

Research Translation: A Case Study

This manuscript has not been submitted for publication. It describes a case study which demonstrates different strategies that have been used to support research translation into policy and practice in maternal health in NSW, including the appointment of a shared knowledge broker.

Supporting research translation through partnership

Margaret N Lum,^{a,c} Angela L Todd,^a Maree Porter,^a and Deborah V Matha^b

^a Clinical and Population Perinatal Health Research

Kolling Institute, University of Sydney

Building 52, Royal North Shore Hospital

St Leonards, NSW, 2065, Australia

^b NSW Kids and Families, Level 3, 73 Miller Street, North Sydney, Australia.

^c corresponding author: margaret.lum@sydney.edu.au

Word count = 1938

Abstract (76 words)

This paper provides a brief introduction to research translation in health care and three essential building blocks that support the process of using evidence to inform health policy and practice: partnerships, system readiness and diversity of evidence. We then describe a 'live' example of research translation currently underway between a research group and policy makers working together to support maternity care in NSW, and the important facilitating role of a shared knowledge broker.

Key points (75 words)

Using evidence to inform health policy and practice has the potential to improve the quality of health care in Australia. Current research translation efforts have gone beyond research being 'pushed' by researchers onto policy makers, to a more integrated model including supportive social processes and the role of knowledge brokers. A case study demonstrates different strategies used to support research translation into policy and practice in maternal health in NSW, including a shared knowledge broker.

Key words: evidence informed policy and practice, maternal health, knowledge broker

Introduction (1938 words)

Efforts to promote the use of evidence in health policy and practice have been paralleled by numerous examples of ineffectual use of evidence by health systems around the world.¹ Approximately 30-40% of patients do not get treatments of proven effectiveness, and 20–25% of patients get care that is not needed or potentially harmful.²

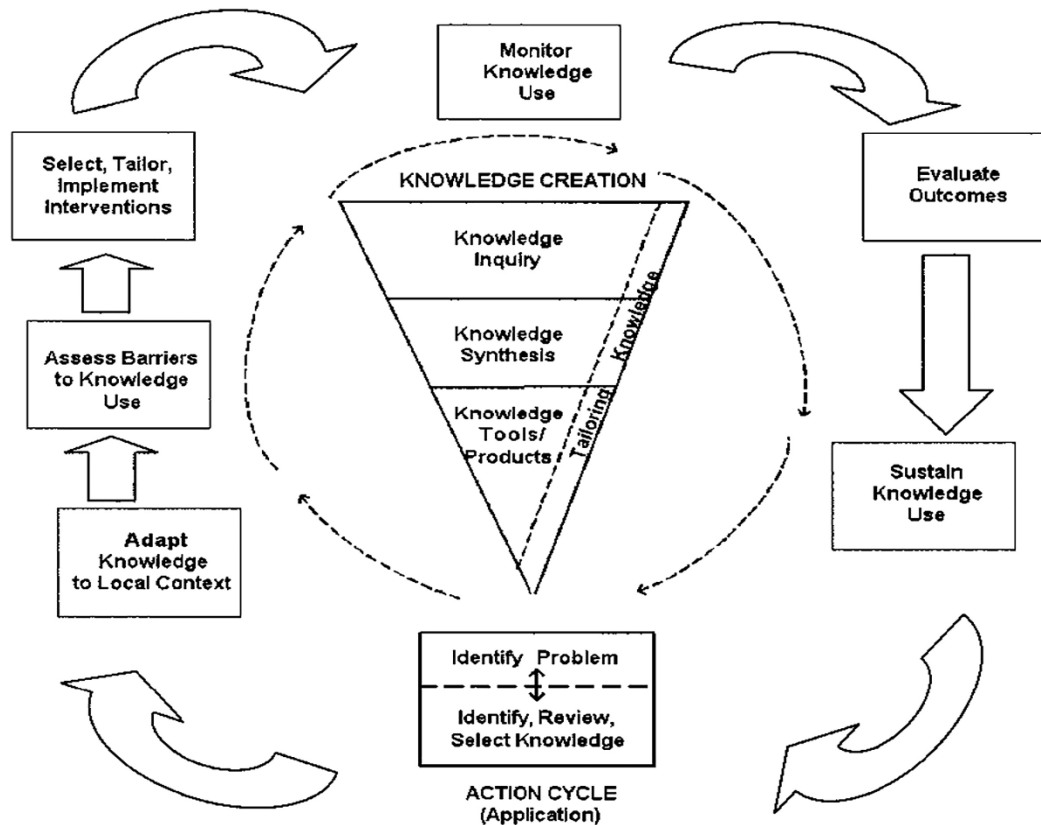
The challenge of translating research discoveries to knowledge that will enhance clinical practice and improve population health has led to a field of science known as research translation. Other terms such as research utilisation, research uptake, knowledge transfer and knowledge exchange, are also in current use. While nuances exist between these terms, collectively they capture important processes and outcomes associated with moving research findings from the research environment into the real world.

