WEBINAR: An Integrative Framework for Implementation Science in Nutrition

#SISNFramework

28th June 2017
Implementation Science in Nutrition: Toward a Common Understanding

David Pelletier
SISN President
Professor of Nutrition Policy
Division of Nutritional Science
Cornell University
Presentation Goals

1. Promote a common understanding of some core concepts in implementation science

2. Provide an integrative framework for implementation science

3. Highlight the need for implementers and researchers to collaborate in order to achieve impact at-scale
Outline

1. The Implementation Opportunity and Challenge

2. Definitions, Distinctions and Frameworks
   – Implementation
   – Implementation research and a classification scheme
   – Implementation science
   – Implementation knowledge

3. An Integrative Framework for Implementation Science
Part I:
The Implementation Opportunity and Challenge
The Opportunity

59 countries are leading a global movement to end malnutrition in all its forms.

59 countries and States of Maharashtra and Uttar Pradesh committed to SUN

<table>
<thead>
<tr>
<th>Evolution of Countries and States committed to SUN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>2010</td>
</tr>
<tr>
<td>2011</td>
</tr>
<tr>
<td>2012</td>
</tr>
<tr>
<td>2013</td>
</tr>
<tr>
<td>2014</td>
</tr>
<tr>
<td>2015</td>
</tr>
<tr>
<td>2016</td>
</tr>
</tbody>
</table>

Image source: http://scalingupnutrition.org/
### Figure 2.3  Number of countries at various stages of progress against the global targets on nutrition

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Missing data</th>
<th>Off course, little/no progress</th>
<th>Off course, some progress</th>
<th>On course, at risk</th>
<th>On course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stunting children under 5</td>
<td>79</td>
<td>15</td>
<td>58</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Wasting children under 5</td>
<td>63</td>
<td>63</td>
<td></td>
<td>67</td>
<td></td>
</tr>
<tr>
<td>Overweight children under 5</td>
<td>84</td>
<td>24</td>
<td>22</td>
<td>26</td>
<td>37</td>
</tr>
<tr>
<td>Exclusive breastfeeding, &lt; 6 months</td>
<td>110</td>
<td>34</td>
<td>13</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>Anemia in women aged 15–49 years</td>
<td>8</td>
<td>182</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Adult overweight + obesity (BMI ≥ 25)</td>
<td>3</td>
<td>190</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adult obesity (BMI ≥ 30)</td>
<td>3</td>
<td>190</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adult diabetes (raised blood glucose)</td>
<td>3</td>
<td>185</td>
<td></td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Source: Global Nutrition Report 2016
Figure 1: Median coverage and distribution by country of selected nutrition sensitive and specific interventions.
An Example: What factors might affect the effectiveness of a national micronutrient powder intervention?

A short list:
- Govt approval/registration
- Procurement
- Partner support
- Logistics/ distribution
- Inventory management
- Mother’s concerns
- Grandmother’s concerns
- Household supplies
- Caregiver knowledge & compliance
- Health worker counseling quality
- Training of health workers
- Broader SBCC initiatives
- etc.
The Reason for the Challenge

Nutrition Interventions

The Black Box of Implementation

Nutrition Outcomes

The Reason for the Challenge

Nutrition Interventions

The Black Box of Implementation

Nutrition Outcomes

www.implementnutrition.org
The Reason for the Challenge

Nutrition Interventions:
- Vitamin & Mineral Powder

Nutrition Outcomes:
- Characteristics, Capacities and Dynamics:
  - Implementing organizations:
    - Frontline workers, supervisors and managers
  - Clients, households and communities
  - Enabling Environment: Government, funders, civil society, private sector

www.implementnutrition.org
Some Sobering Quotes

Information dissemination alone (research literature, mailings, promulgation of practice guidelines) is an ineffective implementation method, and training (no matter how well done) by itself is an ineffective implementation method.

(Fixsen et al. 2005)

The “train-and-hope” approach to implementation does not appear to work.

(Stokes & Baer, 1977)
“We know what to do but we don’t know how to do it”

- **97%** of intervention evaluations in Lancet Paper 3 (2008) were small-scale trials testing the efficacy of interventions
  - with only **3%** testing effectiveness at larger scale
- But stunting can be reduced by **36%** through high coverage of existing interventions

“We are faced with the paradox of non-evidence-based implementation of evidence-based programs.”

(Drake, Gorman & Torrey, 2002)
Part II:
Definitions, Distinctions and Frameworks
Why We Need a (Thoughtful) Framework for Implementation Science

“We can not solve our problems with the same level of thinking that created them” Einstein

• Conventional notions of “research” may not meet the needs of implementers, in terms of the questions, methods, timeliness and dissemination

“If all we have is a hammer, everything looks like a nail”

• Conventional notions of “implementation” may not include all the relevant decisions and processes that affect programmatic effectiveness, scale and quality

Hammer image source: https://stlong.files.wordpress.com/2011/06/hammer_nail.jpg
“Implementation involves systematic and planned efforts within a system (or organization) to introduce and institutionalize a policy, plan, program, intervention, guideline, innovation or practice and ensure its intended effects and impacts.”

