

Getting funded: Writing knowledge translation plans and implementation research grant applications

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Recap...

- Bev Holmes & Marla Steinberg: “Knowledge translation is a journey...”
- Alison Hoens: “Knowledge brokers are your guide...”
- Linda Li: “Here is how to get funding for your journey...”

Learning objectives

- To discuss key components of a **knowledge translation plan in a grant application**
- To review key elements of a successful **implementation research grant proposal**
- To learn about resources to support you in writing a KT plan and an implementation research grant proposal

Target audience

- Students and researchers who are new to the field of knowledge translation and implementation science

Most of the work of a good knowledge translation plan is done outside of the writing

5 S's: Tips for approaching KT in your research proposal

- **S**tart early
- **S**olid research plan
- **S**takeholder analysis
- **S**ensible evaluation plan
- **S**ufficient budget

1. Start early, really early....

- It take time to develop collaboration with knowledge users (i.e. Integrated KT)
- Build a research team with connections
- Start with people you know
- Seize any opportunity
 - Warm calls are better than cold calls
- Listen carefully
- Letters of collaboration with details are helpful

INVOLVE: Values and principles framework for public engagement in research (2015)

1. Respect
2. Support
3. Transparency
4. Responsiveness
5. Fairness of opportunity
6. Accountability

Values	Summary principles
Respect	Researchers, research organisations and the public respect one another's roles and perspectives
Support	Researchers, research organisations and the public have access to practical and organisational support to involve and be involved
Transparency	Researchers, research organisations and the public are clear and open about the aims and scope of involvement in the research
Responsiveness	Researchers and research organisations actively respond to the input of public members involved in research
Fairness of opportunity	Researchers and research organisations ensure that public involvement in research is open to individuals and communities without discrimination
Accountability	Researchers, research organisations and the public are accountable for their involvement in research and to people affected by the research

<http://www.invo.org.uk/>

International Association for Public Participation

	Inform	Consult	Involve	Collaborate	Empower
Public participation goal	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives and/or solutions.	To obtain public feedback on analysis, alternatives and/or decision.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision-making in the hands of the public.
Promise to the public	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

2. Strong KT strategy is only possible when there is a solid research plan

- The KT strategy needs to match the research objectives and plan
- Be clear about:
 - Why is your research question interesting?
 - Who is interested in it?
 - What would the intended knowledge users think about it?

Straus & Tetroe, 2009

3. Stakeholder analysis

KT is not always about the 'K'. Context matters.

- System: Financial disincentives
- Organizational: Job description, existing rules & regulations
- Health care team: Peer pressure, desired practice does not match local standards/needs.
- Individual: Knowledge/skills, attitude, time

Barriers to research use are context specific

ARTICLES

Development of a Theory-Based Intervention to Increase Prescription of Inspiratory Muscle Training by Health Professionals in the Management of People with Chronic Obstructive Pulmonary Disease

Alanna M. Simms, Linda C. Li, W. Darlene Reid

Barriers to evidence-based practice in physical therapy:

Individual related

- Lack of time
 - 97% of PTs in Canada said they were interested in research, BUT...
 - 62% performed <2 database searches in a month.
 - 27% read <2 research articles per month.
- Skills in understanding research and statistics
(Salbach et al. 2007)
- Habit

Organizational barriers...

- Inadequate facilities and equipment
- Isolation from colleagues
- Lack of support from other health disciplines
- Administrative rules preventing adoption of new practice

The evidence itself may be a barrier...

Table 1 Evolution of Systematic Reviews and Practice Guidelines on the Use of Inspiratory Muscle Training in Chronic Obstructive Pulmonary Disease

