



Aug 29, 2023

Implementation Science and Nursing: Where are we now?

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Learning Outcomes

Upon completion of this Webinar, participants should be able to:

1. articulate the state of knowledge in implementation science in relation to nursing,
2. discuss the key elements of implementation science as well as some of its misconceptions, and
3. identify available resources for continual learning on the subject and related funding opportunities.

Outline of Content

1. What is implementation science?
2. Models and theories of translational research
3. Barriers and facilitators in implementing evidence-based practice
4. Where are we now and where do we go on from here?

“Although there is a great deal of health research being conducted, there is a gap in applying the results at the patient’s bedside and in every day health decisions.”

Knowledge Translation Canada

<https://ktcanada.org/>

Time Lag in Translational Research (Morris et al., 2011)

- **Aim:** To review the literature describing and quantifying time lags in the health research translation process.
- **Method:** 23 papers that quantified time lags in the development of health interventions were identified
- **Discussion:**
 - Unable to adequately quantify time lags in health research, but ...
 - 2 studies (Balas & Bohen, 2000; Grant et al., 2000- cited in Morris et al.) both estimated the time lag in health research being 17 years
 - Wratschko (2009-cited in Morris et al.) also suggests that 17 years as the highest limit for the time taken from drug discovery to commercialization
- **Conclusion:** Current state of knowledge of time lag is of limited use to those responsible for R&D and knowledge transfer who face difficulties in knowing what they should or can do to reduce time lags.

No guarantee that evidence-based innovations will be taken up in routine practice (Bauer & Kirchner, 2020)

“Half of research evidence never reaches the clinical setting, and the other half takes 20 years to translate into clinical practice.” (Boehm et al., 2020, p.47)

Boehm LM, Stollendorf DP, Jeffery AD. Implementation Science Training and Resources for Nurses and Nurse Scientists. *J Nurs Scholarsh.* 2020 Jan;52(1):47-54. doi: 10.1111/jnu.12510.

Interest in how to implement evidence-based practices into routine health care has never been greater (Booth et al., 2013)

Booth, B.J., Zwar, N. & Harris, M.F. Healthcare improvement as planned system change or complex responsive processes? a longitudinal case study in general practice. *BMC Fam Pract* 14, 51 (2013). <https://doi.org/10.1186/1471-2296-14-51>

What is Implementation Research (IS)

University of Arkansas Medical Sciences, Translational Research Institute (2018)

IS is the study of methods to promote systematic uptake of research findings and other evidence-based (EB) practices into routine clinical care, thus improving health care quality and effectiveness.

<https://tri.uams.edu/tri-services/the-center-for-implementation-research/what-is-implementation-science/>
accessed 20230806

University College London (no date)

The study of methods and strategies to promote the uptake of interventions that have proven effective into routine practice, with the aim of improving population health.

IS thus *examines what works, for whom and under what circumstances, and how interventions can be adapted and scaled up in ways that are accessible and equitable*.

<https://www.ucl.ac.uk/epidemiology-health-care/research/primary-care-and-population-health/research/methodological-themes/improvement-and-0> accessed 20230806

“In implementation science (IS), conducting well-targeted and reproducible literature searches is challenging due to non-specific and varying terminology that is fragmented over multiple disciplines.”

(Mielke et al. p.1)

Mielke J, Brunkert T, Zullig LL, Bosworth HB, Deschodt M, Simon M, De Geest S. Relevant Journals for Identifying Implementation Science Articles: Results of an International Implementation Science Expert Survey. *Front Public Health*. 2021 Apr 30;9:639192. doi: 10.3389/fpubh.2021.639192. PMID: 33996719; PMCID: PMC8119993.

Do they refer to the same thing?

Translational Research

Implementation Research

- Sometimes they are
- Sometimes they are not
- Depending on the context of how the term is used
- Implementation science is more about T3 to T4 studies

What are the differences?

Translational Research

Wethington, Cornell University

<http://evidencebasedliving.human.cornell.edu/2010/08/18/what-is-translational-research/> accessed 20230806

- Conceptually a broader frame of reference
- *Takes more effort*
- “A systematic effort to convert basic research knowledge into practical applications to enhance human health and well being.”

Implementation Research

(Damschroder et al., 2009)

- “For implementation research, 'context' is the set of circumstances or unique **factors that surround a particular implementation effort**. Examples of contextual factors include a **provider's perception of the evidence** supporting the use of a clinical reminder for obesity, **local and national policies** about how to integrate that reminder into a local electronic medical record, and **characteristics of the individuals involved** in the implementation effort.

What are the differences?

Translational Research

Wethington, Cornell University

<http://evidencebasedliving.human.cornell.edu/2010/08/18/what-is-translational-research/> accessed 20230805

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- “A systematic effort to convert basic research knowledge into practical applications to enhance human health and well being.”

Applied Research

Kendra Cherry Updated Aug 4, 2023

<http://psychology.about.com/od/aindex/g/appres.htm>
Accessed 20230805

- Scientific study and research that seeks to solve practical problems.
- E.g., providing solutions to everyday problems, cure illness, and developing innovative technologies.
- Does not necessarily have to take the research to a practical level.

Is IS just like a pilot study?

National Center for
Complementary and Integrative
Health: <https://www.nccih.nih.gov/grants/pilot-studies-common-uses-and-misuses> accessed 20230806

- A pilot study is a small-scale test of the methods and procedures to be used in a larger scale study to assess the feasibility and acceptability of the research protocol.

Theobald et al. (2018)

- Implementation research is the use of systematic research methods to improve policies, programme delivery, and knowledge translation

Is IS just like a pilot study?

No, IS studies is not a pilot study.

- Some used IS principles to guide the design of a pilot study so to better informed the design of a clinical trial, rendering it more relevant and applicable to real life.
- *E.g., Taylor & Kowalkowski (2021) doi: 10.1007/s11606-020-06220-3*
- IS trials/studies also needs well designed feasibility pilot studies to establish its relevancy and suitability
- *Can refer to Pearson et al.'s (2020) Guidance for conducting feasibility and pilot studies for implementation trials. <https://doi.org/10.1186/s40814-020-00634-w>*

What is the difference between **EBP** and **IS**?

