Evaluation Approaches for Dissemination and Implementation Research

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Overview

Role of Evaluation in Translational Research

Evaluation Approaches

RE-AIM

Examples and Lessons Learned from Applying RE-AIM

Important Take Away Points for Evaluation and Translation of Research
Introduction

- Evaluation should be considered an ongoing process, rather than a one-time, post hoc activity.

- Best results are obtained when you plan for dissemination at the planning phase of a project/program and integrate a series of evaluation activities throughout
  - Needs assessment
  - Formative evaluation
  - Ongoing process evaluation
  - Summative evaluation

- Use of BOTH quantitative and qualitative methods
Role of Evaluation in Translational Research

- Conducting evaluation assessments early on can be useful in that they allow for modifications prior to full-scale implementation and subsequent evaluation, i.e. Evaluability assessment (Leviton, et al).

- Should include a realist approach – one that is comprehensive in identifying how, and for whom, a program might work, as well as understanding the implementation of the program as proposed (Pawson and Tilley).

- Role of evaluation – to identify, describe, and understand the context in which a program or policy is implemented in order to understand outcomes.


Evaluation Approaches

- Pragmatic-Explanatory Continuum Indicator Summary (PRECIS)
- PRECEDE-PROCEED
- Realist Evaluation
- Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM)

Recommended references:


## Realist Evaluation

<table>
<thead>
<tr>
<th></th>
<th>System A</th>
<th>System B</th>
<th>Desirability and/or feasibility of changing practice, procedures and context of system B to match those of system A?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The innovation</strong></td>
<td>What are the salient features of the innovation as it is currently used in system A?</td>
<td>What are the salient features of the innovation as it is intended to be used in system B?</td>
<td>Where there is a mismatch, could and should the system B adopt the same innovation as is used by system A?</td>
</tr>
<tr>
<td><strong>The resources</strong></td>
<td>What resources were used in producing the outcomes (staff time, money, equipment, space, etc) in system A?</td>
<td>What resources are available to system B?</td>
<td>Has system B got the resources to emulate the practice of system A? If not, would it be feasible or desirable for system B to enhance or redeploy resources?</td>
</tr>
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RE-AIM Framework

- Internal Validity
- External Validity

- Reach
- Effectiveness
- Adoption
- Maintenance
- Implementation

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<tr>
<th>RE-AIM ELEMENT</th>
<th>GUIDELINES AND QUESTIONS TO ASK</th>
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| REACH         | Can the program attract large and representative percent of target population?  
Can the program reach those most in need and most often left out (i.e., the poor, low literacy and numeracy, complex patients)? |
| EFFECTIVENESS | Does the program produce robust effects across sub-populations?  
Does the program produce minimal negative side effects and increase quality of life or broader outcomes (i.e., social capital)? |

www.re-aim.org
http://www.centertrt.org/?new
RE-AIM Guidelines for Developing, Selecting, and Evaluating Programs and Policies Intended to Have a Public Health Impact (cont.)

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<th>RE-AIM ELEMENT</th>
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<td><strong>ADOPTION</strong></td>
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<td>Percent and representativeness of settings and staff that participate</td>
<td>Is the program feasible for majority of real-world settings (costs, expertise, time, resources, etc.)? Can it be adopted by low resource settings and typical staff serving high-risk populations?</td>
</tr>
<tr>
<td><strong>IMPLEMENTATION</strong></td>
<td></td>
</tr>
<tr>
<td>Consistency and cost of delivering program and adaptations made</td>
<td>Can the program be consistently implemented across program elements, different staff, time, etc.? Are the costs—personnel, up front, marginal, scale up, equipment costs—reasonable to match effectiveness?</td>
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### RE-AIM Guidelines for Developing, Selecting, and Evaluating Programs and Policies Intended to Have a Public Health Impact (cont.)

