Knowledge Translation in Nursing and Healthcare

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A Roadmap to Evidence-informed Practice

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Finishing this book in the Year of the Nurse and Midwife (2020) and it being released in the Year of Health and Care workers, we dedicate this book to the many nurses, other healthcare providers, and patients who have invited us in to facilitate and study implementation. They provided us with world class living implementation laboratories. We owe them so much for providing the opportunity to study implementation processes in the real world and to develop models and frameworks to facilitate evidence-informed practice. They provided us with opportunities to acquire hands-on experience and tacit implementation knowledge which ultimately allowed us to cultivate and hone our implementation craft and science.

and to

Marjorie and Fern

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About the Authors

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After many years of practice Margaret returned to school to pursue research in nursing. Her PhD (Nursing) from McMaster University concentrated on continuity of care for complex populations and using guideline recommendations as a foundation for multi-interventions within randomized controlled trials. This interest began in the early 1990s at the Children's Hospital of Eastern Ontario where, in her professional practice and research role, she was challenged by senior administration to improve specific quality of care issues, e.g. central line care, preparation of repeatedly hospitalized children. In working with care teams, the dialogue always began with a critical review of external evidence to formulate a new local approach based on best available evidence. This approach continued in her role as Nurse Specialist Research and Evaluation at the Ottawa Hospital, a large teaching facility, working closely with the quality portfolio to conduct implementation studies driven by quality/risk issues, e.g. pressure injury prevention and management practices, transitional care of patients with heart failure. During this time, the term "knowledge translation" became formalized and began to emerge as a distinct research paradigm. Margaret undertook regional community work to assist in care improvement for the population with chronic wounds beginning a long series of nursing research initiatives. Then based at Queen's University, Kingston, Ontario (2000–2014), she was Scientific Director, Senior Scientist with the Practice and Research in Nursing (PRN) Group, a unique practice–academic partnership dedicated to producing and using evidence for practice. She established and led the Queen's Joanna Briggs Collaboration where research is synthesized in a rigorous manner for practice use. During that time Margaret received the Queen's Basmajian Medal for research, published 137 peer reviewed papers, and first authored CAN-IMPLEMENT©: Planning for Best-Practice Implementation (2014). She was awarded a Sigma Theta Tau Writing Award as lead author for "Roadmap for a Research-Practice Partnership to Implement Evidence" (Worldviews 2012). As Professor Emerita, Margaret continues this work voluntarily with community partners.

Ian D. Graham, PhD, FCAHS, FNYAM, FRSC
Professor, School of Epidemiology and Public Health
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Senior Scientist
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Ian's PhD in medical sociology from McGill University focused on understanding how historically, the obstetrical practice of episiotomy rose to became a routine practice in North America by the 1950s, was questioned by women and midwives in the 1970s and 1980s and lost its status as a routine procedure by the 1990s. During his postdoctoral studies, Ian continued to focus on identifying and understanding factors influencing professional practice and the role evidence could play in changing practice. Upon being appointed to the Ottawa Hospital Research Institute and working with nursing and medical colleagues, he began shifting attention to finding ways to apply social science theory and methods to facilitate the uptake of evidence informed practice (known now as knowledge translation and implementation science). The origins of all the knowledge translation models and frameworks he has developed can be traced back to collaborations with practitioners at the point of care and the desire to find rigorous and collaborative ways for them to leverage external evidence by aligning it with their local context. From 2006–2012 he served as Vice-President of the Knowledge Translation and Public Outreach at the Canadian Institutes of Health Research, Canada's premier health research funder. There he brought in CIHR's first citizen engagement in research framework and open access policy, and funding opportunities to support knowledge translation and engagement of patients and others as research partners. One of his current research foci is on understanding the role of research co-production in the uptake of research findings. He has published over 300 peer reviewed articles and is co-editor of Turning Knowledge into Action: Practical Guidance on How to Do Integrated Knowledge Translation Research (2014), Knowledge Translation in Health Care (2013, 2nd edition) and Evaluating the Impact of Implementing Evidence-based Practice (2010) and co-author of CAN-IMPLEMENT©: Planning for Best-Practice Implementation (2014). He has twice been awarded a Queen Elizabeth II Jubilee Medal (2002, 2012) for contributions to research.

Acknowledgments

The writing of this book has been its own journey. In fact, some of the chapters were drafted during a transatlantic writing retreat aboard the Queen Victoria in her peaceful library. Other chapters were worked while on business trips and academic leave to Australia and the UK. Most of the book, however, was written on the unceded territory of the Algonquin Nation and we honor the Elders and Knowledge Keepers, both past and present.