Is **IS** similar to **quality improvement studies**?

Comparing EBP, QI, & IS (Nelson-Brantley & Chipps, 2023)

Goal / Actions	EBP	QI	IS
Identify the problem	<p>Improve health outcomes Review the literature</p>	<p>Improved health outcomes Problems identified through error reporting or internal audits</p>	<p>Improved health outcomes May have EBP program but may not be adopted in practice</p>
Solving the problem	<p>Assess strength of evidence</p>	<p>Review of internal data (audits, protocols, guidelines) Quality dept. analyzed the situation and determine what measures to be taken (e.g., fishbone analysis)</p>	<p>Basic tenet: evidence and education alone will not change behaviors or systems Target at system factors that affect the implementation of EBP</p>
Implement solutions	<p>Implement the plan (e.g., teach staff about the evidence & then they will implement the approach)</p>	<p>Engage in Plan-Do-Study-Act cycles (e.g., develop toolkits, checklists, and provide audit feedback)</p>	<p>Assess acceptability, feasibility, and appropriateness of EBP in the specific context</p>

Nelson-Brantley H, Buller C, Befort C, Ellerbeck E, Shifter A, Ellis S. Using Implementation Science to Further the Adoption and Implementation of Advance Care Planning in Rural Primary Care. J Nurs Scholarsh. 2020 Jan;52(1):55-64. doi: 10.1111/jnu.12513.

Comparing EBP, QI, & IS (Nelson-Brantley & Chipps, 2023)

Evaluation/ Sustainability	EBP	QI	IS
Evaluation	Similar to the evaluation of the effect of an intervention	Examine percentage of compliance	<ul style="list-style-type: none"> Document and measure implementation strategies and outcomes Calculation of return on investment
Transfer solution to other areas of the organization		Standardized QI approach used throughout the organization	<ul style="list-style-type: none"> Suitable IS strategies selected for new/other settings Scaling up of the implementation efforts/strategies and spread to other areas
Sustainability		Continuation of measuring standard QI outcomes	<ul style="list-style-type: none"> Design for sustainability starts right at the beginning Continuous monitoring and adaptation with organizational commitment

The Essence of Implementation Science

Fogarty International Center (2013, cited in Curtis et al. (2016):

- **Investigate and address major contextual factors** (e.g., social, behavioral, economic, management) that hinder successful implementation
- Test new approaches
- Determine causal relationship

Bauer et al. (2015)

Focus on **evaluating the process** of implementation and its **impact** on the EBP of interest.

These studies can involve one or more of three broad types of evaluation, namely processes, formative, and summative

DiNapoli (2016) - Key components

- **Dissemination** of effectiveness research
- Successful integration of treatments and interventions **at multiple levels**

The Fundamental Concepts of IS (Rapport et al., 2018)

Diffusion	Dissemination	Implementation	Adoption	Sustainability
Ideas, behaviors and practices spread out in a relatively unfocused way through formal & informal communication channels	An active approach to spreading evidence-based interventions through planned strategies and targeted channels	An endeavor that applies research evidence into practice	The degree of uptake of new ideas, behaviors, practices, and organizational structures	Intervention successfully applied & embedded; created a feedback loop (demands monitoring, adoption & extended uptake phases); intervention becomes more firmly implanted with each cycle

Rapport F, Clay-Williams R, Churruca K, Shih P, Hogden A, Braithwaite J. The struggle of translating science into action: Foundational concepts of implementation science. J Eval Clin Pract. 2018 Feb;24(1):117-126. doi: 10.1111/jep.12741.

Which theory to choose? (Birken et al., 2017)

Results of Survey

- N = 225 from 12 countries, and across disciplines
- Participants used > 100 different theories
- 19 criteria identified

Conclusion

- A large number of criteria were used to select theories
- **Limited consensus** on what is important
- Selection is often haphazard or driven by convenience or prior exposure

Birken SA, Powell BJ, Shea CM, Haines R, Kirk MA, Leeman J, Rohweder C, Damschroder L & Pesseau J. Criteria for selecting implementation science theories and frameworks: results from an international survey. *Implementation Science*, (2017) 12L 124. DOI: 10.1186/S13012-017-0656-y

Theories Used (Birken et al., 2017)

Theory	%	Theory	%
Consolidated Framework for Implementation Research (CFIR)	20.63	Normalization Process Model	2.69
Reach Effectiveness Adoption Implementation Maintenance (RE-AIM)	13.90	Promoting Action on Research Implementation (PARIHS)	1.79
Diffusion of Innovation	8.97	Social Cognitive Theory	1.79
Theoretical Domains Framework	5.38	Intervention Mapping	1.79
Exploration, Preparation, Implementation, Sustainment	4.93	Interactive Systems Framework	1.79
Proctor's Implementation Outcomes	4.93	Organizational Readiness Theory	1.79
Organizational Theory of Implementation of Innovations	3.59	Replicating Effective Programs	1.35
Knowledge to Action	3.14	Social Ecological Framework	1.35
Implementation Drivers Framework	3.14	QUERI Implementation Roadmap	1.35
Active Implementation Framework	2.69	Positive Behavioral Interventions and Supports (PBIS)	1.35
Theory of Planned Behaviour	2.69	Social Learning Theory	1.35
Behaviour Change Wheel	2.69	Other	4.04

Which theories are good for me?