<i>Dates</i>	<i>Report</i>	<i>Conclusions</i>
1992	Meta-analysis ³³	IMT is not effective in COPD.
2002	Meta-analysis, ⁹ based on 15 studies dating from 1988 to 1998	IMT alone significantly improved inspiratory muscle strength and endurance and dyspnea at rest and during exercise. Findings support including IMT as a part of pulmonary rehabilitation for some people with COPD.
2003	Canadian Thoracic Society guidelines ³⁵	There is insufficient evidence to support the use of IMT in COPD. Further study is recommended.
2005	Systematic review and meta-analysis ³⁹ of studies published between 1984 and 2002	Significant improvements in inspiratory muscle strength and endurance and in the dyspnea scale on a quality-of-life measure were found in participants in the IMT group relative to the education group.
2005	Systematic review ³⁸	Targeted resistive or threshold IMT was associated with significant improvements in exercise capacity, dyspnea, and inspiratory muscle strength and endurance relative to sham IMT.
2006	Statement on pulmonary rehabilitation from the American Thoracic Society and the European Respiratory Society ³⁶	IMT should be considered as a potential therapy, especially in patients who show signs of respiratory muscle weakness.
2007	Updated Canadian Thoracic Society guidelines ³⁴	Guidelines include no mention of IMT.
2008	Updated systematic review ⁸	Normocapneic hyperventilation, targeted inspiratory resistive, or threshold IMT significantly increased inspiratory muscle strength and endurance compared to sham IMT; it also improved outcomes of exercise capacity and a measure of quality of life and reduced dyspnea in adults with stable COPD. The clinical importance of the findings is unclear.
2008	Updated systematic review ¹⁰	Significant improvements in inspiratory muscle strength and an outcome of exercise tolerance (maximum exercise tidal volume) favoured combined IMT and exercise over exercise alone.

4. Sensible evaluation plan

- How will you measure success?
- In an operating grant, your focus is likely on 'doing KT' rather than 'studying KT'
- Should match your KT objectives

Alberta Addiction and Mental Health Research Partnership Program KT Evaluation Framework

1. What impact do you want your KT activities to have?



2. How will you know if this impact was achieved?



3. How will you obtain this information?



4. How will the KT evaluation results be used?



Indicators & examples

- **Process:** Post-activity interviews; knowledge assessment
- **Reach and engagement:** Website traffic, YouTube video viewing
- **Usefulness:** Survey of knowledge user satisfaction
- **Use:** Indicators of intended use, adapting and use of information
- **Collaboration and capacity building:** Growth in number of partners; social network growth

KT plan resource

- Barwick, M. (2013). Knowledge Translation Planning Template.

<http://www.melaniebarwick.com/training.php>



Welcome	 <h2>Knowledge Translation Training and Tools</h2> <div><div><p>Do You Know How Knowledge Translation Can Increase Research Impact?</p><p>Are You A Scientist, Educator, Policy, Or Decision Maker Who Could Benefit From Practical KT Training?</p><p>Do You Have The Skills To Play A Role In Linking With Business, Community, And Policy?</p><p>Can You Develop A Successful KT Plan For Grant Proposals Or Projects?</p></div><div><p>Course Overview: A well developed knowledge translation (KT) plan is emerging as a proposed requirement for health research in Canada and abroad, and there is greater attention to research utilization and research impact in many aspects of health practice and research. The SKTT training course was developed on the premise that scientists, educators and knowledge translation specialists are agents of change in creating research impact, improving research utilization, and ensuring research findings reach the appropriate audience. There is a skill set surrounding KT practice, and it is these competencies that the training course was designed to impact.</p><p>Audience: Initially developed to help Scientists' Scientists develop their KT skills, the course is equally suited to KT</p></div></div>
Curriculum Vitae	
Publications	
Monographs	
Consulting Services	
Consulting Reports	
Knowledge Translation Training and Tools	
Implementation Tools	
Social Media	
Links	

Scientist Knowledge Translation Training

Do Your Scientists, Educators, Policy and Decision Makers Know How to Transfer Knowledge?

Could Your Knowledge Translation Professionals benefit from Practical KT Training?

Do They Understand Why Knowledge Transfer is Important?

Do They Have Skills To Play A Role in Linking with Business, Community, and Policy?

Can They Develop a KT Plan for Grant Proposals?

Please [click here](#) to get more information about this workshop.

5. Sufficient budget for KT activities

- Under-budgeting is a common problem
- Does the budget match the scope of your KT strategy? Is it feasible? Justified?
- Examples:
 - Publication costs, conference presentations
 - Knowledge broker salary/fee
 - Honoraria for non-researcher collaborators
- Other KT funding opportunities

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Proctor et al. *Implementation Science* 2012, 7:96
<http://www.implementationscience.com/content/7/1/96>



DEBATE

Open Access

Writing implementation research grant proposals: ten key ingredients

Enola K Proctor*, Byron J Powell, Ana A Baumann, Ashley M Hamilton and Ryan L Santens