Our trusty Research Coordinator Meg Carley, BSc guided us through the final phase of this work making great enhancements not only to chapter format but improving our rudimentary schemas and tables – often hand drawn. Meg also skillfully managed the references – her penchant for detail and organization were invaluable. Joan van den Hoek, BNSc took the mental vision we had of the Roadmap and created the graphic for this book.

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Finally, John and Dawn, our spouses, and our families, have been very supportive and patient with us as we have labored over this book. We cannot thank them enough. We will not however, miss them asking, "Is *that* book done yet?"

Foreword

A quick Internet search will show you that many books have been written about evidence-based practice, so why should you be interested in *this* book? There are several good answers to this question, read on.

The proliferation of products that collate and synthesize evidence to offer best practice recommendations has increased exponentially over the last two decades. Yet there is often a disconnect between what is recommended and what happens in practice. Why? It is partly because evidence does not get moved, intact, from one place to another. It cannot. Research is rarely the only piece of the evidence jigsaw that practitioners draw on in their practice, and there needs to be a good fit between evidence and context for it to have a chance of making a difference. There are many factors at play, which need to be considered and negotiated, and this is rarely straightforward. Therefore, if evidence is to get transformed to inform practice, this requires purposeful action. This is why you should pick up this book.

The authors of this book have brought together research, theory and their accumulated expertise and wisdom from decades of practice-based knowledge translation work to provide a map and compass to help those in roles that facilitate evidence-informed care navigate the way. As a "Roadmap to Evidence-Informed Practice" this book provides a comprehensive and systematic approach, drawing on practical examples, offering tips and tools, and reflecting on lessons learnt. As such, it provides a resource for the implementer to focus on solutions rather than get overwhelmed by the challenges.

The book is organized around the Roadmap Framework that Drs Graham and Harrison have developed from their extensive research and practice in the field. The framework includes three overarching phases: issue identification and clarification, build solutions, and field test, and implement, evaluate, sustain, which provides a logical and systematic way of walking the reader through activities required at each stage. A focus on research and evaluation activities at each stage also supports capacity and capability building for professional practice and research awareness. The content is grounded in nursing practice examples, which translates theory and research into concrete implementation actions. It is a book that you can dip in and out of, or read sequentially. The result is an invaluable and accessible "how to" of implementation.

Another notable feature of this book is the thread of collaboration and partnership that runs through it. Translating evidence to inform practice is not an individual practitioner or provider effort. The relationship between knowing and doing is bounded within the health

and care systems people work in. Social and interactional aspects of knowledge translation have been receiving increasing attention. The idea that there are two homogenous communities where one produces knowledge and the other uses it, is rightly, becoming outdated. Therefore, it is refreshing to see how the authors weave in a focus on collaboration and partnership working as a pathway to best practice implementation through co-producing knowledge and practice.

As leaders in the field, these authors have created a roadmap that is authoritative, comprehensive, and useful. What they have managed to achieve is a rare balance of theory and research combined with the practical. This book should be a "go to" for those implementing evidence-informed nursing and healthcare practice.

Jo Rycroft-Malone, RN, BSc(Hons), MSc, PhD,
Professor of Health Research
Dean, Faculty of Health & Medicine, Lancaster University, UK
Director, National Institute for Health Research Health Services & Delivery Research Programme

As I read through this new book by Margaret Harrison and Ian Graham entitled "Knowledge Translation in Nursing and Healthcare: A Roadmap to Evidence-Informed Practice," I reflected on my years of clinical practice as well as some major implementation projects in healthcare that I have been involved in over the years.

I completed my Doctorate in Nursing (with a focus on Knowledge Translation (KT) and Shared Decision Making) following many years of clinical experience in tertiary neonatal intensive care. During my career I have had the privilege of working as a clinician at the point of care, as an educator and consultant to support practice change, and as a KT Specialist and researcher to develop and evaluate different strategies to improve uptake of best practice.

One of the major initiatives I was involved in was a collaboration between a provincial data registry group, a research team of implementation science and clinical experts, and healthcare organizations providing maternal newborn services in Ontario. The aim of the project was to develop and implement an electronic audit and feedback system across the province, and then evaluate the effect on clinical practice for selected performance indicators. The results of this project were very promising with evidence of improved rates for four of six performance indicators of perinatal care over 30 months post implementation. A number of barriers and enablers were identified, and we learned many lessons from this project both with respect to the design of effective audit and feedback, and about contextual and individual factors that enabled or blocked change. For example, leadership support for effective change was critical, as were professional attitudes to the change and staff motivation, trust in the data and credibility of the evidence, the availability of essential resources, and collaborative inter-professional relationships.

