

Assessing the public health impact of health promotion initiatives: RE-AIM evaluation framework

A summary of

Glasgow, R.E., Dzawaltowski, D.A., Estabrooks, P.A., Gaglio, B.A., King, D., & Klesges, L. (2010) RE-AIM. Retrieved from <http://www.re-aim.org>.



National Collaborating Centre
for Methods and Tools
Centre de collaboration nationale
des méthodes et outils

How to cite this NCCMT summary:

National Collaborating Centre for Methods and Tools (2010). *Assessing the public health impact of health promotion initiatives: RE-AIM evaluation framework*. Hamilton, ON: McMaster University. (Updated 03 October, 2017) Retrieved from <http://www.nccmt.ca/resources/search/70>.

Categories:

Method, Evaluate

Method

Date posted:

October 12, 2010

Date updated:

October 3, 2017

Relevance For Public Health

The RE-AIM tool has been used extensively in the population and public health context to:

- assess the public health impact of an intervention;
- compare the public health impact of an intervention across organizations or over time;
- compare two or more interventions across dimensions; and
- make decisions regarding resources for effective programs.

The tool has been used to address topics such as aging, cancer screening, dietary change, physical activity, medication adherence, health policy, environmental change, chronic illness self-management, well-child care, eHealth, worksite health promotion, women's health, smoking cessation, quality improvement, weight loss, diabetes prevention, childhood obesity, and practice-based research.

Description

The [RE-AIM evaluation framework](#) is one approach to assessing the public health impact of interventions. The overall goal of the framework is to encourage decision makers and others to pay more attention to essential program elements, including external validity, that can improve the implementation of effective and generalizable interventions.

This method provides a way for decision makers to assess how interventions have been implemented in practice, and their subsequent impacts at individual and organizational levels. Specifically, the RE-AIM framework is useful for determining which interventions work in real-world settings and are worth sustained investment.

A number of standard methods are available to determine if an intervention effectively produces the desired outcomes. However, little attention has been paid to examining the potential for translation and the public health impact of interventions. Glasgow and colleagues developed an evaluation framework to expand this assessment of interventions beyond efficacy. Their framework includes multiple criteria dealing with the translatability and public health impact of interventions. This model is an attempt to balance the tension between internal validity (rigour) and external validity (generalizability) of interventions.

The developers expand on Abrams et al's (1996) definition of impact of an intervention as the product of a program's reach (the percentage of the population receiving the intervention) and its efficacy ($I = R \times E$). The framework expands on the "RE" (Reach x Efficacy) concept by adding three dimensions (Adoption, Implementation and Maintenance). The model is one way to assess the trade-off between the intervention's reach and efficacy.

Users can assess the potential public health impact of an intervention using the following five dimensions:

- **Reach** into the target population (Who will benefit from the intervention?)
- **Effectiveness or efficacy** (How favourably will the intervention perform in practice?)
- **Adoption** by target settings, institutions and staff
- **Implementation** consistency and cost of delivering the intervention (How will the intervention be delivered and received?)
- **Maintenance** of intervention effects in individuals and settings over time (Does the intervention produce desirable outcomes? How can this be sustained?)

Implementing the Tool

Who is Involved?

The RE-AIM tool would be useful to those involved in planning and evaluating the impact of public health programs and policies. Managers or directors involved in decision making related to the planning, review and maintenance of public health programs can use the tool as an indicator of appropriateness and feasibility when considering whether to implement potential interventions with specific communities/populations.

Steps for Using Tool

The RE-AIM framework can be used to plan and evaluate the implementation of public health interventions.

The public health impact of an intervention is a function of five dimensions: **Reach**, **Efficacy**, **Adoption**, **Implementation** and **Maintenance**. The [current website](#) provides an online method for calculating Reach, Adoption and Impact, and offers additional quizzes and measures.

Reach

Reach is an individual-level measure of participation involving the absolute number, proportion and representativeness of individuals who are willing to participate in a given initiative. Representativeness is defined as the similarity or differences between those who participate and those who are eligible but do not participate. If differences exist, a given intervention may have a differential impact on the population. If differences do not exist, then users can make a stronger case for the generalizability of the intervention.

These questions are helpful in assessing the reach of a program:

- What percentage of the target population has come into contact with or has access to your program?
- Will you reach those who are most in need of the intervention?

Effectiveness

Effectiveness reflects the impact of an intervention on important outcomes, such as quality of life and economic outcomes, and considers the potential negative effects of programs. Within the RE-AIM framework, efficacy is measured at the individual level. It reflects the impacts of an intervention when implemented in ideal and real-world settings. Intervention effectiveness is often determined by examining the intervention's effect size and specified outcomes, like quality of life. Outcomes that can be measured include biologic outcomes (e.g., disease risk factors), behavioural outcomes for participants and practitioners and quality-of-life outcomes.

