers. These should also be considered when commissioning external providers to carry out

research for the HSE. The three models can be used in conjunction with each other or individually for particular aspects of the KT process.

The KT frameworks recommended by HSE R & D are:

a. **Knowledge to Action (KTA)[1]**
b. **Evidence based Model for the Transfer and Exchange of Research Knowledge (EMTReK)[2]**
c. **Practical Robust Implementation and Sustainability Model (PRISM)[3]**

There are many other frameworks that can be used for different aspects of KT.

For guidance on planning your KT and developing a KT plan, please see *Guide Number 2 - Planning your Knowledge Translation activity*.

3. The recommended KT frameworks and models

The Knowledge to Action KTF

The Knowledge to Action (KTA)[4] is an overarching framework that includes both knowledge creation and implementation. It is focused on ensuring research findings are implemented in practice and aims to reduce the knowledge to action gap i.e. research findings not being translated. It sets out the key stages of the KT process.

There are two concepts within the KTA – knowledge creation and action. We gain or create knowledge through different sources e.g. empirically through research, through experience, quality improvement, audit, or evaluation. The action cycle is the part of the process that leads to implementation and application of knowledge. The KTA framework can be seen as a phased model with different stakeholders engaging at different stages of the process. Knowledge producers/researchers and implementers/knowledge users may work collaboratively throughout the KT process.

Knowledge creation process
In the KTA framework, knowledge creation is represented by a funnel (see Graham et al 2006). Knowledge moves through the phases of the funnel (enquiry, synthesis) and is sifted for what is relevant as it goes through. Knowledge tools and products are used to tailor and present knowledge in relevant formats for different stakeholders and knowledge users. The knowledge creation process includes the following:
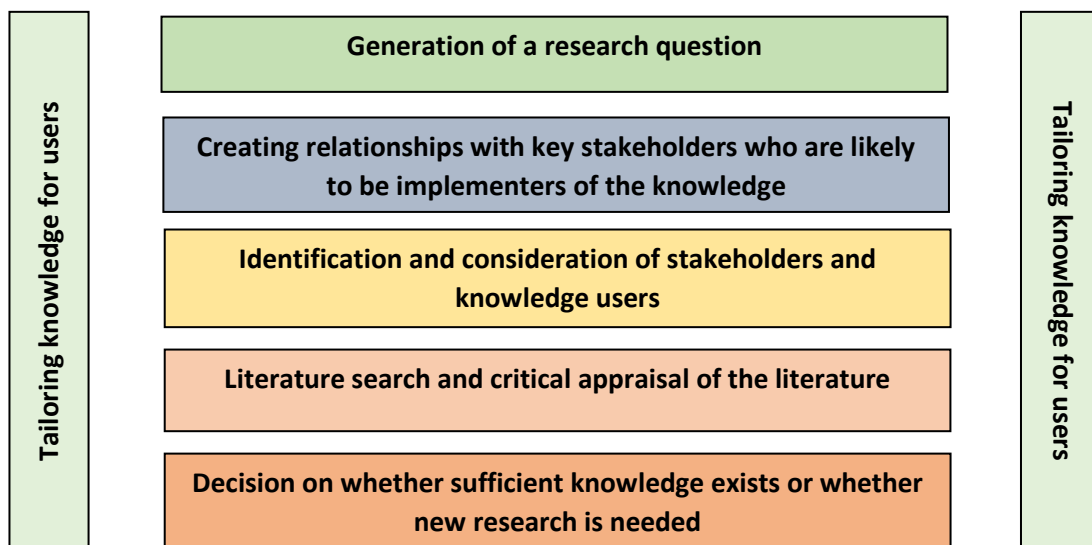
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[1] Graham I, Logan J, Harrison M, Strauss S, Tetroe J, Caswell W, Robinson N: Lost in knowledge translation: time for a map? The Journal of Continuing Education in the Health Professions 2006, 26, p. 19.

[2] Prihodova, L., Guerin, S., Tunney, C., and Kernohan, W.G. 2018. Key components of knowledge transfer and exchange in health services research: Findings from a systematic scoping review. Journal of Advanced Nursing, 00:1–14.

[3] Feldstein AC, Glasgow RE. 2008. A Practical, Robust Implementation and Sustainability Model (PRISM) for Integrating Research Findings into Practice. The Joint Commission Journal on Quality and Patient Safety. April 2008, Vol 34, Number 4.