(WHO/TDR Implementation Research Toolkit, 2014)
Opening the Black Box of Implementation (Five Domains)

1. Objects of Implementation
   - Nutrition-specific interventions
   - Nutrition-sensitive interventions
   - National multisectoral agendas
   - NGO projects (usually sub-national)
   - Implementation innovations

2. Implementing Organization(s)
   - Frontline workers, supervisors and managers

3. Enabling Environment:
   - Government, funders, civil society, private sector

4. Individuals, households and communities

5. Implementation Processes
   - Initiation, Planning, Implementation, Sustaining

Adapted from Damschroeder et al., Implementation Science 4:50, 2009
Conceptual Frameworks: Entry Points for Deeper Analysis

Conceptual Framework of Malnutrition

- Inadequate dietary intake
- Inadequate access to food
- Inadequate care for children and women
- Insufficient health services & unhealthy environment
- Inadequate education
- Resources and Control
  - Human, economic and organizational resources
  - Political and Ideological Factors
  - Economic Structure
  - Potential resources

- Disease

- Manifestation
- Immediate Causes
  - Underlying Causes
    - Basic Causes
  - Resources and Control
    - Human, economic and organizational resources
    - Political and Ideological Factors
    - Economic Structure
    - Potential resources

- Assessment of the situation of children and women

- Action based on the analysis and available resources
- Analysis of the cause of the problem

THE SOCIETY FOR IMPLEMENTATION
THE SOCIETY FOR SCIENCE IN NUTRITION
SISN’s Five Domains of Implementation: *Black Boxes Within Black Boxes*

1. **Objects of Implementation**
   - Intervention/Innovation/Guideline/Practice/Policy (unadapted)
     - Core components
     - Peripheral components

2. **Implementing Organizations**
   - Organizational Characteristics:
     - Leadership, commitment, readiness, management, competing pressures and priorities, incentives, compatibility with mission, capacity and resources to adopt, adapt, implement, support, monitor and adjust, accountabilities
   - **Objects** (adapted)
     - Core components
     - Peripheral components
   - Staff (frontline, supervisors and managers):
     - Knowledge, skills, beliefs, motivation and incentives, workload, self-efficacy, stage of change, values, intellect, competence, learning style, openness, access to materials and resources, accountabilities

3. **Enabling Environment and Stakeholder Dynamics**:
   Government and donor policies, practices, resources & regulations, peer/ network influences, national, societal & cultural influences, accountabilities

4. **Individuals, households and communities**:
   Needs, resources, capacities, social, cultural, behavioral, economic, political factors

5. **Implementation Processes**
   - Initiating, Scoping & Engaging
     - assessing fit and readiness with opinion leaders, formal leaders, champions, facilitators, partners
   - Planning
     - Theory of Change / PIP
     - Formative research
     - Design & adaptation
     - Implementation strategy
   - Implementation, Iterative Improvements & Scaling Up
     - components, sequence, intensity
     - duration, quality improvement,
     - process evaluation, operations
     - research, special studies
     - decisions and adjustments
   - Commitment, Support, Financing & Sustainability
     - continuous advocacy, networking, engagement, strategizing, vigilance, reporting and documentation

---

*Adapted from Damschroeder et al., Implementation Science 4:50, 2009*
Implementation Research (IR)

Implementation Research refers to “a variety of methods of assessment, inquiry and formal research whose purpose is to systematically assess, build on strengths and address potential weaknesses within and between each of the five domains that affect implementation.”

Adapted from WHO/TDR Implementation Research Toolkit, 2014)
<table>
<thead>
<tr>
<th>Objects of Implementation</th>
<th>Initiation and Scoping</th>
<th>Planning and Design</th>
<th>Implementation, Iterative Improvement and Scaling Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition-specific interventions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrition-sensitive actions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operationalizing a national multisectoral nutrition agenda</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NGO projects (typically sub-national)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implementation Innovations</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Commitment, Support, Financing and Sustainability

cross-cutting governance functions that require diverse methods for stakeholder analysis, assessment of advocacy needs and opportunities, costing, capacity assessments, coordination, etc.

<table>
<thead>
<tr>
<th>Objects of Implementation</th>
<th>Initiation and Scoping</th>
<th>Planning and Design</th>
<th>Implementation, Iterative Improvement and Scaling Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition-specific interventions</td>
<td>diverse forms of assessments, stakeholder analysis, opinion leader research and consultations to guide: agenda setting, identification of policy/program/intervention options and their fit with a) the problem and b) delivery capacities, and c) available collaborations/partnerships.</td>
<td>diverse forms of formative research and consultations (at multiple scales/administrative levels) to guide the detailed design of policies/programs/interventions and development of detailed implementation guidelines, guided by explicit PIPs or Theories of Change.</td>
<td>diverse forms of operations research, special studies, process evaluation, quality improvement/quality assurance schemes and monitoring and evaluation systems.</td>
</tr>
<tr>
<td>Nutrition-sensitive actions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A national multisectoral nutrition agenda</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NGO projects (typically sub-national)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implementation innovations</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Toolkit image source: http://worldartsme.com
## A Few Examples of IR in the Published Literature