(Minoque et al., 2021)

- **Aim:** To examine the literature on knowledge translation theories, models, and frameworks and appraises their suitability for use by the **Health Service Executive** (HSE, publicly funded healthcare system) in Ireland.
- **Approach:** Experts from multiple disciplines adopted a 3-stage review process (literature review, consensus exercise, & a final consensus workshop) guided by the Theory Comparison & Selection Tool (Birken et al., 2018)
- **Results:** 247 theories, models and frameworks > 18 > 11 > 6 > 3 that were regarded as suitable and applicable for HSE

Minogue, V., Matvienko-Sikar, K., Hayes, C. et al. The usability and applicability of knowledge translation theories, models, and frameworks for research in the context of a national health service. *Health Res Policy Sys* 19, 105 (2021).
<https://doi.org/10.1186/s12961-021-00747-5>

Impediments to Implementation Processes

Dimension	Barriers
Evidence	<ul style="list-style-type: none">▪ Studies that has limited internal and external validity
Facility/ Institutions	<ul style="list-style-type: none">▪ Variations among facilities▪ Organizational capacity▪ Lack of the needed infrastructure▪ Lack of funding▪ Inadequate staff preparation
Providers	<ul style="list-style-type: none">▪ Staff resistance to change▪ Lacking the know-how▪ Staff burnout
Context/ Environment	<ul style="list-style-type: none">▪ Competing demands in the frontline▪ Different values in determining priorities
Policy	<ul style="list-style-type: none">▪ Regional or national policies

Translating Evidence into Practice: Common Issues Observed

Problems

- **Over-simplification** of the processes of applying research to practice.
- **'Direct' application** of research evidence without adequate appraisal of the potential biases in research evidence and related contextual factors.
- **Lacking due considerations** of how to render an evidence-based intervention a feasible and triable one for the **potential consumers**

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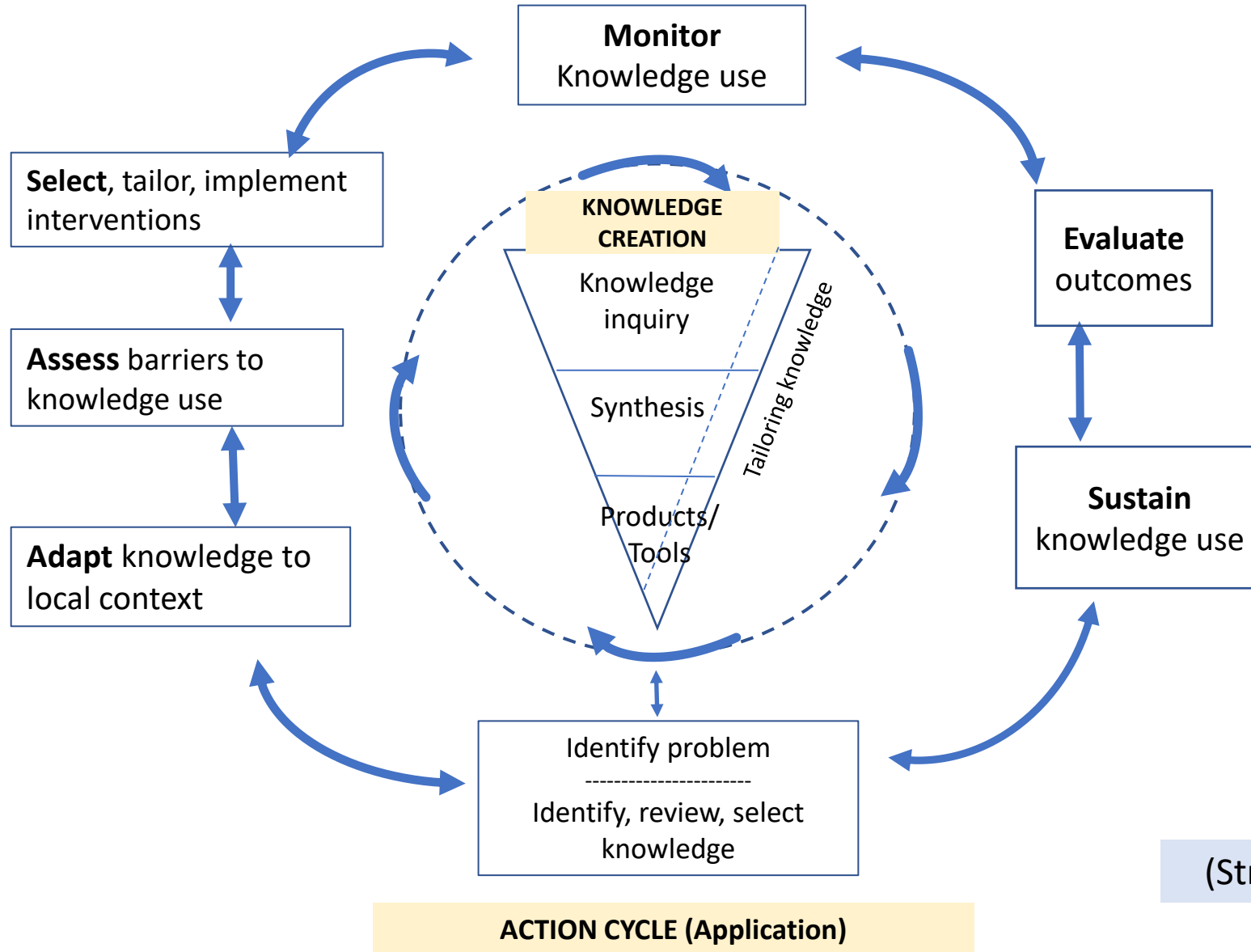
Consequences

- What has been applied was not exactly what we were told by the research evidence
- The effect of what has been applied as a result of 'research findings' may not last
- Encounter obstacles during implementation

Translational Research is Not Clear-cut

- The processes of translational research are not reflected in a linear or unidirectional model.
- Translation is a dynamic process involving bi-directional stages and complex feedback loops.
- Translational research is a process of **working back and forth** to continue to develop and re-evaluate interventions across diverse populations and settings, incorporating data from the outside world and feed it back into the development of new studies in basic applied research (Grady, 2010).