Adoption

Adoption involves the absolute number, proportion and representativeness of settings and intervention agents that will adopt the intervention. It is an organizational level measure. Understanding how different settings vary with respect to available resources, level of expertise and commitment to the intervention is critical when examining the impact of an intervention. If differences exist between participating sites, the program has been differentially adopted. Barriers to adoption can also be determined when examining non-participating settings. Adoption is usually assessed by structured interviews or surveys, or by direct observation.

Implementation

Implementation is the extent to which a program is delivered as intended in the real world. Implementation is an organizational level measure. It includes the consistency of delivery as intended (the fidelity of implementation) and the cost of the intervention.

Maintenance

Maintenance reflects the extent to which an intervention becomes institutionalized or part of routine organizational practices and policies. Maintenance also includes the long-term effects of a program on participants six months or more after the most recent intervention contact. Thus, maintenance involves both individual and organization level measures.

These summaries are written by the [NCCMT](#) to condense and to provide an overview of the resources listed in the [Registry of Methods and Tools](#) and to give suggestions for their use in a public health context. For more information on individual methods and tools included in the review, please consult the authors/developers of the original resources.

The five dimensions interact to produce a public health impact score or the population-based effect of the intervention. Each of the five components is represented on a 0 to 1 (or 0% to 100%) scale. Multiplying the scores for each dimension yields the public health impact score ($R \times E \times A \times I \times M = \text{Public Health Impact score}$). Decision-makers can use this score when considering whether to implement a potential intervention in their setting.

The precise nature of the relationships among the five dimensions are unknown. This model shows these dimensions interacting multiplicatively, rather than in an additive manner. Also, the developers have assumed that the five dimensions are equally weighted. In practice, not all dimensions will be relevant or may be weighted differentially to address a particular public health concern.

Evaluation and Measurement Characteristics

Evaluation

Has not been evaluated

Validity

Validity not tested

Reliability

Reliability not tested

Methodological Rating

Not applicable

Tool Development

Developers

Russell E. Glasgow
David A. Dziewaltowski
Paul A. Estabrooks
Bridget A. Gaglio
Diane King
Lisa Klesges

Method of Development

The RE-AIM framework was originally developed to support consistent reporting of research results. It was later used to organize reviews of the literature on health promotion and disease management in different settings. Since the original paper was published in 1999, authors from diverse fields have submitted approximately 100 publications on RE-AIM, on various topics such as aging, cancer screening, environmental change, well-child care, eHealth, worksite health promotion, diabetes prevention and others. More recently, RE-AIM has been used to translate research into practice and to help plan programs in ways to facilitate their implementation in real-world settings. The overall goal of the RE-AIM framework is to encourage decision-makers and others to pay more attention to essential program elements, including external validity, that can improve the implementation of effective and generalizable interventions.

Release Date

1999

Contact Person

Russell E. Glasgow
Center for Health Dissemination and Implementation Research
Kaiser Permanente Colorado
10065 E Harvard Avenue, Suite 300
Denver, USA 80231
Email: russg@re-aim.net

Or

David A. Dziewaltowski
Department of Kinesiology
Kansas State University
Manhattan, USA 66506
Phone: (785) 532-7750
Fax: (785) 532-7733
Email: dadx@ksu.edu

Resources

Title of Primary Resource	RE-AIM evaluation framework
File Attachment	None
Web-link	http://www.re-aim.org
Reference	Glasgow, R.E., Dziewaltowski, D.A., Estabrooks, P.A., Gaglio, B.A., King, D., & Klesges, L. (2010) RE-AIM. Retrieved from http://www.re-aim.org .
Type of Material	Website
Format	On-line Access
Cost to Access	None.
Language	English
Conditions for Use	© 2010 RE-AIM

Title of Supplementary Resource	The RE-AIM framework for evaluating interventions: What can it tell us about approaches to chronic illness management?
File Attachment	None
Web-link	http://ac.els-cdn.com/S0738399100001865/1-s2.0-S0738399100001865-main.pdf?_tid=03f72b4e-d2b7-11e6-bc72-00000aab0f01&acdnt=1483559596_6d44f6f19bc4cafb37fa4b734eaa178e
Reference	Glasgow, R. E., McKay, H. G., Piette, J. D., & Reynolds, K. D. (2001). The RE-AIM framework for evaluating interventions: What can it tell us about approaches to chronic illness management? <i>Patient Education and Counseling</i> , 44, 119-127.
Type of Material	Journal article
Format	Periodical
Cost to Access	None.
Language	English
Conditions for Use	© 2001 Elsevier Science Ireland Ltd

These summaries are written by the [NCCMT](#) to condense and to provide an overview of the resources listed in the [Registry of Methods and Tools](#) and to give suggestions for their use in a public health context. For more information on individual methods and tools included in the review, please consult the authors/developers of the original resources.

