Sarah Neil-Sztramko, PhD

Assistant Professor (PT), Department of Health Research Methods, Evidence and Impact, McMaster University

Knowledge Translation Advisor, National Collaborating Centre for Methods and Tools

Closing the Gap

Using the science of Knowledge Translation to move physical activity research into practice

Learning Objectives

01

Understand the distinction between KT science and practice

02

Identify differences between **diffusion**, **dissemination** and **implementation**

03

Become familiar with KT resources from NCCMT

Is evidence enough?

17 years for 14% of research findings to practice (Balas 2000)

Evidence-based guidelines are insufficient to change behaviour

Targeted KT strategies are needed


translation
knowledge
research
implementation
transfer
dissemination
based
exchange
evidence
community
health
diffusion
healthcare
making
translational
practice
science
decision
public
participatory
engagement
findings
mobilization
sharing
innovation
stakeholders

Knowledge Translation = dynamic and iterative process between researchers and knowledge users

- Includes:
  - **Synthesis**
  - **Dissemination**
  - **Exchange**
  - **Ethically-sound application of knowledge**

- Goal to improve health, provide more effective health services and products, and strengthen the health care system

- Process varies in intensity, complexity and level of engagement
  - Nature of findings
  - Needs of knowledge user

CIHR IRSC
Canadian Institutes of Health Research
Instituts de recherche en santé du Canada

http://www.cihr-irsc.gc.ca/e/29418.html

Practice or Science

KT Practice = the act of sharing knowledge or moving knowledge into practice

KT Science = the scientific study of methods, processes or strategies to promote the sharing or uptake of knowledge into practice

Letting it happen

Helping it happen

planned strategies

Making it happen

based interventions within a specific setting

	Dissemination	Implementation
Science	The study of how the targeted distribution of information and intervention materials can be successfully executed so that spread of knowledge achieves greater use and impact of the intervention	The systematic study of how specific strategies are used to successfully integrate an evidence-based public health intervention within specific settings (e.g., primary care clinic, community center, school).
Practice	The targeted distribution of information and intervention materials to a specific public health or clinical practice audience.	The use of strategies to adopt and integrate evidence-based health interventions and change practice patterns within specific settings.

Schillinger, D. (2010). An Introduction to Effectiveness, Dissemination and Implementation Research. P. Fleisher and E. Goldstein, eds.

Test your understanding

A social media campaign to promote uptake of children's physical activity guidelines to parents of young children

A study evaluating whether adding a prompt to the electronic medical record increases referrals to a diabetes lifestyle management program

A study comparing two different website formats to find which patients find more usable

All schools within a board are provided with teacher training, tools and support to adopt a comprehensive program to promote daily physical activity

When defining implementation science, some very non-scientific language can be helpful…

- The intervention/practice/innovation is **THE THING**
- *Effectiveness* research looks at whether **THE THING** works
- *Implementation* research looks at how best to help people/places **DO THE THING**
- Implementation strategies are the stuff we do to try to help people/places **DO THE THING**
- Main implementation outcomes are **HOW MUCH** and **HOW WELL** they **DO THE THING**

Curran *Implementation Science Communications* (2020) 1:27
https://doi.org/10.1186/s43058-020-00001-z

Implementation Strategies

- Engage consumers
- Use evaluative and iterative strategies
- Change infrastructure
- Adapt & tailor to context
- Develop stakeholder initiatives
- Utilize financial strategies
- Support clinicians
- Provide interactive assistance
- Train & educate


Powell et al. Implementation Science (2015) 10:21
DOI 10.1186/s13012-015-0209-1

IMPLEMENTATION SCIENCE

RESEARCH Open Access

A refined compilation of implementation strategies: results from the Expert Recommendations for Implementing Change (ERIC) project

Byron J Powell[1*], Thomas J Waltz[2], Matthew J Chinman[3,4], Laura J Damschroder[5], Jeffrey L Smith[6], Monica M Matthieu[6,7], Enola K Proctor[8] and JoAnn E Kirchner[6,9]