Reading this new book by two internationally recognized experts in the field of implementation of change in healthcare, I appreciate the successes and failures of our project even more now. Evidence-based guidelines or data signaling an evidence-practice gap do not automatically trigger practice change, even if the evidence is sound and the data are

trustworthy. In my years of clinical practice prior to this initiative I have witnessed quality improvement initiatives where limited strategies were used to support practice change (e.g. staff education or the development and communication of a new policy or procedure). Inevitably, this was insufficient to address the full scope of barriers that existed and as a result implementation was incomplete and practice improvement, if any, was limited – wasting time, effort, resources, and money. Successful practice change in healthcare requires a multi-level, multi-pronged approach informed by current evidence and tailored to address the existing barriers to change within the specific context of care.

This new book provides a comprehensive roadmap to guide you through the planning process for successful implementation of sustained practice change in your organization. This is an extremely interesting, well written resource that is a pleasure to read. It is a rich source of information based on the authors' years of experience in the field and informed by a wide range of theories and scientific evidence. This book also demonstrates the complexity of the change process, what it takes to successfully implement new practices and the commitment of time and resources required to carry out each phase. It is full of real-life examples, tools, tips, references, and a step-by-step approach to help guide you along your journey. This book is a tremendous resource for nurses as well as other healthcare professionals. I wholeheartedly recommend that you read this book and take advantage of the wealth of knowledge contained within to help guide your implementation projects. Enjoy!

Sandra Dunn RN PhD
KT Specialist, BORN Ontario
Adjunct Professor, University of Ottawa, School of Nursing
Senior Research Associate, Ottawa Hospital Research Institute

Praise for Knowledge Translation in Nursing and Healthcare

Changing behavior using theory and evidence can be a daunting challenge – Drs. Harrison and Graham have risen to this challenge by providing us with a thoughtful and pragmatic "Roadmap" to guide our implementation activities from planning to sustainability. These authors have integrated the science and practice of implementation into a user-friendly "Roadmap" to optimize our success as implementers on the clinical frontline.

Dr. Sharon E. Straus, HBSc, MSc, MD, FRCP (C)
Professor, Dept. of Medicine, University of Toronto
Physician-in-Chief, St. Michael's Hospital
Director, KT Program, St. Michael's Hospital

"This is exactly what I've been looking for, something practical to use to teach KT and evidence implementation."

Professor Jed Duff RN PhD FACORN,
Professor and Chair of Nursing, Metro North Hospital and Health Service and Queensland University of Technology
Royal Brisbane & Women's Hospital, Nursing & Midwifery Research Centre, Herston, Queensland 4029

As a healthcare leader with many years of experience in the practice environment and within accreditation, this book offers you a way for moving best practice into the healthcare environment, that is relevant and in touch with your reality. With a focus on improved outcomes for both care recipients and the providers, the approach outlined in this guide is easy to follow and simplifies the pathway to enabling implementation of best practice.

In the complex world within which healthcare is provided, these authors demonstrate their deep understanding of your reality and provide you with this valuable guide. Enjoy the journey guided by The Roadmap!

Wendy Nicklin RN, BN, MSc(A), CHE, FACHE FISQ.ua, UCD.D
Former Vice President of Clinical Services, Chief Nurse Executive, The Ottawa Hospital, subsequently President and CEO of Accreditation Canada, President (Board Chair) of International Society for Quality in Health Care (ISQUA)

Drs. Harrison and Graham are global leaders in knowledge translation and implementation science. Their book provides a practical and science-based approach to move evidence from the page to the hands of the knowledge user where it makes a difference.

Lisa Hopp PhD RN FAAN
Dean and Professor
Director, Indiana Center for Evidence Based Nursing Practice
Purdue University Northwest, Hammond IN

This book is full of outstanding practical advice, based on solid research and real world experiences, on how to best overcome barriers in the implementation of evidence-based care. It should be a staple resource for enhancing the quality and safety of healthcare.

Bernadette Mazurek Melnyk, PhD, APRN-CNP, FAANP, FNAP, FAAN
Vice President for Health Promotion, University Chief Wellness Officer
Dean and Professor, College of Nursing
Executive Director, the Helene Fuld Health Trust National Institute for Evidence-based Practice in Nursing and Healthcare
The Ohio State University and safety of healthcare.