[4] Graham I, Logan J, Harrison M, Strauss S, Tetroe J, Caswell W, Robinson N: Lost in knowledge translation: time for a map? The Journal of Continuing Education in the Health Professions 2006, 26, p. 19.

| Generation of a research question |
| Creating relationships with key stakeholders who are likely to be implementers of the knowledge |
| Identification and consideration of stakeholders and knowledge users |
| Literature search and critical appraisal of the literature |
| Decision on whether sufficient knowledge exists or whether new research is needed |

Tailoring knowledge for users

The knowledge creation process assists in identifying what the problem is and the gap between knowledge and practice. The next step to be considered is how to get the knowledge into practice using the stages of the action cycle.

Action cycle
The action cycle is the part of the process leading to the implementation and application of knowledge.

The phases of the action cycle are:
   i.   Problem identification – what is the know/do gap?
   ii. Identifying knowledge/research relevant to the problem.
   iii. Adapting knowledge to the local context.
   iv. Assessment of barriers and facilitators to using the knowledge.

     v.   Selection of intervention or actions and tailoring them to the current project.
     vi.   Implementation of the intervention or knowledge.
     vii.   Monitoring use of the knowledge.
     viii.   Evaluation of outcomes.
     ix.   Sustain the knowledge use.

Case examples

Examples of where the KTA has been used include:

- A five year programme of a KT framework in a National Institute of Health Research (NIHR) research collaboration.
- Implementation studies'
- Nurse education.
- Health promotion.
- Public health.
- Clinical/academic scheme.

Further information about the case studies can be found in:

Ilott I, Gerrish K, Bray K, Laker S: Tackling the implementation challenge: bridging the gap between research and practice. [http://www.rcn.org.uk/data/assets/pdf_file/0014/512600/2013

Field, B., Booth, A., Ilott, I. et al. Using the Knowledge to Action Framework in practice: a citation analysis and systematic review. Implementation Sci 9, 172 (2014)

The Evidence based Model for the Transfer and Exchange of Research Knowledge (EMTReK) framework

EMTReK[5] is used to ensure research knowledge is disseminated effectively in the local and organisational context This framework was developed in Ireland specifically for use in palliative care research. It aims to guide researchers in developing dissemination strategies and through the process of knowledge transfer and exchange. An introduction to EMTReK can be viewed at: https://www.youtube.com/watch?v=fapOp6JXiZY

The key areas of the evidence based framework are:

• **Message**:
    o The research findings message meets the user's needs.
    o Research findings are accessible and provide guidance on how to distil a clear message.
    o Communicated in a range of different methods, including peer-reviewed journals.
    o Multiple types of knowledge are valid.
    o Research findings are credible, accessible, and actionable.	

• **Stakeholders** – use a stakeholder analysis tool to identify different stakeholder and local opinion leaders. Expert advisory panels may be useful in this process. stakeholders may differ depending on the research being disseminated e.g. influencers at hospital level vs. primary care, people on the ground delivering care and people receiving care. Stakeholders may be:
    o Multiple groups.
    o Research/knowledge producers
    o Knowledge users (consumers) – i.e. those who would act on the research findings being communicated)
    o Knowledge/research beneficiaries. The people who will ultimately benefit from the research i.e., the users of the service, including patients, families, and others.	

• **Process** is characterised by:
    o interactive exchange – identifying opportunities to share the research and hear from stakeholders to shape the message.
    o facilitation by skilled facilitators, opinion leaders – accessing support from experienced peers to help plan activities.
    o knowledge marketing – considering active channels for dissemination, which opinion leaders can drive and support the KT.
    o targeted timely activities – identifying messages throughout the project that can be shared with stakeholders.
    o diverse activities – exploring multiple channels for sharing the research.	

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[5] *Payne, C., Brown, M. J., Guerin, S., & Kernohan, W. G. (2019). EMTReK: An Evidence-based Model for the Transfer & Exchange of Research Knowledge—Five Case Studies in Palliative Care. SAGE Open Nursing.*

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• **Local context**: consideration should be given to the impact and influence relevant to local settings where the research is to be implemented:
    ○ organisational influence – are there individuals or teams in the organisation who can support the KT process.
    ○ organisational culture – what is the organisations attitude to research? Is there management support?
    ○ resources available for knowledge transfer and dissemination.
    ○ readiness for knowledge – is the organisation ready for the research and have key people been involved.
 	
• Social, cultural, and economic context: consider the impact and influence that wider social, cultural, and economic factors might have on this research.	