The Knowledge-to-Action Framework



(Straus et al., 2009)

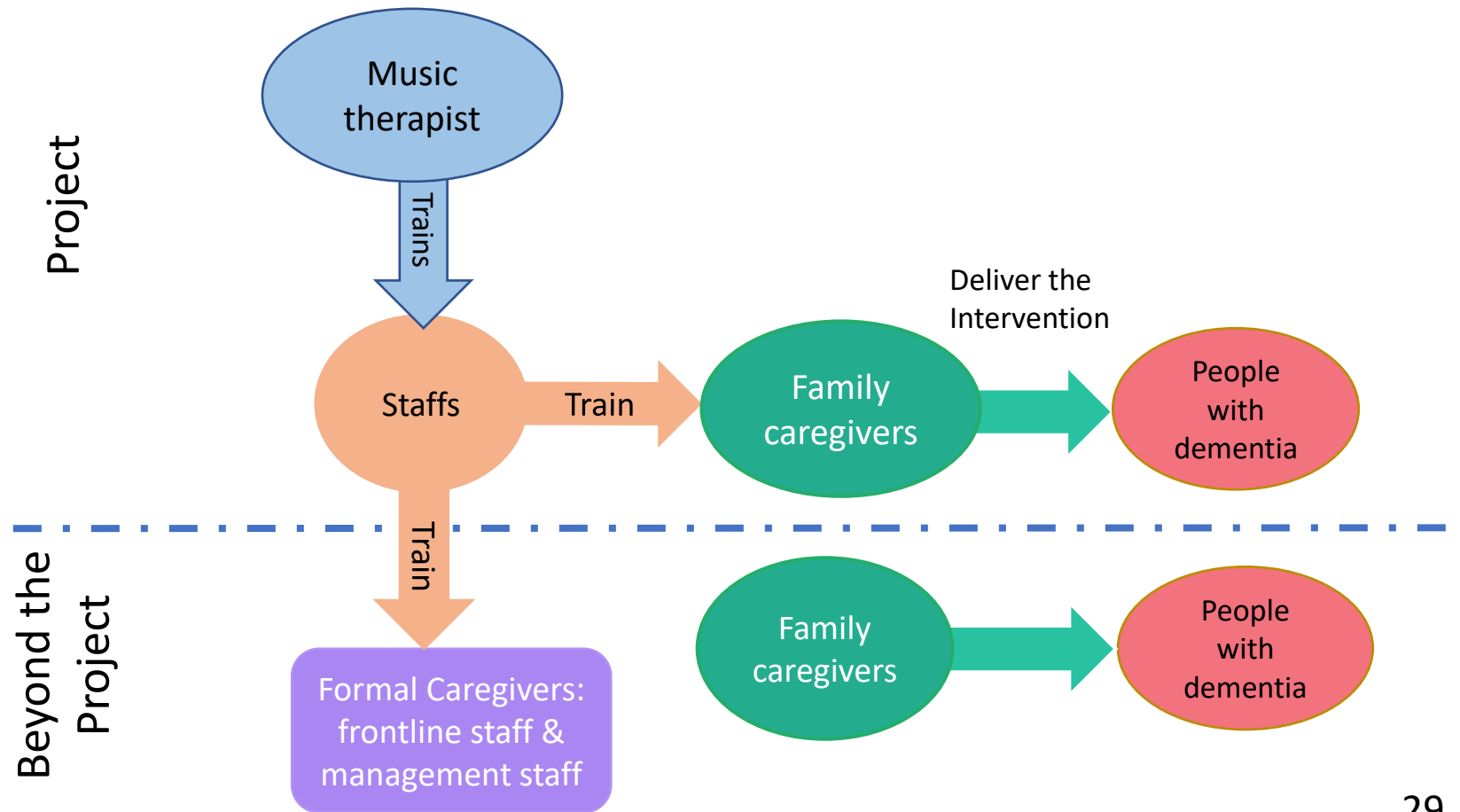
“A project of music-with-movement intervention for people with early dementia and their family caregivers”

Through the use of music-with-movement (MWM) to :

1. reduce the anxiety symptoms of PWeD
2. enhance the sleep quality of PWeD and their caregivers (CGs)
3. promote the well-being and quality of life (QOL) of both PWeD & CGs; &
4. introduce the MWM protocol to the community and foster sustainability

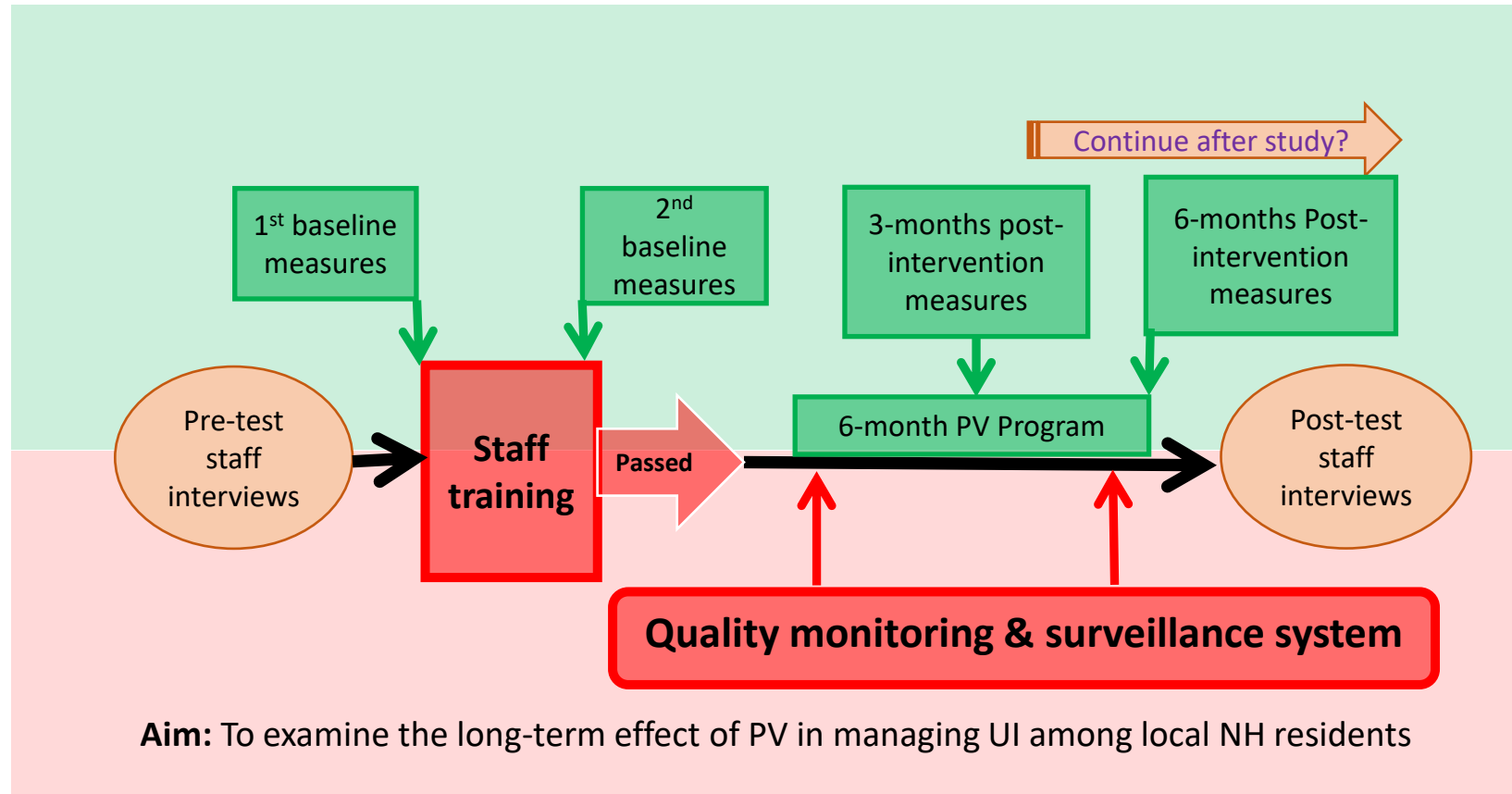
Lai CKY, Lai DLL, Ho JSC, Wong KKY & Cheung DSK. (2016). Interdisciplinary Collaboration in the use of a Music-with-Movement Intervention to Promote the Wellbeing of People with Dementia and Their Families: Development of an Evidence-based Intervention Protocol. *Nursing and Health Sciences*, (18)1, 79-84. DOI: 10.1111/nhs.12238.