How do you “do” research translation?

The ‘knowledge -to- action cycle’¹ is one of the most commonly cited models for research translation in health care. In this model, it is conceptualised as an iterative, dynamic and complex process, with the boundaries between the knowledge creation and translation action components remaining fluid (see Figure 1). Critical to this model is the “adoption of strategies to optimise the uptake and use of research findings to inform evidence-based policy and practice”.³ The seven action phases (shown in boxes in the model) can occur simultaneously, and input from the

knowledge phase (the inverted triangle) to the action phases can happen at any point.¹

Figure 1: Knowledge-to-action cycle, a model for research translation.¹



In this cycle (Figure 1) the focus of knowledge translation is directed at the use of evidence-based research to inform better decision making in health service policy and practice:

“Knowledge translation is about ensuring that decision makers at all levels of the health system (consumers, patients, practitioners,

managers, and policy makers) are aware of, and can access and use research evidence to inform health-related decision making".¹

Others have suggested that research evidence is also used in more subtle and indirect ways to challenge health policy makers and clinicians about their perceptions, attitudes and beliefs, and the ways in which they think.⁴

The use of research evidence to inform decision making, both directly and indirectly, rests on several building blocks, including stakeholder partnerships, system readiness, and diversity of evidence. Whilst the model does not include these building blocks, this paper uses a case study example to show their influence in the uptake of evidence in policy and practice.

Importance of partnership

Critical to the research translation process in health care is the building of bridges between researchers, clinicians and consumers.^{5, 6} Such relationships help to provide necessary information about the context(s) in which research may be used, local priorities, cultures and systems of meaning.⁴ Evidence is also more likely to be applied if stakeholders influence all stages of the translation process including prioritisation, definition, interpretation and the application of research.⁴ Closing the knowledge to action gap requires a working partnership, multidisciplinary collaboration and exchange between researchers, clinicians and policy makers.⁷

To date, an important limitation of translation efforts in health is that much of that effort has been 'pushed' from the researcher side rather than 'pulled' from the health system side.⁸⁻¹⁰ Some have raised questions about organisational receptivity, and the readiness of health systems and organisations to access, interpret and use evidence to inform policy and practice change.¹¹ Knowledge brokers can help facilitate relationships between evidence producers and end-users, and build research translation capacity.^{3, 10}

System readiness

In both the policy environment and the wider healthcare system, uptake of new evidence is predicated upon the notion of system readiness which includes a clear understanding of organisational priorities, the necessary skills to review evidence to determine whether it fits with the identified priorities, and an absorptive capacity within the organisation to take on and use new knowledge.¹¹ Such processes must compete with other influential factors including institutional constraints, current opinion, competing interests (and values), as well as macro issues such as broader political priorities and economic conditions.¹²

Diversity of evidence

In health research, the randomised control trial (RCT) has been positioned at the top of the pyramid in the hierarchy of evidence for assessing the efficacy of therapy and prevention interventions, although RCTs offer little evidence of effectiveness.⁴ For this reason debate in the knowledge translation literature has challenged the primacy of the RCT, noting several shortcomings including the inability of the RCT to assess

behaviour in context, local environmental influences and relevance to the target population.^{4, 13} Also, an RCT does not encapsulate important ethical considerations including costs, and benefits and potential harms to 'at-risk' populations.¹⁴

Context is a critical consideration for any policy or program to be effective: the elements intended to improve outcomes need to consider the community's characteristics and preferences.¹⁵ Other literature highlights the need to "... review if and how outcomes can be reproduced in different places or populations ...".³

Furthermore, whilst in theory policy makers might prefer scientific rigour, in practice they are likely to give equal credibility to public opinion and expert-consensus processes.¹⁶ Applying research and knowledge brokering processes to select evidence helps alleviate the tendency to cherry pick information that supports a conclusion or to use evidence that does not take account of context.^{4, 15, 17}

An example of research translation in action

Clinical and Population Perinatal Health Research (CPPHR) is a research division of the Kolling Institute, a joint venture between Northern Sydney Local Health District (NSLHD) and the University of Sydney. Its primary focus is to generate clinical and population-based knowledge so that mothers and infants have the best possible outcomes supported by optimal health care services. CPPHR has a long-standing commitment to promoting the use of its research by policy makers and health service providers. For example, CPPHR has strategic partnerships with the NSW Ministry of Health, NSW Kids and Families, and maternal and child health service providers in NSLHD, and research collaborations with several other Local Health Districts.