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<td>MAINTENANCE</td>
<td>Does the program include principles to enhance long-term improvements (i.e., follow-up contact, community resources, peer support, ongoing feedback)? Can the settings sustain the program over time without added resources and leadership?</td>
</tr>
</tbody>
</table>

Long-term effects at individual and setting levels, modifications made
Examples of RE-AIM Application from a Systematic Review of the Literature

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<th>Common Problem</th>
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<td>Not reporting characteristics of participants compared to non-participants.</td>
<td>Report on any criteria you can, even if it is just one characteristic. This allows for some assessment as to the degree of representativeness of the participants.</td>
<td>There were no significant differences in participation by gender. Compared to those who lived in a high-income community, those in a low income community were less likely to participate.</td>
</tr>
<tr>
<td>Not reporting measurement of short-term attrition and/or differential rates by participant characteristic or treatment group.</td>
<td>Report on attrition for all arms of trial. Report on any differences (or no differences) in characteristics of those that drop in each group.</td>
<td>Attrition at 3-month follow-up was 10% for Arm 1 of study and 15% for Arm 2. No significant differences between groups were observed among characteristics of those lost to follow-up.</td>
</tr>
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Examples of RE-AIM Application from a Systematic Review of the Literature (cont).

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<td>Not reporting recruitment details and exclusion criteria of research settings/sites.</td>
<td>At minimum report the sampling frame from which settings were selected and percent participation.</td>
<td>All primary schools in the Netherlands were eligible for inclusion in the study. From 7,000 primary schools, 520 were randomly selected from a database and invited to participate. Provide any information on characteristics between those randomly selected from total population. Then provide any information on characteristics of sites that ultimately agreed to participate.</td>
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### Examples of RE-AIM Application from a Systematic Review of the Literature (cont).

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<tr>
<td>Not reporting characteristics of staff participants compared to non-participants</td>
<td>Report on any criteria you can, even if it is just one characteristic. This allows for others to assess some degree of representativeness.</td>
<td>A total of 59 practitioners were recruited for this project out of 84 approached. These physicians represented 15 practices out of 18 approached. Most specialized in family practice or internal medicine. Participating and non-participating physicians did not differ significantly on any characteristics measured (i.e. medical specialty, percent female, affiliation).</td>
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<td>Not reporting adaptations made to interventions during study.</td>
<td>Report any changes that made the intervention easier to delivery or to fit into real world settings.</td>
<td>Changes were made to accommodate practices’ circumstances. Original strategy was to have a kiosk available to collect health risk appraisal information. This did not fit well with a few practices’ routines. They changed to using a tablet PC.</td>
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<td>Not reporting results of long-term broader outcomes such as quality of life or</td>
<td>Reporting broader outcomes provides a context in which to evaluate the long-term primary</td>
<td>Despite a pattern of greater improvement for the intervention condition on the primary study outcome, quality of life and interpersonal</td>
</tr>
<tr>
<td>unintended outcomes.</td>
<td>outcome results.</td>
<td>distress did not reach the p&lt;0.05 level of significance.</td>
</tr>
<tr>
<td></td>
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<td>Since the completion of the study, 5 centers continued offering a tai chi class, and 1 was waiting on instructor availability.</td>
</tr>
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</table>
Important Evaluation Take Away Points and Keys to Advance Translation

- Questions from and important to stakeholders
- Multiple outcomes important to decision and policy makers*
- Context—key factors that may moderate results and multiple, heterogeneous settings
- Scalability—potential to impact large numbers
- Sustainability
- Health equity impacts
- Patient/citizen/consumer and operations perspective and partnership throughout
- Multi-level interactions, especially between policy and practice; alignment of interventions at different levels
- Comparison conditions are real-world alternatives*
Summary

Whichever evaluation approach/approaches you use make sure to:

- Start early with your evaluation activities
- Be transparent in your reporting
- Focus on external validity issues to increase relevance
- Have explicit multi-level focus
- Include costs and resource issues
- Include mixed methods
Discussion

- Reactions

- Questions