Effective Implementation Strategies

- Tailored interventions
- Audit-Feedback
- Educational outreach
- Financial incentives

Advancing KT Science to Move Physical Activity Research into Practice

Implementation strategies:

- Educational materials
- Educational outreach
- Educational meetings

Trial heterogeneity

Lack of consistent terminology and description of implementation strategies

Limited evidence of effective implementation or changes in health behaviours

Strategies to improve the implementation of healthy eating, physical activity and obesity prevention policies, practices or programmes within childcare services

Cochrane Systematic Review - **Intervention** | Version published: 10 February 2020 see what's new

https://doi.org/10.1002/14651858.CD011779.pub3

Conclusions changed

Am score 31 View article information

Luke Wolfenden | Courtney Barnes | Jannah Jones | Meghan Finch | Rebecca J Wyse | Melanie Kingsland | Flora Tzelepis | Alice Grady | Rebecca K Hodder | Debbie Booth | Sze Lin Yoong

Cochrane Database of Systematic Reviews

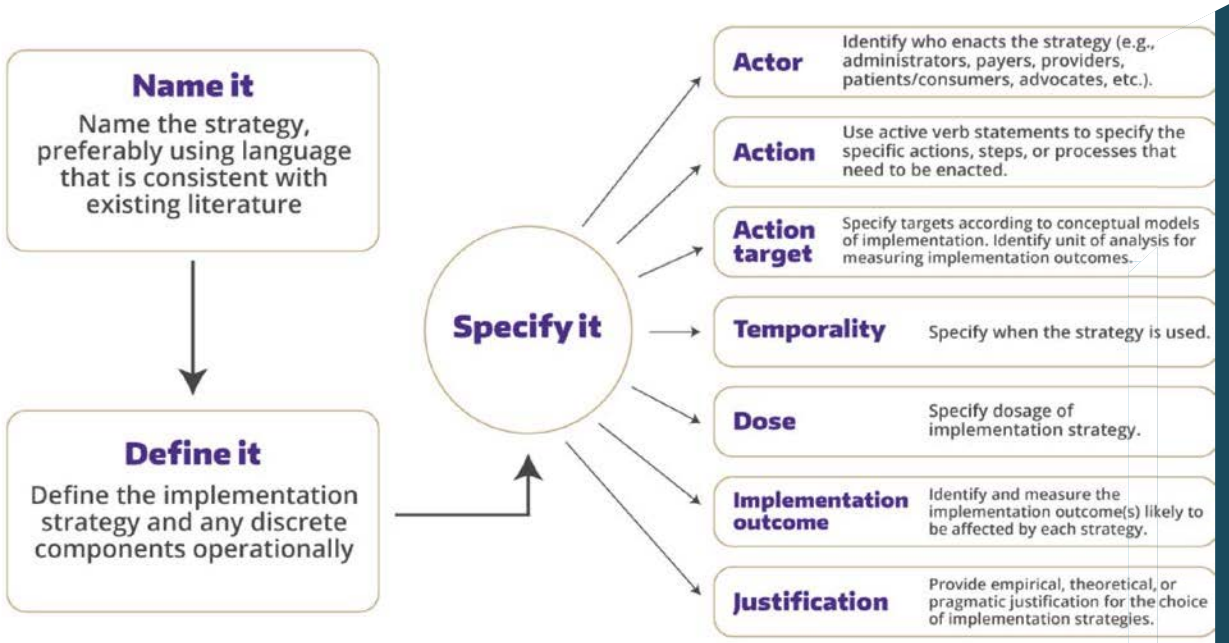
Strategies for enhancing the implementation of school-based policies or practices targeting risk factors for chronic disease

Cochrane Systematic Review - **Intervention** | Version published: 29 November 2017 see what's new

https://doi.org/10.1002/14651858.CD011677.pub2

Am score 58 View article information

Luke Wolfenden | Nicole K Nathan | Rachel Sutherland | Sze Lin Yoong | Rebecca K Hodder | Rebecca J Wyse | Tessa Delaney | Alice Grady | Alison Fielding | Flora Tzelepis | Tara Clinton-McHarg | Benjamin Parmenter | Peter Butler | John Wiggers | Adrian Bauman | Andrew Milat | Debbie Booth | Christopher M Williams



Adapted from Proctor EK, Powell BJ, McMillen JC. Implementation strategies: Recommendations for specifying and reporting. *Implement Sci.* 2013;8(139).