• **Efficacy**: how effective has the KT been? Consider the following questions:
    ○ How has the knowledge landed with knowledge users?
    ○ Has it changed understanding, attitudes, knowledge, behaviour, or practice?
    ○ Has it informed, shaped, or changed policy, practice, or guidance?
    ○ Were key stakeholders involved in the project? Did knowledge exchange take place and shape the project?
    ○ Did you reach the right audience with your messages?	

Case examples

There are 5 case studies within palliative care services in Ireland. The case studies demonstrate the use of EMTReK in the dissemination of research knowledge and how KT plans were developed and revised. The studies involved:

- The launch of national palliative care guidelines.
- A survey of GPs on palliative care provision.
- The role of palliative care rehabilitation
- The findings from a survey of lay experience.

Further information about the case studies can be found in:
Payne, C., Brown, M. J., Guerin, S., & Kernohan, W. G. (2019). EMTReK: An Evidence-based Model for the Transfer & Exchange of Research Knowledge—Five Case Studies in Palliative Care. SAGE Open Nursing. https://doi.org/10.1177/2377960819861854

Here is a link to the examples being used in palliative care:
http://www.professionalpalliativehub.com/research/palliative-care-research-projects/developing-implementing-%E2%80%98system%E2%80%99-structured-network-wide

The Practical Robust Implementation and Sustainability Model (PRISM)

The PRISM[6] is a framework for the effective implementation of research into practice and is relevant for projects focused on implementation and practice or service improvement. This framework highlights factors that affect the implementation and sustainability of research and are key to practice improvement i.e., support from management, staff being able to see something works, patient centredness, and organisational culture.

The PRISM framework has four domains that can be used to support the implementation process:

Programme (intervention)	• Organisational perspective (leaders, managers, staff) e.g., how ready is the organisation for a programme, what is the strength of evidence for change, barriers, usability, is the timing right, adaptability to local needs. • patient perspective e.g., patient centredness, barriers, service, access, setting collaborative goals and action plans, patient readiness for change.
External environment	• e.g., regulatory environment, competition.
Implementation and sustainability	• e.g., sharing performance data, adaptable protocols and procedures, sharing best practice, plan for sustainability made at the outset, partnership between the research team and service area.
Recipients	• organisational characteristics e.g., culture, management support is a key success factor, clinical leadership, staffing, financial challenges, links to organisational goals. • patient characteristics e.g., demographics, knowledge and beliefs, health literacy.

Each domain is accompanied by a series of key questions to ask at each stage of implementation and can also be used to inform measures of success and to gather feedback. The questions can be accessed at: *add link*.

Case examples
Examples of studies where PRISM or elements of PRISM have been used include:
• clinical trials
• quality improvement

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[6] Feldstein AC, Glasgow RE. 2008. A Practical, Robust Implementation and Sustainability Model (PRISM) for Integrating Research Findings into Practice. The Joint Commission Journal on Quality and Patient Safety. April 2008, Vol 34, Number 4.

- health information technology
- evidence based programmes
- safety in prescribing

Information on these studies and the use of PRISM can be found in:

Feldstein AC, Glasgow RE. 2008. A Practical, Robust Implementation and Sustainability Model (PRISM) for Integrating Research Findings into Practice. The Joint Commission Journal on Quality and Patient Safety. April 2008, Vol 34, Number 4. This paper provides examples of the use of PRISM in an intervention trial, safety in prescribing, a diabetes programme, and a smoking cessation project.

McCreight MS, Rabin BA, Glasgow RE, et al. 2019. Using the Practical, Robust Implementation and Sustainability Model (PRISM) to qualitatively assess multilevel contextual factors to help plan, implement, evaluate, and disseminate health services programs, Translational Behavioral Medicine*, Volume 9, Issue 6, December 2019, Pages 1002–1011, https://doi.org/10.1093/tbm/ibz085.* This paper provides examples of the use of PRISM in the planning, implementation, evaluation, and dissemination of four health service programmes for the care and treatment of veterans.

Useful guides to implementation and implementation research:
Kings Improvement Science. April 2018. Implementation Science research development (ImpRes) tool. A practical guide to using the ImpRes tool.
Department of Health. 2018. Implementation Guide and Toolkit for National Clinical Guidelines.

Which KT framework should you choose?

In choosing a KT framework for your KT activity, you should refer to your KT plan, think about the resources you have and what you are trying to achieve. The following decision aid might also help you to decide.