Implementation research grant proposals

Table 1 Ten key ingredients for implementation research proposals

Proposal ingredient	Key question	Review criteria
1. The care gap or quality gap	The proposal has clear evidence that a gap in quality exists?	Significance Impact
2. The evidence-based treatment to be implemented	Is the evidence for the program, treatment, or set of services to be implemented demonstrated?	Significance Innovation
3. Conceptual model and theoretical justification	The proposal delineates a clear conceptual framework/theory/model that informs the design and variables being tested?	Approach Innovation
4. Stakeholder priorities, engagement in change	Is there a clear engagement process of the stakeholders in place?	Significance Impact Approach Environment
5. Setting's readiness to adopt new services/treatments/programs	Is there clear information that reflects the setting's readiness, capacity, or appetite for change, specifically around adoption of the proposed evidence-based treatment?	Impact Approach Environment
6. Implementation strategy/process	Are the strategies to implement the intervention clearly defined, and justified conceptually?	Significance Impact Innovation
7. Team experience with the setting, treatment, implementation process	Does the proposal detail the team's experience with the study setting, the treatment whose implementation is being studied, and implementation processes?	Approach Investigator team
8. Feasibility of proposed research design and methods	Does the methods section contain as much detail as possible, as well as lay out possible choice junctures and contingencies, should methods not work as planned?	Approach Investigator team
9. Measurement and analysis section	Does the proposal clarify the key constructs to be measured, corresponding to the overarching conceptual model or theory? Is a measurement plan clear for each construct? Does the analysis section demonstrate how relationships between constructs will be tested?	Approach Investigator team
10. Policy/funding environment; leverage or support for sustaining change	Does the proposal address how the implementation initiative aligns with policy trends?	Impact Significance

1. The care gap

- Does the evidence of a care gap exist?
 - Gaps in the quality of programs and services at the population, organization and provider levels
 - Emphasize the burden of disease
 - Cite research on variations in practice and patient unmet needs
 - Show stakeholder involvement in identifying issues and generating research questions

2. The evidence-based treatment

- Demonstrate that the evidence-based treatment/service is ready for implementation
- Where to find the evidence? Cochrane EPOC Group
<http://epoc.cochrane.org/>
- Important to have pilot data
- Show feasibility in the environment where you propose to test the implementation intervention