NSW Kids and Families, which has policy responsibilities for maternity services in NSW, is a board-governed statutory health corporation and is committed to developing relationships with researchers such as CPPHR to ensure policies and guidelines are informed by evidence. The following case study provides an example of how CPPHR is working with NSW Kids and Families to support research translation and the essential building blocks of partnership, system readiness and the diversity of evidence.

Building relationships to facilitate research use in policy

For the past 18 months, CPPHR and NSW Kids and Families have shared a joint *Research Implementation Officer* who plays a leading role in *building the partnership* between the two organisations. This Officer, whose functions include many of those identified for knowledge brokers,¹⁰ facilitates access to, and use of, research

evidence as an 'active interface (two-way knowledge exchange process)'.⁶ The *Research Implementation Officer* engages with the 'messy real world' and uses 'flexible', 'non-dogmatic' and 'problem-solving approaches'.¹⁸ Co-location allows this person to participate in formal meetings and spontaneous discussions, and to identify useful evidence for policy makers, clinicians and consumers as appropriate. In addition to productive interactions¹⁹ which happen as part of the day-to-day business and allow for mutual trust to develop, other research translation processes are possible. The *Research Implementation Officer* plays an active role in alerting policy makers in NSW Kids and Families about recent research that may be relevant to current or future scheduled work. For example, CPPHR conducted a survey among nearly 1000 women who had recently given birth in NSW. Survey results highlighted service and information gaps that exist around infant feeding and provided the impetus for discussions with NSW Kids and Families about the implications for the current breastfeeding policy *Breastfeeding in NSW: Protection, Promotion and Support*

http://www0.health.nsw.gov.au/policies/pd/2011/PD2011_042.html.

As shown in Figure 2, CPPHR has been working with NSW Kids and Families over an extended period on this issue. We developed an issues paper that summarises current evidence on breastfeeding, identifies women at increased risk of early problems, outlines strategies that may help inform future interventions and policy (scheduled for review in 2016). Reviewing the effectiveness of the policy in increasing the rates of breastfeeding across NSW raises questions about consistency and accuracy of available data and indicators. The *Research*

Implementation Officer sourced and circulated a national report about recommended indicators for monitoring breastfeeding to assist personnel working on the policy in NSW Kids and Families.

Figure 2: Timeline of Case Study 2013-15 Breastfeeding – current evidence summary



Incorporating a diversity of evidence to facilitate research use in policy

Following initial feedback on the breastfeeding issues paper, a meeting between key stakeholders within NSW Kids and Families and CPPHR was brokered by the *Research Implementation Officer*. It was agreed that the scope of the paper be broadened to include child and family health initiatives targeting women once they have left hospital and to consult with a variety of additional informants, who would effectively increase the *diversity of evidence*. Specifically, the *Research Implementation Officer* met with policy officers involved in previous iterations of the NSW breastfeeding policy (from 2005) who provided access to an evidence review summarising published literature, grey literature, NSW Ministry of Health policy documents and reports, and papers by internationally recognised policy institutions such as NICE that were used at the time. The *Research Implementation Officer* also consulted with several other internal and external stakeholders who provided input for a revised version of the breastfeeding issues paper. They included:

- the NSW Branch President, Australian Breastfeeding Association
- the Clinical Nurse Consultant (CNC), Southern NSW LHD regarding a local intervention to promote and support breastfeeding
- the Maternal and Newborn Advisory Group (MNAG) for NSW

Building capacity to facilitate research use in policy

NSW Kids and Families was established in 2013 and is therefore in the early stages of organisational development. *System readiness* and the capacity to take up new evidence is predicated upon the ‘maturity’ of an organisation.¹¹ Another feature of system readiness is absorptive capacity for new knowledge.¹¹ The Chief Executive

of NSW Kids and Families is supportive of evidence based policy and practice and personally endorsed a series of capacity building workshops for staff coordinated by the *Research Implementation Officer* and led by invited external guest speakers. Topics included critical appraisal of academic research, building partnerships and the collaboration process, research translation and the role of the knowledge broker. However, other factors within the organisational context serve as barriers to system readiness and the uptake of evidence. These include: structural and staff changes which affect continuity; a time-pressured and often reactive environment; a mismatch between available resources and workload; and the competing demands of the planned work priorities of NSW Kids and Families versus urgent ministerial and media requests.

Summary

Research translation has the potential to improve the quality of healthcare in Australia, including maternity care. Supportive social processes such as exchanges between researchers, policy makers, healthcare practitioners and consumers are required to increase the likelihood that both policy and practice are evidence based, and that researchers generate evidence that is relevant to policy and practice. When researchers limit their core business to knowledge inquiry, syntheses and dissemination, they risk failing to capture the attention of key influencers. For those in policy roles, multiple forms of evidence impact policy making processes including summaries reflective of their needs.