Glossary Terms (Alphabetical): Related to the Implementation of Evidence-Informed Practice

Adapt: to modify or make suitable for one's purpose.
Adherence: following the evidence (e.g. guideline) recommendations.
Adopt: to take up, follow or use.
Barriers Assessment: a process for identifying barriers and drivers to a specific a practice or behavior.
Best Practices: maintaining or improving effective and efficient care based on best available evidence.
Call-to-Action: the point when a practice issue emerges as a problem to be dealt with, when quality or risk data indicate it as a problem, or new evidence emerges that should change practice.
Capacity Building: a process that builds on local existing skills and knowledge, fostering a sense of ownership and empowerment.
Conceptual knowledge use: using knowledge to change the way users think about issues including changes in understanding, attitude, or intentions.
Continuity of care approach: a coordinated and integrated process of care, creating linkages across settings, between providers, with recipients of health care that facilitates the transition of care from sector, institution, agency, or individual to another over time.
Critical appraisal: the process of carefully and systematically assessing the outcome of research (evidence) to judge its trustworthiness, value, and relevance in a particular context.
Customization: the action of modifying a best practice recommendation to optimize its fit with a particular context.
Delphi consensus method: a method used to facilitate a group coming to consensus on something.
Dissemination: identifying the appropriate receivers and users of knowledge (the audience) and tailoring the message and medium to the audience.
Environmental scan: process that systematically surveys and interprets relevant information and data to identify barriers and drivers, assist in planning, and evaluating an implementation.
Evidence-based Nursing: integration of the best evidence available, nursing expertise, and the values and preferences of the individuals, families, and communities who are

served. https://www.sigmanursing.org/why-sigma/about-sigma/position-statements-and-resource-papers/evidence-based-nursing-position-statement

Evidence-Informed Practice (EIP): in addition to best available evidence, EIP involves the integration of practice skills, expertise, and experience as well as context knowledge, (local environment and evidence about the population), information on the resources available, patient preferences, as well as assessing local skills and expertise.

Evidence-practice gap: the gap between current practice and best practice. Also known as the know-do gap.

Expenditure review: understanding the costs associated with the current and the new practice.

Experimental study design: participants are allocated to the different groups in an experiment. Experimental study designs include randomized control trials, cluster randomized control trials, and stepped-wedge cluster randomized trials.

Facilitation: to make something possible or easier. With evidence implementation, facilitation can be internal, external, or partnered and carried out either by an individual or a group.

Facilitator: person or group specifically assigned to facilitate the evidence-informed practice.

Fidelity: the degree of accuracy with which something is implemented.

Field test: field tests are undertaken to: (i) determine whether the implementation strategies can be delivered with fidelity, (ii) collect preliminary data on whether the strategies are working as expected, and (iii) assess acceptance of (and satisfaction with) the strategies to the potential adopters of best practice and other stakeholders.

Formative evaluation: evaluation undertaken for learning during the implementation process. Conducted to ensure that an implementation program/initiative is feasible, appropriate, and acceptable before it is fully implemented and to improve it before it is launched.

Guideline adaptation: comprises identifying the practice topic; constituting the evaluation and adaptation group; searching, appraising, and adapting guideline(s) for local use; seeking feedback and peer review of the locally adapted guideline(s); and updating of the local guideline(s).

Hybrid study design: with evidence implementation a study design that simultaneously permits determining the effectiveness of a best practice and the implementation strategies used.

Impact: the outcomes resulting from adherence to best practice (e.g. health outcomes, provider outcomes, health system outcomes).

Impact evaluation: used to determine impact of the implementation on health and other outcomes of interest.

Implementation: efforts undertaken to activate evidence into practice, i.e. the practice of knowledge translation.

Implementation mapping: a process for selecting implementation strategies to address implementation barriers to achieve implementation objectives.

Implementation science: the study of the determinants of knowledge use and effective methods of promoting the uptake of knowledge including (but not limited to) evaluating implementation outcomes.

Indicator: a measure of something (e.g. knowledge use, process, performance, impact)

Instrumental knowledge use: the concrete application of knowledge.

Integrated knowledge translation: interaction between decision-makers and researchers that results in mutual learning through the process of co-planning, co-producing, disseminating, and applying existing or new research in decision-making. It involves bidirectional communication, mutual learning, and co-creation of change by relevant stakeholders.

Intervention mapping: is a process that guides the design of interventions and implementation strategies.

Knowledge, Attitude, Practice (KAP) survey: a method to assess the barriers and drivers to implementation.

Knowledge synthesis: the contextualization and integration of research findings of individual research studies within the larger body of knowledge on the topic. A synthesis must be reproducible and transparent in its methods, using quantitative and/or qualitative methods. https://cihr-irsc.gc.ca/e/41382.html.