3. Theoretical justification

Nilsen *Implementation Science* (2015) 10:53
DOI 10.1186/s13012-015-0242-0



IMPLEMENTATION SCIENCE

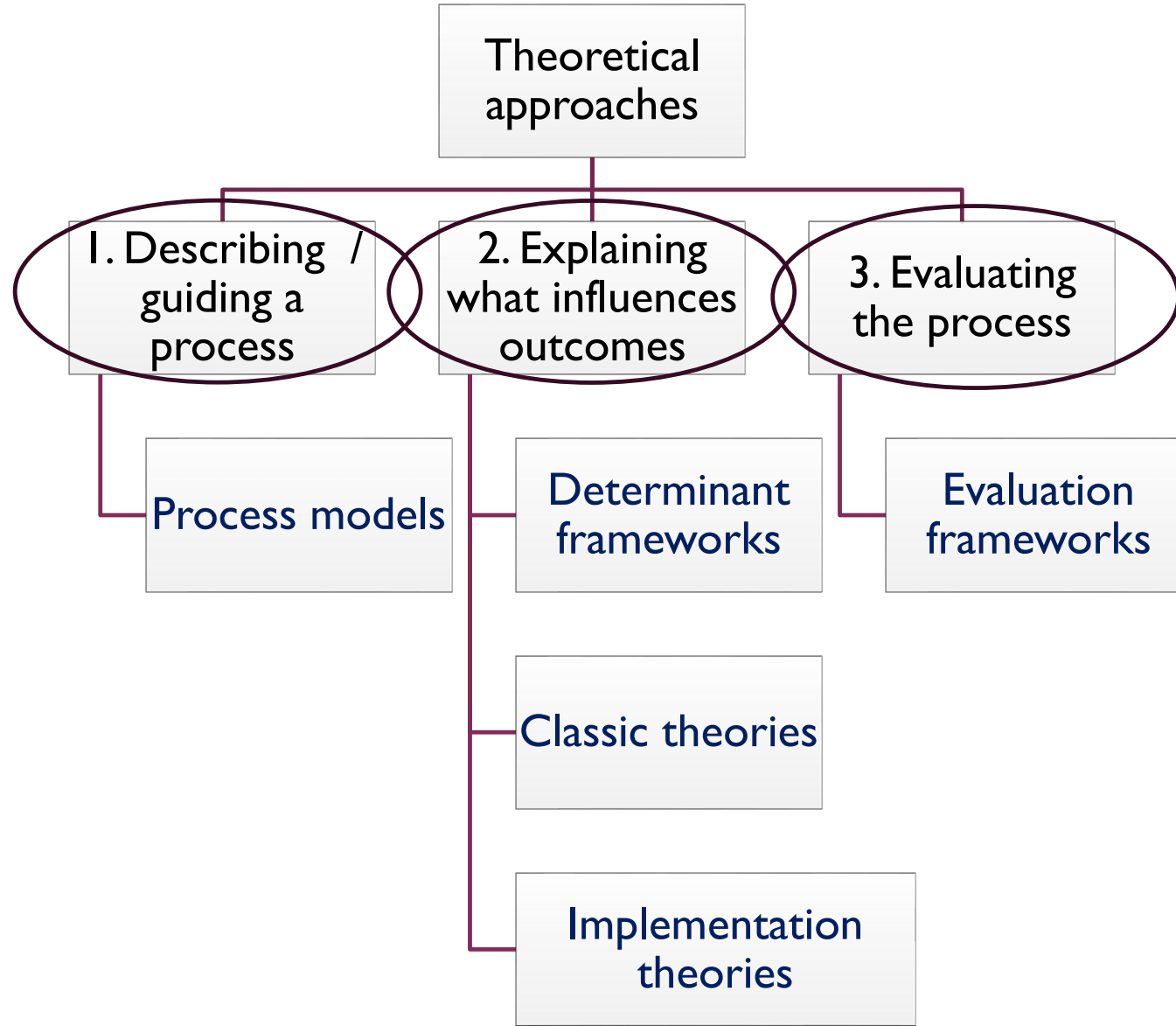
DEBATE

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Making sense of implementation theories, models and frameworks

Per Nilsen

Adapted from:
Nilsen, *Implement Sci*, 2015



5. Setting's readiness

- Organization, policy and funding context may be the strongest influences on implementation outcomes
- Preliminary data can strengthen an application
- Weiner et al identified 43 instruments for measuring organizational readiness for change

Weiner et al., *Med Care Res Rev*,
65:379-436, 2008



6. Implementation strategy

- NIH priority: “Identify, develop, refine effective and efficient methods, structures, and strategies to disseminate and implement” healthcare innovations
- Description of the implementation strategy
 - Include details
 - Use consistent language
 - A clear theoretical justification for the strategy

SHORT REPORT

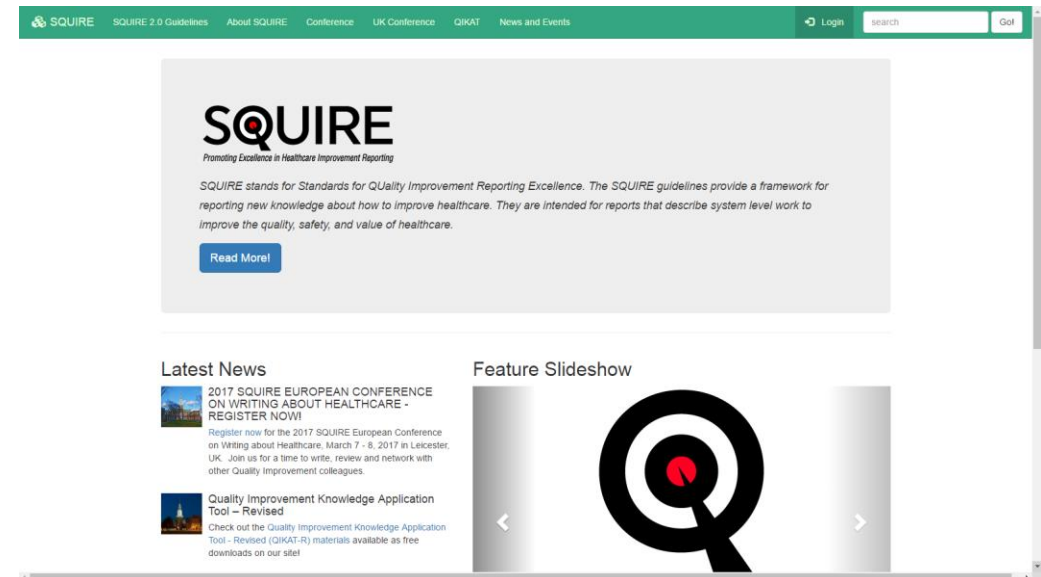
Open Access

Development of a checklist to assess the quality of reporting of knowledge translation interventions using the Workgroup for Intervention Development and Evaluation Research (WIDER) recommendations

