IMPLEMENTATION SCIENCE MODELS (AND RELATED METRICS) TO HELP REDUCE HEALTH DISPARITIES

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OUTLINE

- Implementation Science (IS) Models—overview
- RE-AIM Model—and metrics
- Evidence Integration Triangle (EIT)
- Commonalities and Conclusions
Implementation Science Frameworks: Converging Recommendations


- RE-AIM: Reach, Effectiveness, Adoption, Implementation and Maintenance—the “What”
  www.re-aim.org

- Evidence Integration Triangle (EIT)—the “How”
  http://cancercontrol.cancer.gov/IS/presentations.html
Implementation and Dissemination Research Characteristics (Russ’ view)

- Contextual
- Complex
- Multi-component programs and policies
- Non-linear
- Transdisciplinary
- Multi-level
- Addresses “wicked”, messy, important problems

THE SAME POLICIES, RESEARCH METHODS, PARADIGMS AND APPROACHES THAT PRODUCED TODAY’S INEQUITIES ARE NOT LIKELY TO REDUCE THEM

“The significant problems we face cannot be solved by the same level of thinking that created them.”

A. Einstein
Recommended Purpose of Research 
*(ala RE-AIM—www.re-aim.org)*

Collect evidence to document interventions that can:

- **Reach** large numbers of people, especially those who can most benefit

- Be widely **adopted** by different settings

- Be consistently **implemented** by staff members with moderate levels of training and expertise

- Produce **replicable** and **maintained effects** (and minimal negative impacts) at reasonable **cost**

## RE-AIM—Disparities Implications

<table>
<thead>
<tr>
<th>RE-AIM Element</th>
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<tr>
<td><strong>Reach</strong></td>
<td>• Characteristics of those who participate vs. decline</td>
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<td>• Expand categories used for classification of potential disparities—e.g. literacy, numeracy, address, geospatial</td>
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<td><strong>Effectiveness</strong></td>
<td>• “Representative narrative”</td>
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<td></td>
<td>• Impact of context</td>
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<td></td>
<td>• Unanticipated consequences</td>
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<td><strong>Adoption</strong></td>
<td>• Engage stakeholders from low resource settings from outset</td>
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<td>• Document and address reasons for non-participation</td>
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<td><strong>Implementation</strong></td>
<td>• Monitor Delivery</td>
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<td>• Track costs of implementation</td>
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<td></td>
<td>• Be transparent</td>
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<td><strong>Maintenance</strong></td>
<td>• Assess long-term results of different subgroups…If inequities, find out why</td>
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<td>• Prepare delivery settings with tools to guide, monitor and adapt intervention</td>
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<td>• Support and study sustainability</td>
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## RE-AIM—Disparities Implications Continued

<table>
<thead>
<tr>
<th>RE-AIM Issue</th>
<th>Disparity</th>
<th>Overall Impact</th>
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<tbody>
<tr>
<td>Reach</td>
<td>30%</td>
<td>70% of benefit</td>
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<tr>
<td>Effectiveness</td>
<td>0 (equal)</td>
<td>70% of benefit</td>
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<tr>
<td>Adoption</td>
<td>30%</td>
<td>49% of benefit</td>
</tr>
<tr>
<td>Implementation</td>
<td>30%</td>
<td>34% of benefit</td>
</tr>
<tr>
<td>Maintenance</td>
<td>30%</td>
<td>24% of benefit</td>
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RE-AIM: Reach, Effectiveness, Adoption, Implementation, Maintenance.
RE-AIM Implications—What Outcomes and Metrics are Valuable?

- Beyond Mean Effect Size?
- Ask - at multiple levels WHO is reached, WHAT type settings are implementing; WHICH staff can implement, etc.
- All 5 RE-AIM dimensions are important—need to broaden usual focus
RE-AIM Self-Rating Quiz

http://re-aim.org/resources_and_tools/index.html
Evidence Integration Triangle (EIT)

Intervention Program/Policy (Prevention or Treatment)  
(e.g., key components; principles; guidebook; internal & external validity)

Participatory Implementation Process  
(e.g., stakeholder engagement; CBPR; team-based science; patient centered)

Practical Progress Measures  
(e.g., actionable & longitudinal measures)

Multi-Level Context
- Intrapersonal/Biological
- Interpersonal/Family
- Organizational
- Policy
- Community/Economic
- Social/Environment/History

IMPLICATIONS OF EIT FOR REDUCING DISPARITIES

• Evidence alone is a start, but not enough
• Need relevant, practical Measures and Metrics of progress
• Both of above need to be selected with partnership of stakeholders
• Expect iteration and adaptation—rather than immediate success
QUESTIONS TO ASK....

• In this world of “the 4 P’s” of personalized medicine.... ALSO ask the 4 “W’s”:
  ✓ Who Benefits
  ✓ Who Suffers
  ✓ Who Pays
  ✓ Who Profits

TAKE-HOME POINTS

• Start with the End (Dissemination? Scale-Up: Sustainability? Reducing Disparities?) in Mind

• Start with and Partner with Stakeholders Throughout All Phases...... including Design and Analyses

• Implementation Science is Complex, Dynamic, Contextual, Learning, Systems Based.... and our models, designs and metrics need to be also

• All Models (including these) are WRONG....but may be useful