Just like we must describe the exercise prescription within the physical activity intervention, we must clearly specify the implementation strategies used

Evidence-based intervention

EXERCISE

(Need to specify who delivers, when, where, how and to whom)

Implementation Strategies
(Potential examples)
- Education
- Referral support
- Financial support
- Etc.

OUTCOMES

Implementation Outcomes
- Feasibility
- Fidelity
- Penetration
- Acceptability
- Sustainability
- Uptake
- Costs

Service Outcomes
- Efficiency
- Safety
- Effectiveness
- Equity
- Patient-centeredness
- Timeliness

Client Outcomes
- Satisfaction
- Fatigue
- Quality of Life
- Physical function
- Anxiety
- Depression

Adapted from Proctor et al. Adm Policy Ment Health (2011) 38:65

Implementation Outcomes

Moving CCO Guidelines into Practice

A Quality Initiative of the
Program in Evidence-Based Care (PEBC), Cancer Care Ontario (CCO)

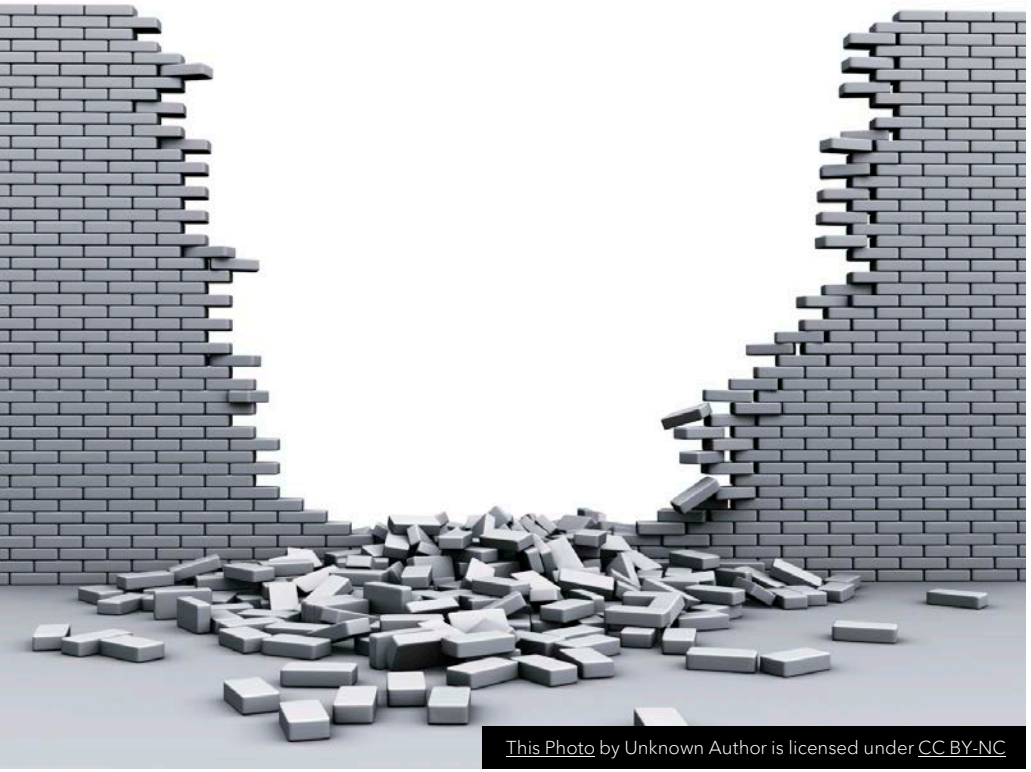
Exercise for People with Cancer: Recommendations Summary