The MWM Study – A Sustainable Design



A Translational Study on Prompted Voiding

Funded by the Hong Kong Jockey Club Charities Trust



Lai CKY & Wan XJ. (2017). Using prompted voiding to manage urinary incontinence in nursing homes: Can it be sustained? *Journal of the American Medical Directors Association*, 18(6), 509-514. DOI: 10.1016/j.jamda.2016.12.084

Continuation of Practice Protocol 1-year since the Completion of the PV Study

Status	No. of Study Sites
Continued	3 homes
Renovating – Planned to do so after renovation	1 home
Discontinued – Charge Nurse left	1 home

How different is **IS** from a pragmatic trial?

How different is IS from a pragmatic trial?

Patsopoulos (2011):

- **Pragmatic trials** are designed to evaluate the effectiveness of interventions in real-life routine practice conditions, whereas **explanatory trials** aim to test whether an intervention works under optimal situations.

Implementation Science

- The study of methods and strategies that facilitate the uptake of evidence-based practice and research into routine use by practitioners and other stakeholders (University of Washington, no date <https://impsciuw.org/implementation-science/learn/implementation-science-overview/> accessed 20230806).

Patsopoulos NA. A pragmatic view on pragmatic trials. Dialogues Clin Neurosci. 2011;13(2):217-24. doi: 10.31887/DCNS.2011.13.2/npatsopoulos.

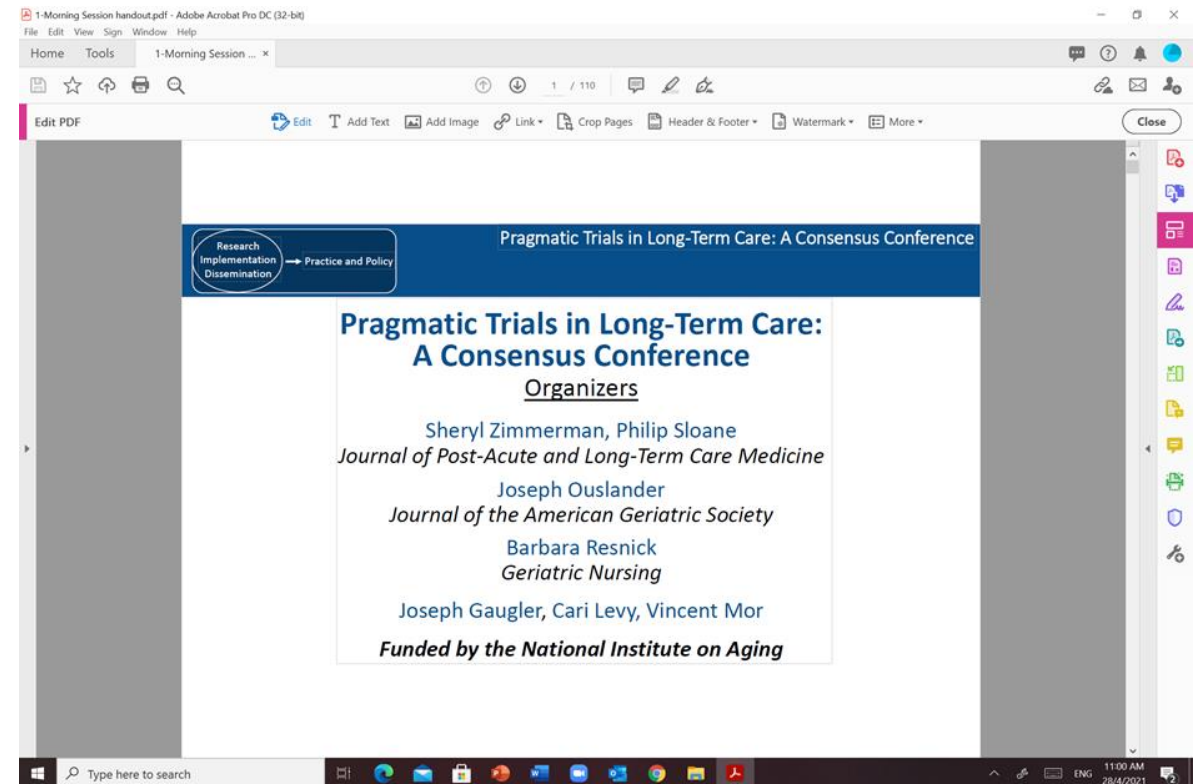
Company confidential ©2021-2023 Sigma Theta Tau International Honor Society of Nursing. All rights reserved worldwide.