Lauren Albrecht, Mandy Archibald, Danielle Arseneau and Shannon D Scott*

Albrecht et al.,
Implementation Science, 8:52,
2013

Standards for Quality
Improvement Reporting
Excellence (SQUIRE)



7. The research team

- Build a strong team with depth and complementary skills
- New investigators partner with senior investigators
- Important to highlight PI's expertise, but equally important to highlight methodological leadership and success of the team in the proposal

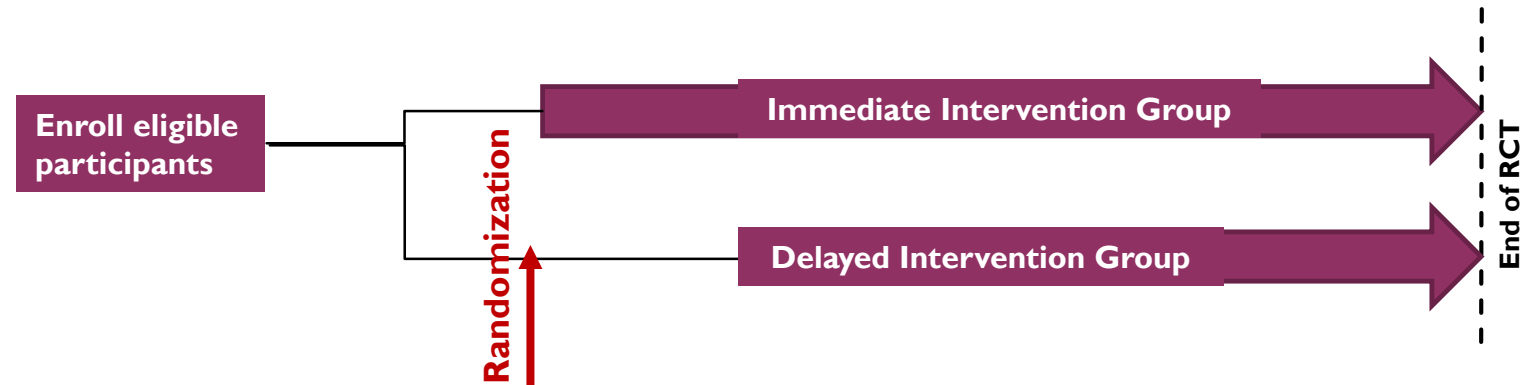
8. Feasibility of research design & methods

- Preliminary work to demonstrate the feasibility of the proposed study is important
- Consider and address every possible question reviewers might have
- Details, details, details
- Limitations and potential solutions

9. Measurement & analysis

- The measurement plan should match the conceptual model or guiding theory

Physical activity counselling intervention



Outcome measure	Baseline	End of 3 Months	End of 6 months	End of 9 months
Demographic characteristics & comorbid conditions	X			
Primary Outcome: MVPA (SenseWear)	X	X	X	X
Sedentary time (SenseWear)	X	X	X	X
Knee osteoarthritis outcome scale (KOOS)	X	X	X	X
Partner in Health Scale	X	X	X	X
Theory of Planned Behaviour Questionnaire	X	X	X	X

10. The context – policy/funding environment

- Address how the implementation intervention aligns with policy trends
- Shows that the team is not naïve to the challenges and barriers in the policy and funding environment

Key messages

- A good KT plan or implementation research grant application involves more than the writing
- Building a team with complementary skills, understanding the implementation context, and engaging knowledge users throughout the grant development process can enhance the likelihood of success

More KT Resources

- KT Canada (<http://ktcanada.org>)
- Canadian Foundation for Healthcare Improvement (<http://www.cfhi-fcass.ca/PublicationsAndResources/ResourcesAndTools.aspx>)
- BC SUPPORT Unit (<http://bcsupportunit.ca>)
 - Knowledge translation
 - Patient engagement

Strategy for Patient-Oriented Research

SPOR

Putting Patients First



Thank you!

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