R. Segal, C. Zwaal, E. Green, J. Tomasone, A. Loblaw, T. Petrella and the Exercise for People with Cancer Guideline Development Group

Report Date: June 30, 2015

Clinicians should advise their patients to engage in exercise consistent with the recommendations outlined by the Canadian Society of Exercise Physiology and the American College of Sports Medicine. The recommended duration, frequency, and/or intensity are the following:

- 150 minutes of moderate-intensity aerobic exercise spread over three to five days and resistance training at least two days per week;
- Resistance sessions should involve major muscle groups two to three days per week (eight to 10 muscle groups, eight to 10 repetitions, two sets); and
- Each session should include a warm up and cool down.



Supportive Care in Cancer
July 2017, Volume 25, Issue 7, pp 2297–2304 | Cite as

Oncology care provider perspectives on exercise promotion in people with cancer: an examination of knowledge, practices, barriers, and facilitators

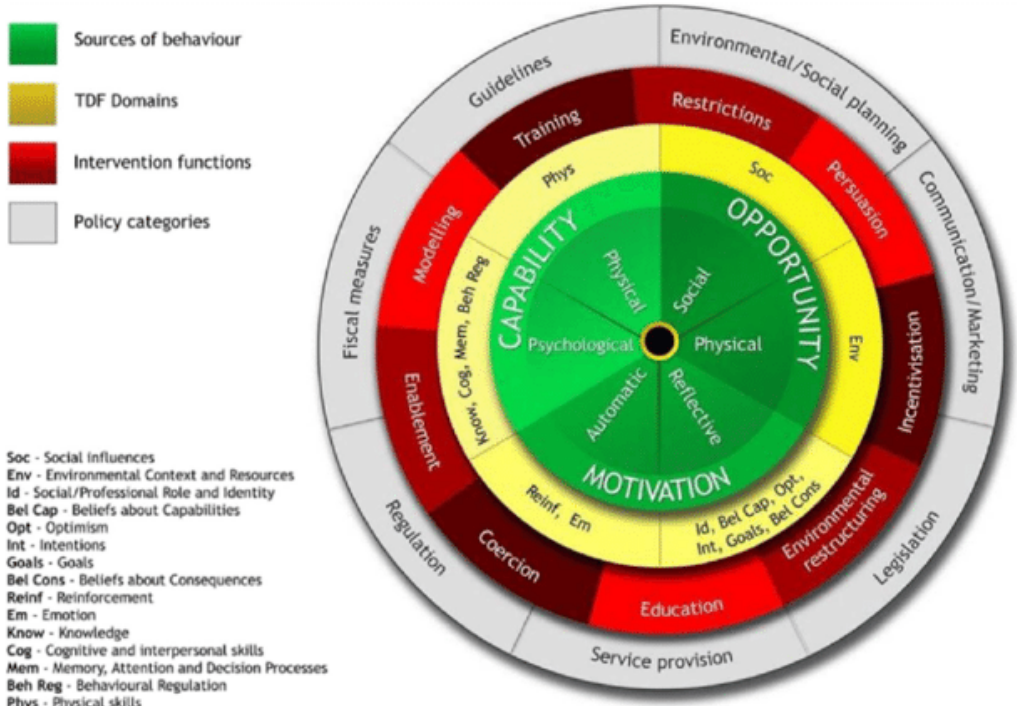
Authors | Authors and affiliations

Michelle Nadler, Daryl Bainbridge, Jennifer Tomasone, Oren Cheifetz, Rosalyn A. Juergens, Jonathan Sussman

What are the barriers?