A Conference Session on Implementation Studies

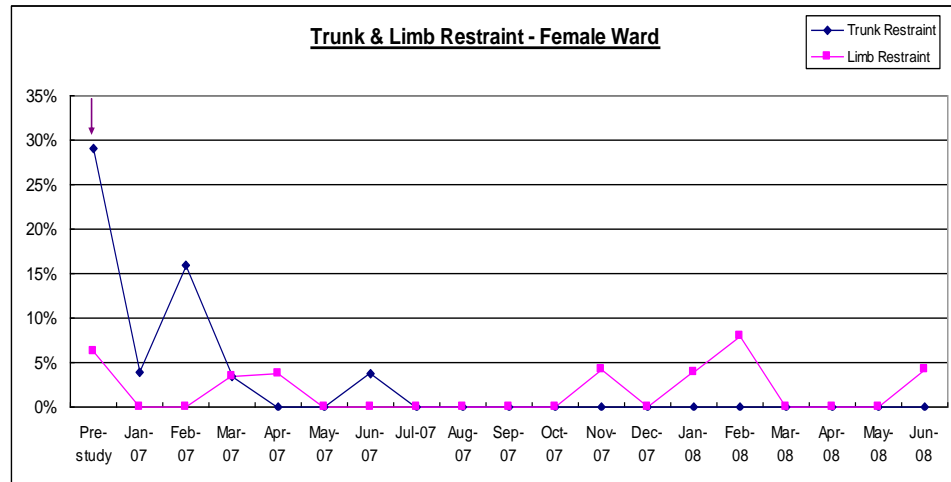
March 10, 2021

A key comment from the medical directors/VPs of LTC facilities in the US:

“These pragmatic trials are just like RCTs.”

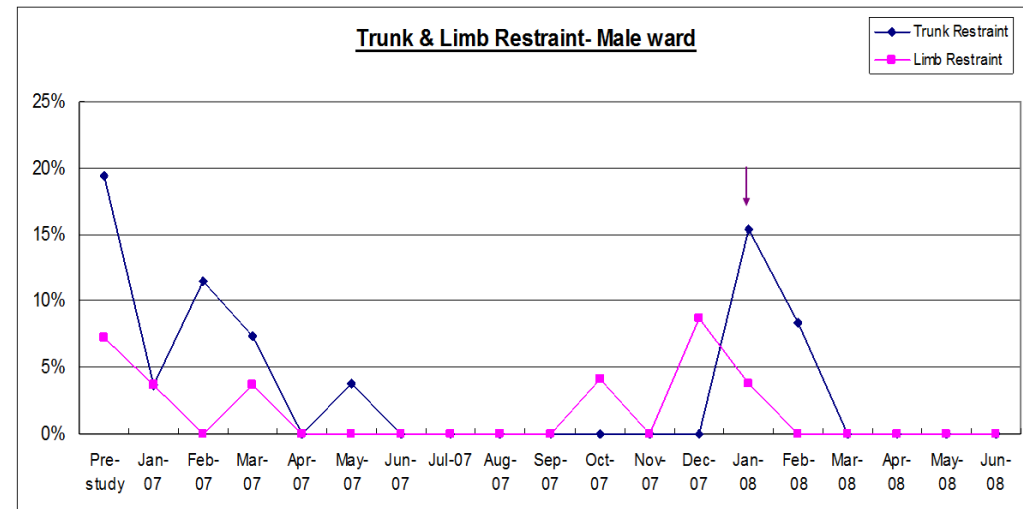


A Participatory Action Research on Restraint Reduction – Becoming Restraint-free (Chui, 2006-2010)



Prevalence Rate of Trunk and Limb Restraint – Female participating ward

Prevalence Rate of Trunk and Limb Restraint – Male participating ward



The Reality – Booth et al. (2013) citing Suchman (2011)

“... the dominant discourse of planned, stepwise change in strategically targeted areas of practice activity provides an inaccurate explanation of healthcare improvement. **Complex responsive processes** of relating, where communicative interaction, power-relating and ideology-based intending, choosing and acting produce patterns of organizing that are paradoxically stable and changing, helps to make sense of the evolution of the practice in ways that were **not random**, but also **not** according to a **conventional linear blueprint for improvement**. However, these different understandings of change are not an either/or dichotomy, as even the analytic method of pattern matching logic would suggest. **Both are visible and not mutually exclusive in the change and improvement in this practice.**”

(Booth et al., 2013, Conclusions)

- Booth, B.J., Zwar, N. & Harris, M.F. Healthcare improvement as planned system change or complex responsive processes? a longitudinal case study in general practice. BMC Fam Pract 14, 51 (2013). <https://doi.org/10.1186/1471-2296-14-51>
- Suchman AL. Organizations as machines, organizations as conversations: two core metaphors and their consequences. Med Care. 2011 Dec;49 Suppl:S43-8. doi: 10.1097/MLR.0b013e3181d55a05.

Not having solid scientific evidence about
what we do will work

– is the norm rather than the exception in
medicine and health care.

In thinking about implementation of changes,
we need to think about the ecosystem.

- All stakeholders, and all levels of operations.

Translation studies/ **IS** is not new

- E.g., E. M. Rogers:
Diffusion of innovations

IS is still in its infancy.

- March 2016 CINAHL search using “implementation science” and “nursing” – DiNapoli (2016 July) only found 17 citations of nursing research framed by **IS**

Where are we now?