Knowledge translation: a dynamic and iterative process that includes synthesis, dissemination, exchange and ethically-sound application of knowledge to improve health, provide more effective health services and products and strengthen the health care system. https://cihr-irsc.gc.ca/e/29418.html.

Knowledge use: ways in which knowledge informs decision making. The three types of knowledge use are conceptual, instrumental and symbolic.

Knowledge user: individuals, groups or organizations that use the results of research or best practices to make decisions or apply research or best practices.

Meta-analysis: statistical analysis that combines the results of multiple scientific studies. https://en.wikipedia.org/wiki/Meta-analysis.

Nominal Group Technique (NGT): a structured method for group brainstorming that encourages contributions from everyone and facilitates quick agreement on the relative importance of issues, problems, or solutions https://asq.org/quality-resources/nominal-group-technique.

Observational study design: observational studies are ones where researchers observe the effect of an intervention or implementation without trying to change who is or is not exposed to it. Observational study designs include cohort studies and case control studies.

Outcome/effectiveness evaluation: evaluations designed to measure the effect (or effectiveness) of the implementation process by assessing the uptake or adherence to the prescribed best practice. This type of evaluation can fall under the category of summative evaluation.

Population profile study: an enquiry where the population of interest is described in terms of socio-demographic, circumstance of living and other key factors.

Practice Audit: a tool to assess care and outcomes from what is documented in the health care record and includes chart audit, audit-and-feedback etc. A way to discover what you are doing right and what might be improved.

Practice Guideline: statements that include recommendations intended to optimize care that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options.

Process/implementation evaluation: determines whether interventions/best practices have been implemented as intended and resulted in certain outputs. It is also a means of understanding how complex interventions work in the field of implementation science.

Program Evaluation: the systematic collection of information about the activities, characteristics, and outcomes of programs, for use by people to reduce uncertainties, improve effectiveness, and make decisions. https://www.atsdr.cdc.gov/communityengagement/pce_program_evaluation.html#:~:text=Program%20evaluation%20can%20be%20defined,39).

Quality improvement: In health care, it is the framework used to systematically improve the ways care is delivered to individuals. Processes have characteristics that can be measured, analyzed, improved, and controlled. https://www.ahrq.gov/ncepcr/tools/pf-handbook/mod4.html.

Quasi experimental study design: involves the manipulation of an independent variable without the random assignment of participants to conditions or orders of conditions. Among the important types are nonequivalent groups designs, pretest-posttest, and interrupted time-series designs. https://opentextbc.ca/researchmethods/chapter/quasi-experimental-research.

Reliability: refers to the consistency of a measure-the extent to which a measure gives the same value each time it used on the same conditions with the same participants.

Sample: this is a portion of a larger group for used to collect information for needs assessment and/or the evaluation.

Scalability: the ability increase the size or amount of implementation.

Scope of practice: is the range of healthcare tasks, decisions or activities of a qualified, licensed healthcare professional (e.g. doctor, nurse practitioner, nurse, pharmacist) allowed by law and the country/state/provincial/territorial licensing authority governing that profession. https://www.cmpa-acpm.ca/serve/docs/ela/goodpracticesguide/pages/teams/Healthcare_teams/scopes_of_practice-e.html.

Social constructivist learning theory: people are shaped by their experiences and interactions.

Spread: the process of encouraging the use of a best practice by others or in different settings

Stakeholder analysis: a process of identifying individuals or groups according to their levels of influence and support for change

Stakeholders: anyone or group with an interest in or affected by the implementation of best practice. Knowledge users are an important type of stakeholder.

Standard: defines the performance expectations of an organization.

Strategic alliance: Agreement among individuals or groups to focus on a specific issue or concern, often in the context of initiating collective action.

Summative evaluation: used for judging the worth or merit of what is being implemented after implementation has occurred. Outcome/effectiveness evaluations and impact evaluations are summative evaluations.

Sustainability: the ongoing or continued use of best practice after the initial implementation.

Sustainability strategies: strategies to promote the ongoing use of best practices.

Symbolic knowledge use: the use of research/ knowledge as a political or persuasive tool. Using knowledge to persuade others.

Systematic review: type of literature review that uses systematic methods to collect secondary data, critically appraise research studies, and synthesize findings qualitatively or quantitatively. https://en.wikipedia.org/wiki/Systematic_review

Taxonomy: classification system.

Usability testing: evaluating a best practice, implementation or sustainability strategy by testing it with representative users.

Utilization-focused evaluation: A type of evaluation specifically designed to generate information that stakeholders can use in their decision-making about a program or implementation.

Validity: refers to how accurately a method measures what it is intended to measure.