- 80% not aware of guidelines
- Safety
- Who/when/where to refer
- Responsible team member

Identifying KT strategies – Theoretical Domains Framework



Cane et al. *Implementation Science* 2012;7:37

Supportive Care in Cancer
pp 1–4 | Cite as

Moving Cancer Care Ontario's Exercise for People with Cancer guidelines into oncology practice: using the Theoretical Domains Framework to validate a questionnaire

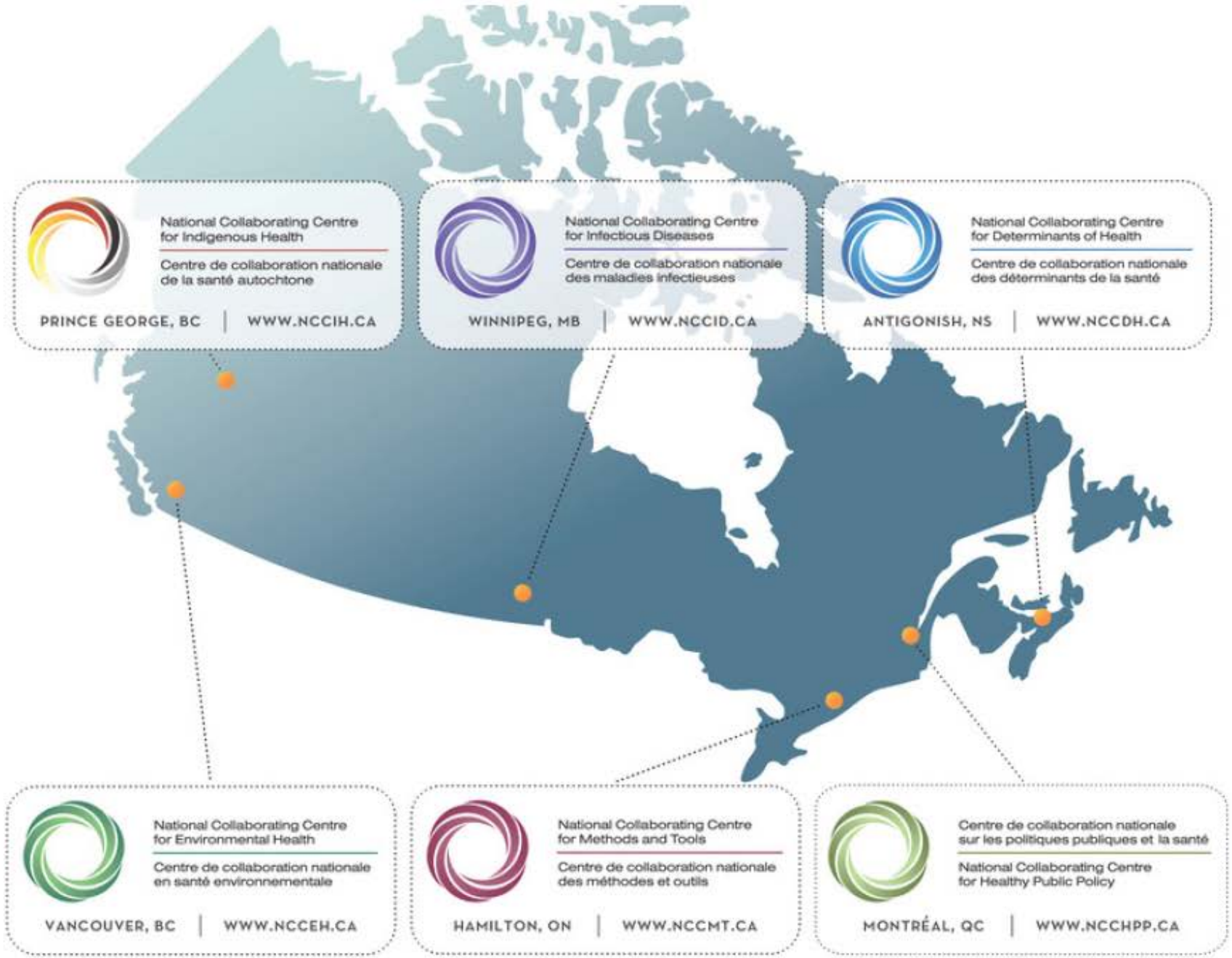
Authors | Authors and affiliations

Michelle B. Nadler, Daryl Bainbridge, Angela J. Fong, Jonathan Sussman, Jennifer R. Tomasone, Sarah E. Neil-Sztramko