A Scoping Review of IS (Lai et al., Jan 2020 at EAFONS)

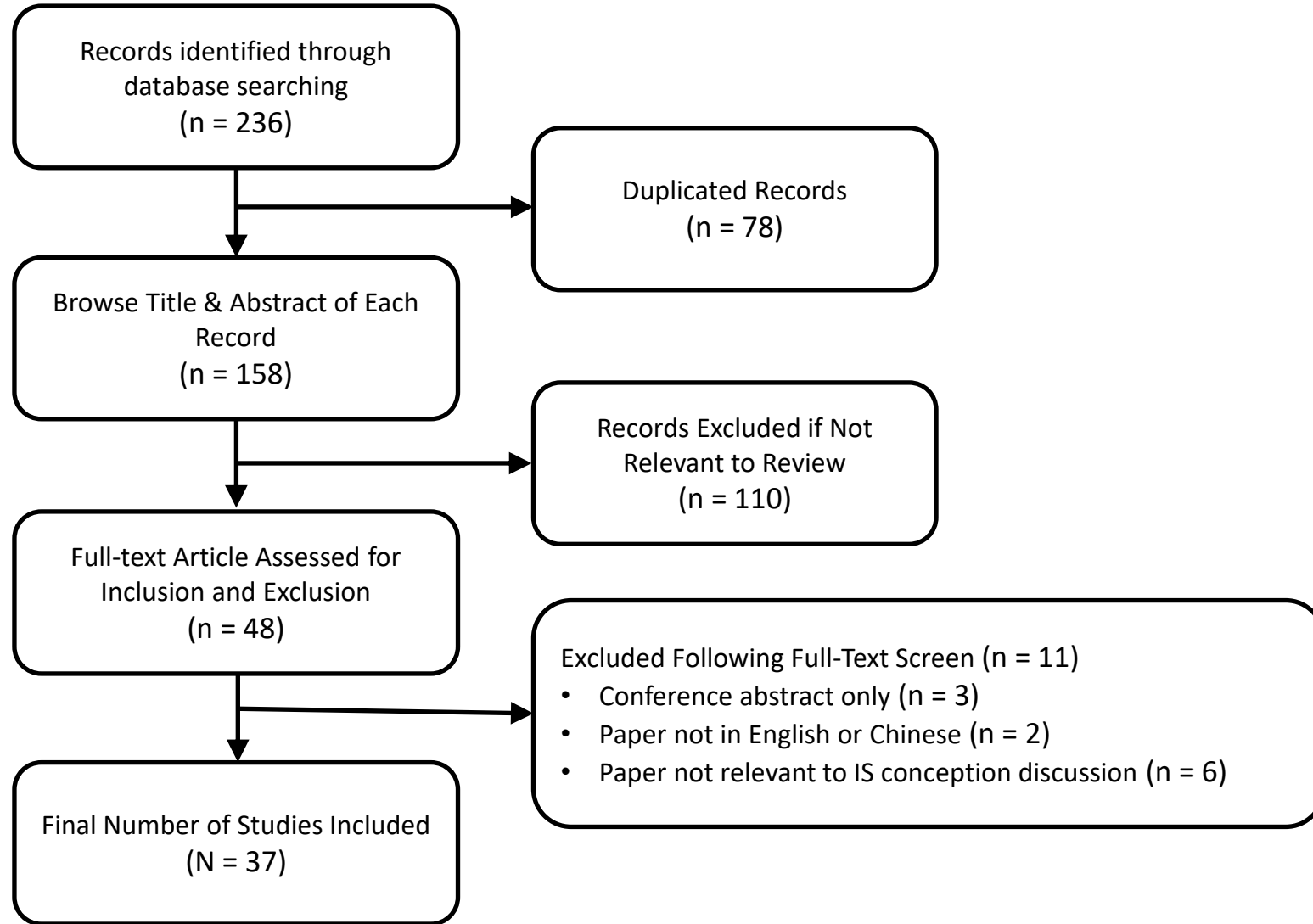
Objectives:

- To clarify the conceptual boundaries of implementation science and exemplify its importance in today's healthcare milieu.

Methods:

- Arksey and O'Malley's approach is adopted
- MEDLINE, EMBASE, and the Cochrane Library were searched for articles from 2000-2019
- Keywords ['implementation science' or 'translational science'] and [nursing]
- Inclusion criteria:
 - Articles that discussed conceptual basis, challenges and facilitators of the topic of interest with or without any illustration of examples.
- 3 researchers in the team:
 - i. screened the titles and abstracts of all retrieved articles
 - ii. read the full papers of those abstracts if in doubt
 - iii. met online and face-to-face to deliberate the final decision of whether an article should be included until a consensus is reached

Consort Flowchart



Results: Types of Papers Identified (1)

Nature of Reports	No.
Research reports (QUAN - trials & surveys)	8
Research reports (QUAL)	3
Evaluation project	2
Case study	1
Report (of workshop conducted)	1
Discussion papers	13
Review (systematic & scoping)	4
Literature review (general)	2
Editorials	2
Protocol	1

Source	No.
Australia	2
Canada	1
China	1
Denmark	1
Europe	2
Hong Kong	1
Ireland	3
Japan	1
Netherlands	2
South Africa	1
Taiwan	1
United Kingdom	1
United States	20

Results: Types of Papers Identified (2)

Specialty/Area	No.	Specialty/Area	No.
Management	5	Perinatal nursing	1
General health	1	Community/Public health nursing	1
Bioethics	1	Historical	1
Research methods	6	Education/training	3
Review of national practice guidelines	3	Obstetrics nursing	1
General discussion of concepts	8	Theoretical/conceptual discussion	2
Speech therapy	1	Continence management/ chronic illness	3

Findings

- Included articles are too diverse to tabulate in tables for easier visualization of summarized information
- A multitude of terms have been used interchangeably, and without adequate explanation
- Some articles only discussed term(s) related to **IS** in the introduction &/or discussion section, &/or conclusion
- Evidence-based practice is being mixed up as **IS** in a number of papers.
- Many articles are studies used as case illustrations of certain steps in **IS** rather than conceptual discussions.