I. Is your study about knowledge creation? Is your study aimed at identifying a problem and the gap between knowledge and practice and synthesising that knowledge?
Yes *Use the KTA framework to:* • *Generate a research question.* • *Identify and consider stakeholders and knowledge users.* • *Literature search and critically appraise the literature.* • *Decide whether sufficient knowledge exists or whether new research is needed.* • *Create relationships with key stakeholders who are likely to be stakeholders who use your research or implementers for the intervention.* *Use the EMTReK framework to:* • *develop key messages,* • *define the process and* • *set the context.*
No Review your KT plan for an appropriate dissemination strategy. See *Guide Number 2 Planning Knowledge Translation* for information on how to develop a KT plan.

II. Do you aim to disseminate your research? Do you seek to transfer and exchange the knowledge created from your study?
Yes – through conferences and publications only. *Use the EMTReK framework to develop key messages.*
Yes – with stakeholders in organisations and with those who might use the knowledge/evidence. *Use the EMTReK framework to develop key messages, define the process and set the context.*

No
  i.   Discuss this with the research sponsor to check whether dissemination is a requirement.
  ii.   Discuss with the R & D team to check how they wish to record your research.
  iii. Review your KT plan for an appropriate dissemination strategy.

III. Do you have a plan for dissemination and knowledge translation?
No Use a Knowledge Translation Planning template. See *Guide Number 2 Planning Knowledge Translation.*

IV. Is your study aimed at reaching knowledge users who are at: (select all that apply)

a. National level
    b. Organisational level
    c. Service level
    d. Individual level (staff or patients)
    e. Community/voluntary group level
    f. Members of the public

Yes

The KTA is suitable for use in a diverse range of health care projects and should be considered for use for all knowledge users. Use the Knowledge to Action framework to identify the knowledge gap and:

    i. *Generate a research question.*
    ii. *Identify and consider stakeholders and knowledge users.*
    iii. *Literature search and critically appraise the literature.*
    iv. *Decide whether sufficient knowledge exists or whether new research is needed.*
    v. *Create relationships with key stakeholders who are likely to be implementers for the intervention.*
    vi. *Identify knowledge/research relevant to the problem*
    vii. *Adapt knowledge to local context*
    viii. *Assess barriers and facilitators to using the knowledge*
    ix. *Select intervention and tailor to the current project*

Use the EMTReK for defining and marketing messages for different groups and in different formats during the project and for the results.

The PRISM is likely to be more suitable for studies where practice change is required and should be considered for use with organisational, service, and individual knowledge users implementation plans. Use the PRISM to define each of the following four domains and develop implementation plan:

    x. *Programme (intervention)*
    xi. *External environment e.g. regulatory environment, competition.*
    xii. *Implementation and sustainability.*
    xiii. *Recipients*

No
Review your research plan for its dissemination and implementation strategy. Revisit question 1. Review your stakeholder engagement strategy. Consult the HSE *Guide Number 2 Planning Knowledge Translation* for information on how to develop a KT plan and *Guide number 4 'Stakeholder Engagement'*.

V. What type of change or outcome is your study aiming to achieve? (select all that apply)

a. Policy
    b. Practice
    c. Service improvement
    d. Implementation of guidance

The Knowledge to Action framework is suitable for studies seeking to:
- *Implement research into practice*
- *Lead to health promotion*
- *Improve public health*
- *Add to education and training*
- *Influence policy*

The KTA framework should be used to identify the knowledge gap and:
   i. *Generate a research question.*
   ii. *Identify and consider stakeholders and knowledge users.*
   iii. *Literature search and critically appraise the literature.*
   iv. *Decide whether sufficient knowledge exists or whether new research is needed.*
   v. *Create relationships with key stakeholders who are likely to be implementers for the intervention.*
   vi. *Identify knowledge/research relevant to the problem*
   vii. *Adapt knowledge to local context*
   viii. *Assess barriers and facilitators to using the knowledge*
   ix. *Select intervention and tailor to the current project*

The EMTReK framework is suitable for studies seeking to:
- *Improve community advocacy group provision*
- *Improve public health*
- *Implement guidance*
- *Develop patient aids*
- *Identify key messages for policy makers*

Use the EMTReK for defining and marketing messages for different groups and in different formats.

The PRISM is suitable for studies seeking to:
- *Implement research into practice*
- *Create service improvement*
- *Create quality improvement*
- *Improve health information technology*

PRISM should be used to define each of the following four domains and develop an implementation plan:
- *Programme (intervention)*
- *External environment e.g. regulatory environment, competition.*
- *Implementation and sustainability.*
- *Recipients*

No
Review your research plan for its dissemination and implementation strategy. Revisit question 1.

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