Next steps…

- Modified Delphi with oncology care providers
- Consensus meeting
- Test and evaluate KT strategies

Tools to help you on your KT journey



National Collaborating Centres for Public Health

Centres de collaboration nationale en santé publique

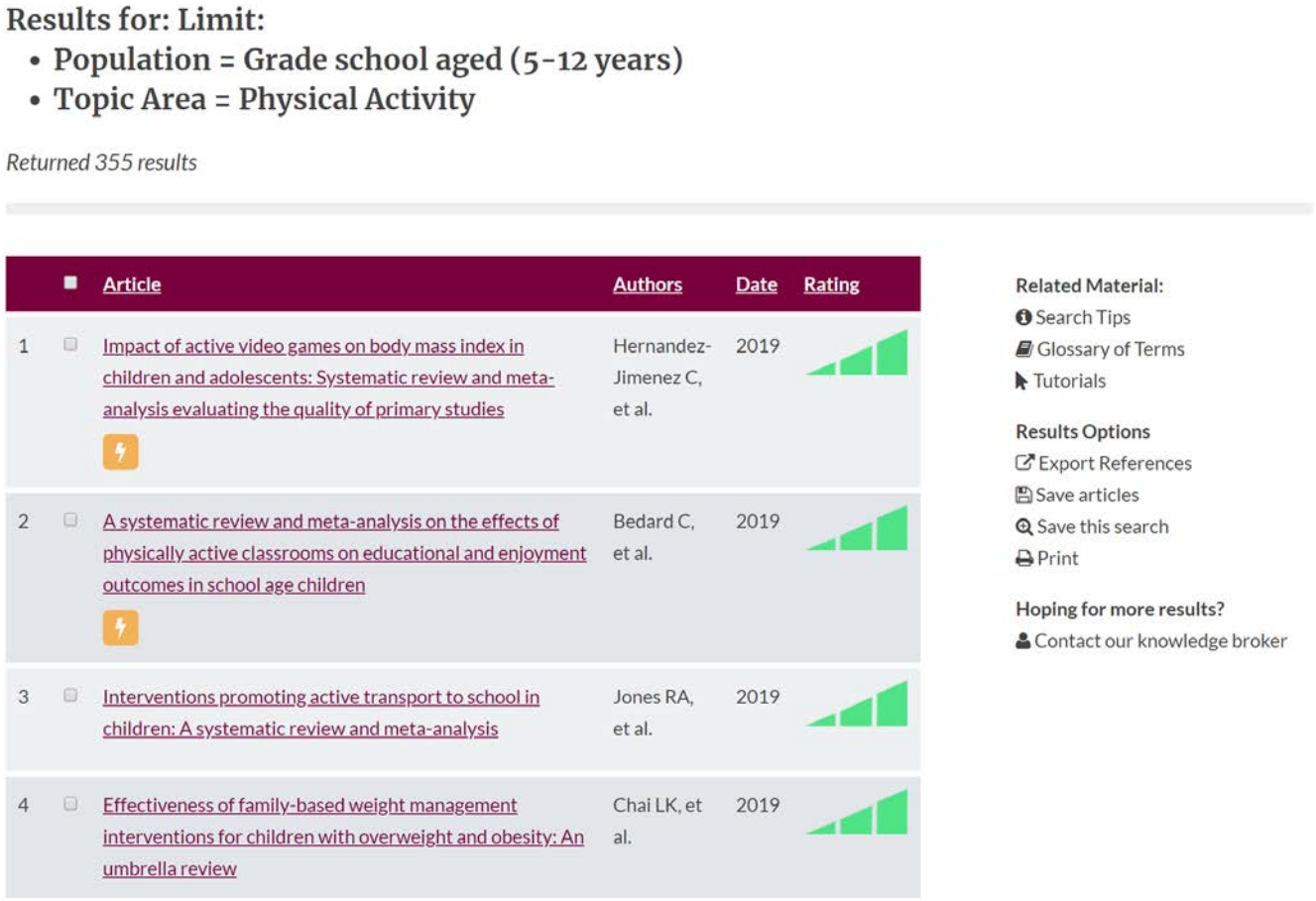
NCCPH.CA

The National Collaborating Centre for Methods and Tools (NCCMT)