A quick search at PubMed Central (Aug 6, 2023)

- (implementation science[Abstract]) AND nursing[Abstract]
- No year limit
- PubMed reported that I have searched “8+ million full text articles”
- PMC Full-text Search Results – 49 items
- Many are conference abstracts, posters, protocols

- (implementation science[Abstract]) AND nurs*[Abstract]
- No year limit
- PubMed reported that I have searched “8+ million full text articles”
- PMC Full-text Search Results – 129 items
- Some overlaps, some targeted interventions, some use IS to identify barriers and facilitators or to guide design of programs or to evaluate outcomes, some simply used the term implementation

Output of a Research Center for Implementation Nursing Science Initiative

The screenshot shows the website for the Research Center for Implementation Nursing Science Initiative at Fujita Health University. The navigation menu includes: About Us, Close up, Research (highlighted), Academics, Industry Cooperation, Global, and Conte. The main header area features the text "Research Center for Implementation Nursing Science Initiative" over a background image of a building and cherry blossoms. Below this, there are two buttons: "Research center" and "Publications and presentations". A breadcrumb trail reads: TOP > Research > Research Center for Implementation Nursing Science Initiative. There is a language toggle for Japanese / English. The "NEWS" section is visible, with a date of 2023 04/25 tue and a "Research" tag. The news item text reads: "The research article by Dr. Masushi Khota, Dr. Hiroe Koyanagi, and Prof. Junko Sugama was published by International Wound Journal".

april 25, 2023

Research

The research article by Dr. Masushi Khota, Dr. Hiroe Koyanagi, and Prof. Junko Sugama was published by International Wound Journal

Kohta M, Koyanagi H, Inagaki Y, Nishikawa K, Kobayashi N, Tamura S, Ishikawa M, Banno Y, Takekoshi K, Mano K, **Sugama J.** Selective detection of urease-producing bacteria on the genital skin surface in patients with incontinence-associated dermatitis. Int Wound J, 2023;1 - 9.

doi:10

march 15, 2023

Research

The research article by Prof. Ryoko Murayama was published by Drug Discoveries & Therapeutics

Murayama R, Abe-Doi M, Masamoto Y, Kashiwabara K, Komiyama C, Sanada H, Kurokawa M. Verification study on the catheterization of an upper arm vein using the new long peripheral intravenous catheter to reduce catheter failure incidence: A randomized controlled trial. Drug Discoveries & Therapeutics. 2023; 17(1):52-59. doi: 10.5582/ddt.2022.01108

march 17, 2023

Research

The research article co-authored by Prof. Junko Sugama was published by International Wound Journal

Tsuchiya S, Suriadi, Sanad H, **Sugama J,** Oe M. Relationship between of DMIST and healing of diabetic foot ulcers. International Wound Journal. 2023; 20(2): 345–350.

IS is not embraced by nurses

- Although there has been 20 years of IS, these theoretical approaches are still not routinely used in practice (Westerlund et al., 2019) **particularly by nurses** (Roberts et al., 2023).
- Ironically, however, there is an evidence practice gap between implementation science and clinical practice (Westerlund et al., 2019).
- More work is needed to make these approachable and fit for use in clinical practice.

- Roberts NA, Young AM, Duff J. Using Implementation Science in Nursing Research. *Semin Oncol Nurs*. 2023 Apr;39(2):151399. doi: 10.1016/j.soncn.2023.151399.
- Westerlund A, Nilsen P, Sundberg L. Implementation of implementation science knowledge: the research-practice gap paradox. *Worldviews Evid Based Nurs*. 2019;16(5):332–334. doi: 10.1111/wvn.12403.

Implementation Science is now at 3.0

- A textbook by Bianca Albers, Aron Shlonsky, & Robyn Mildon (2020).
- Presents multidisciplinary, international, and applied perspectives on implementation science
- Provides a global view of the field of implementation science and details the next phases in its development en route to implementation science 3.0



“There are more nurses in the frontline of health care than any other healthcare profession. As such, nurse-led research is increasingly recognised as a critical pathway to practical and effective ways of improving patient outcomes.”

(Curtis et al., 2016)

“Implementation science-trained nurses are in a position to be excellent improvers for meaningful change in practice.”

(Boehm et al. 2020)

Boehm LM, Stollendorf DP, Jeffery AD. Implementation Science Training and Resources for Nurses and Nurse Scientists. J Nurs Scholarsh. 2020 Jan;52(1):47-54. doi: 10.1111/jnu.12510.

Curtis K, Fry M, Shaban RZ, Considine J. Translating research findings to clinical nursing practice. J Clin Nurs. 2017 Mar;26(5-6):862-872. doi: 10.1111/jocn.13586.

Implementation Science:

Translating Evidence into Practice – The Way Ahead

- Need problem-solvers, and not just data users
- Need to value and recognize our colleagues/staff in order to succeed
- Provide support and opportunities for continual growth and development for colleagues
- Make good use of technological innovations
- Make sustainable development our business
- Need a nurturing environment to develop a culture of care, a culture that takes the trouble to implement quality care
- Methods are neutral – whether implementation science should be guided by any over-arching perspective is a value-based decision

Resources (Accessed Aug 5, 2023)

Topic	Nature	Offering Agencies	Web Link
Introduction to Implementation Science Study Designs and Methods for Clinical Investigation	Online Modular program	Ohio State University, US	https://fuld.nursing.osu.edu/introduction-implementation-science-study-designs-and-methods-clinical-investigations
Implementation Science Master Class	Onsite Workshop (9 th round in July 2023)	University College London, UK	https://www.kcl.ac.uk/short-courses/implementation-science-masterclass-1
Evidence and Implementation Summit 2023	Conference in Melbourne + Online (Oct 9-11, 2023) Free webinar series	European Implementation Collaborative https://implementation.eu/about/	https://implementation.eu/event/evidence-and-implementation-summit/
Implementation science news, resources and funding for global health researchers	Funding opportunities	Fogarty International Center	https://www.fic.nih.gov/ResearchTopics/Pages/ImplementationScience.aspx
Dissemination & Implementation Research	Self-directed learning Toolkit	Washington University in St. Louise	https://implementationresearch.wustl.edu/support-your-research/toolkits/

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Q & A

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