Improved knowledge exchange and communication, facilitated by knowledge brokers, can engender trust and facilitate pragmatic solutions supported by evidence.¹⁸ Such building blocks allow researchers and decision makers to work together to influence population health policy and practice integrating evidence that is both reliable and relevant. Researchers at CPPHR and policy makers in NSW Kids and Families are committed to working together to increase awareness and use of existing evidence, but also create new evidence that addresses policy priority areas in NSW.

Acknowledgements

The Research Implementation Officer position is funded by a NSW Population Health and Health Services Research Support Program (PHHSRSP) grant. We gratefully acknowledge valuable input and advice on an earlier draft of this paper by Andrew Milat, Associate Director, Centre for Epidemiology and Evidence, NSW Ministry of Health.

Author's contribution

ML and AT were responsible for the design, drafting and editing of the manuscript. MP and DM were responsible for reviewing and editing the manuscript.

References

1. Straus SE, Tetroe JM, Graham ID. Knowledge translation is the use of knowledge in health care decision making. *J Clin Epidemiol* 2011; 64(1): 6-10.

2. Graham ID, Logan J, Harrison MB, Straus SE, Tetroe J, Caswell W, Robinson N. Lost in translation: time for a map? *J Contin Educ Health* 2006; 26(1): 13-24.
3. Rychetnik L, Bauman A, Laws A, King L, Rissel C, Nutbeam D, Colaguiuri S, Caterson I. Translating research for evidence-based public health: key concepts and future directions. *J Epidemiol Community Health* 2012; 66(12): 1187-92.
4. Davies H, Nutley S, Walter I. Why 'knowledge transfer' is misconceived for applied social research. *J Health Serv Res Policy* 2008; 13(3): 188-90.
5. Westfall JM, Mold J, Fagnan L. Practice-based research - "blue highways" on the NIH roadmap. *JAMA* 2007; 297(4): 403-6.
6. Haynes S, Derrick G, Redman S, Hall W, Gillespie J, Chapman S, Sturk H. Identifying trustworthy experts: how do policymakers find and assess public health researchers worth consulting or collaborating with? *Plos One* 2012; 7(3): 1-8.
7. Bowen S, Graham ID. Integrated Knowledge Translation In: Strauss SE, Tetroe J, Graham ID, eds. *Knowledge Translation in Healthcare Moving from Evidence to Practise*. Second Edition ed. Chichester: John Wiley and Sons Ltd; 2013: 14-26.
8. Baumbusch JL, Kirkham SR, Khan KB, McDonald H, Semeniuk P, Tan E, Anderson JM. Pursuing common agendas: a collaborative model for knowledge translation between research and practice in clinical settings. *Res Nurs Health* 2008; 31(2): 130-40.
9. Canadian Institutes of Health Research. *Knowledge Translation Strategy 2004-2009*. Innovation in Action. Ottawa, Canada, 2004.
10. Lomas J. The in-between world of knowledge brokering. *BMJ* 2007; 334(7585): 129-32.

11. Lobb R, Colditz GA. Implementation Science and its application to population health. *Annu Rev Public Health* 2013; 34: 235-51.
12. Oxman AD, Lavis JN, Lewin S, Fretheim A. Support Tools for Evidence-informed Policymaking (STP) I: what is evidence-informed policymaking. *Health Res Policy Syst* 2009; 7(Suppl 1). Available from: <http://www.health-policy-systems.com/content/7/S1/S2>.
13. Russ-Sellers R, Hudson MF, Youkey JR, Horner RD. Achieving effective health service research partnerships. *Med Care* 2014; 52(4).
14. CASP. Critical Appraisal Skills Program: 11 questions to help you make sense of a trial. 2013. <http://www.casp-uk.net/#!/casp-tools-checklists/c18f8>.
15. Cartwright N, Hardie J. Evidence-based Policy. A Practical Guide to Doing It Better. New York: Oxford University Press; 2012.
16. Schorr LB, Auspos P. Usable information about what works: building a broader and deeper knowledge base. *J Policy Anal Manage* 2003; 22(4): 669-76.
17. Canadian Institutes of Health Research. Knowledge to Action: A Knowledge Translation Casebook, 2008. Available from: <http://www.cihr-irsc.gc.ca/e/38764.html>.
18. Haynes S, Derrick G, Chapman S, Redman S, Hall W, Gillespie J, Sturk H. From "our world" to the "real world": exploring the views and behaviour of the policy-influential Australian public health researchers. *Soc Sci Med* 2011; 72: 1047-55.
19. Penfield T, Baker M, Scoble R, Wykes M. Assessment, evaluations, and definitions of research impact: a review. *Res Eval* 2014; 23: 21-3.