- Support use of best available evidence in public health practice and policy
- Support public health practitioners in finding and using high-quality methods and tools for evidence-informed public health

Health Evidence™ Repository

- Almost 6000 quality-rated systematic reviews evaluating the effectiveness of public health interventions



Results for: Limit:

- **Population = Grade school aged (5-12 years)**
- **Topic Area = Physical Activity**

Returned 355 results

		Article	Authors	Date	Rating
1	☐	Impact of active video games on body mass index in children and adolescents: Systematic review and meta-analysis evaluating the quality of primary studies	Hernandez-Jimenez C, et al.	2019	
2	☐	A systematic review and meta-analysis on the effects of physically active classrooms on educational and enjoyment outcomes in school age children	Bedard C, et al.	2019	
3	☐	Interventions promoting active transport to school in children: A systematic review and meta-analysis	Jones RA, et al.	2019	
4	☐	Effectiveness of family-based weight management interventions for children with overweight and obesity: An umbrella review	Chai LK, et al.	2019	

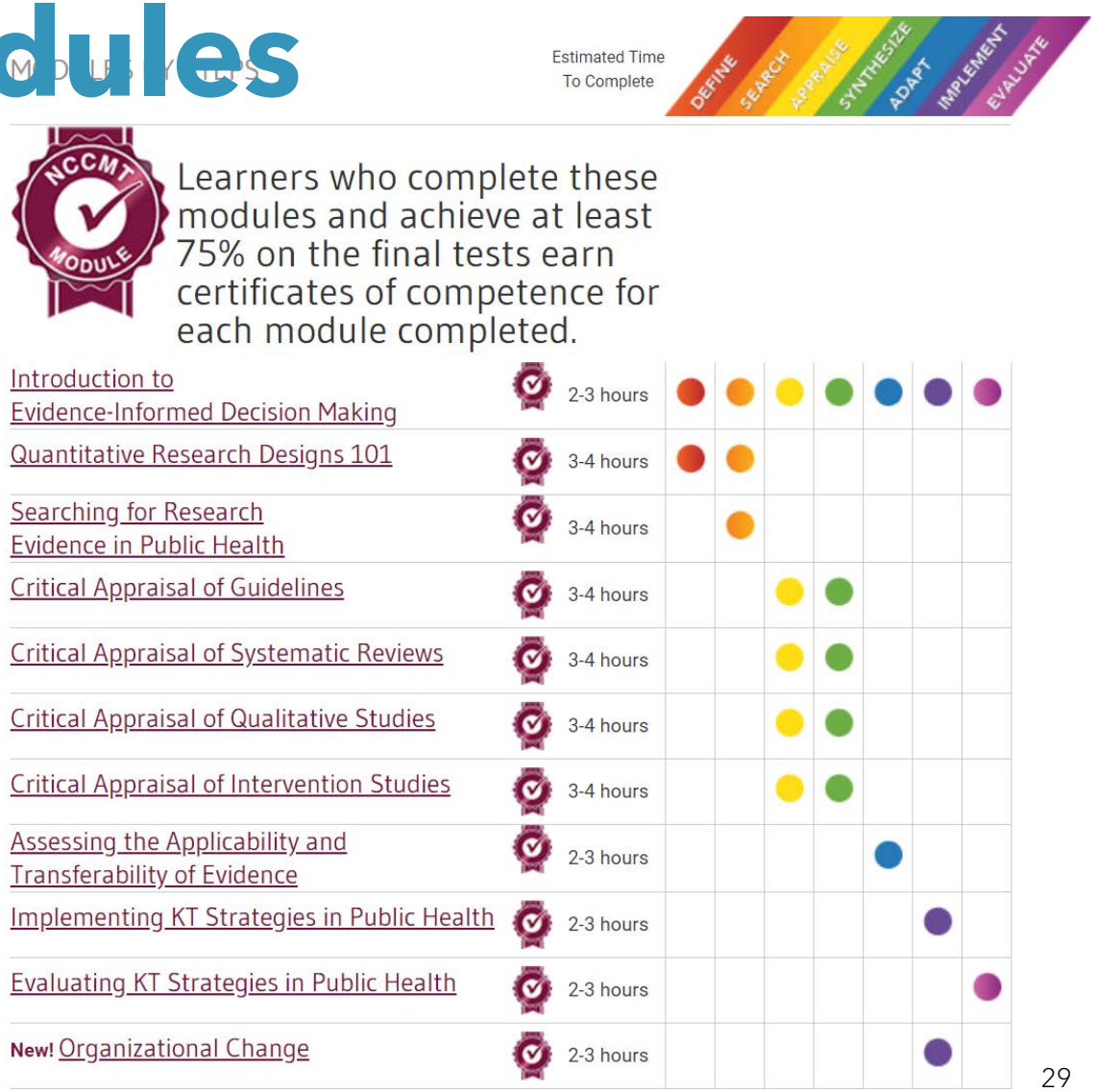
Related Material:
Search Tips
Glossary of Terms
Tutorials

Results Options
Export References
Save articles
Save this search
Print

Hoping for more results?
Contact our knowledge broker

Online Learning Modules

- Interactive, problem-based
- Free to access



Registry of Methods and Tools

- Searchable database of KT resources
- Summaries and links 200+ resources
- Categorized by:
  - Method/tool
  - KT and related activity
  - Evidence-Informed Public Health step

Currently there are 143 methods and 138 tools in the Registry.

How to find resources in the Registry?

Refine Results

TYPE

- Method
- Tool

EIPH STEP

- Implement
- Evaluate
- Adapt
- Synthesize
- Search
- Appraise
- Define

KT & RELATED ACTIVITIES

- Communication
- Consensus building
- Economic evaluation
- Knowledge brokering
- Knowledge dissemination
- Knowledge exchange
- Knowledge management
- KT evaluation
- KT plan

Sort: Year (Descending)

Showing 1-20 (of 282 results)
On page 1 of 15

1 2 3 4 ... 15 Next Page

National Registry of Evidence-based Programs and Practices De-Implementation Checklist

The de-implementation checklist helps decision-makers answer the question: Do we need to de-implement an existing program? Programs are generally concluded for one of the following reasons: The program is too costly. The program is ineffective. The program poses an undue burden on staff capacity. The program has lost support from the community. The program is unable to secure financial support to continue. The checklist is organized into three broad categories that relate to these five reasons: (1) community and program context; (2) financial solvency; and (3) assessing underperformance.

Using Surveillance Data as Evidence webinar

This presentation outlines (1) the principles of public health surveillance, (2) the strengths and challenges of surveillance and (3) the nature of public health surveillance systems. It provides an overview of surveillance activities at the City of Hamilton, as well as the strengths and challenges of using surveillance data for decision-making. Examples are provided to highlight how surveillance data is used as evidence within local public health practice at the City of Hamilton.

Partnership evaluation: The Partnership Self-Assessment Tool

The Partnership Self-Assessment Tool is a questionnaire that various partners can complete to examine the strengths and weakness of the partnership. Answers can help guide organizations and individuals to make the

Example:

Registered Nurses' Association of ONtario Toolkit

http://rnao.ca/bpg/resources/toolkit-implementation-best-practice-guidelines-second-edition

Questions?

Sarah Neil-Sztramko

neilszts@mcmaster.ca

@sarah_ns_phd