### Commitment, Support, Financing and Sustainability

18. Prioritizing and Funding the Uganda Nutrition Action Plan
19. Nutrition Leadership: Drivers and Constraints in Four Countries
20. The Gear Model for Scaling Up Breastfeeding

<table>
<thead>
<tr>
<th>Objects of Implementation</th>
<th>Initiation and Scoping</th>
<th>Planning and Design</th>
<th>Implementation, Iterative Improvement and Scaling Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition-specific interventions</td>
<td>1. Stakeholder Perspectives on Regulating School Food in Mexico</td>
<td>2. Ca and IFA Suppl in Kenya</td>
<td>3. IFA in Pakistan 4. IFA Faltering (DHS)</td>
</tr>
<tr>
<td>Operationalizing a national multisectoral nutrition agenda</td>
<td>8. Intersectoral Convergence in Odisha, India</td>
<td>9. Governance of MSN in Nepal</td>
<td>10. MSN in Ethiopia and Nepal</td>
</tr>
<tr>
<td>Implementation innovations</td>
<td></td>
<td>16. MNP Delivery Model in Vietnam 17. Program Assessment Guide (PAG)</td>
<td></td>
</tr>
</tbody>
</table>
Part III:
An Integrative Framework for Implementation Science
Implementation Research refers to “a variety of methods of assessment, inquiry and formal research whose purpose is to systematically assess, build on strengths and address potential weaknesses within and between each of the five domains that affect implementation.”

A Problem with this Construction:

Given the complexity of implementation, and...
.....the many, many weaknesses in the five domains, and....
.....the inability for implementers to wait for ‘research findings’

• It is NOT feasible to “systematically assess and address (ALL) potential weaknesses within and between each of the five domains during all phases of the implementation process”

The Practical Solution: Implementation Science and Implementation Knowledge

“... an interdisciplinary body of theory, knowledge, frameworks, tools and approaches whose purpose is to strengthen implementation quality and impact.”

It is NOT just new empirical research – it is “the science of implementation.”
A great deal is already known about implementation, such that many of the most common mistakes could be prevented by applying current knowledge rather than undertaking new investigations;

Much of this current knowledge has already been packaged into practical tools, frameworks and guidelines that can be adapted and used in a variety of settings;

The greatest “gap” lies in knowledge utilization, rather than in generating new knowledge. This knowledge utilization gap exists in nutrition, health, education and most other sectors, and it exists in high income countries as well as low and middle income countries;

The most urgent need in nutrition implementation is to close this knowledge utilization gap by making these practical tools, frameworks and guidelines more readily accessible, through various forms of capacity building, technical assistance, coaching, knowledge brokering and dissemination. This is a research agenda in itself.
This refers to practical IR embedded in and connected to implementation, such as stakeholder analysis, opinion leader research, formative research, rapid assessments, operations research, special studies, process evaluation, costing studies, Delphi studies and various forms of quality improvement or quality assurance, and more.

**SISN: Integrative Framework for Implementation Science in Nutrition**

1. **Contextual, Tacit and Experiential Knowledge**

   **Implementation Science:**
   Existing and Emerging Knowledge About Implementation

   - Frameworks, Tools, Guidelines
   - Capacity Building, Technical Assistance, Knowledge Brokering, Coaching

2. **Implementation Research in Context** *

3. **Formal and Rigorously Evaluated Implementation Trials, Proofs of Concept & Evaluation of Innovative Implementation Practices** (from the same or different settings)

**The Goal**
Collaboratively Assess, Build on Strengths and Address Weaknesses in The Five Domains in a Timely Manner During All Phases of Planning and Implementation

**The Five Domains That Affect Implementation**

1. **Objects of implementation**
   - Nutrition-specific interventions
   - Nutrition-sensitive interventions
   - National multisectoral agendas
   - NGO projects (usually sub-national)
   - Implementation innovations

2. **Implementing Organization(s)**
   - Frontline workers, supervisors and managers

3. **Enabling Environment**
   - Government, funders, civil society, private sector

4. **Individuals, households and communities**

5. **Implementation Processes**
   - Initiation, Planning, Implementation, Sustaining

* This refers to practical IR embedded in and connected to implementation, such as stakeholder analysis, opinion leader research, formative research, rapid assessments, operations research, special studies, process evaluation, costing studies, Delphi studies and various forms of quality improvement or quality assurance, and more.
Some Mental Biases and Traps this Framework Seeks to Avoid

• Focusing on generating new knowledge while neglecting the utilization of existing knowledge
• Privileging scientific knowledge while overlooking the value of contextual, experiential and tacit knowledge
• Emphasizing rigorous trials while neglecting the diverse methods for contextual inquiries
• Emphasizing research on certain objects of implementation (such as nutrition-specific interventions) and neglecting others (such as nutrition-sensitive actions, national multisectoral agendas and implementation innovations)
• Conducting research on field-level implementation processes while neglecting the problems and bottlenecks at other stages in the implementation cycle
• Strengthening capacity of implementing organizations and staff (through training) while neglecting critical bottlenecks in the other four domains.
Summary of Key Messages

1. The high level commitment to nutrition now creates an urgent need for large-scale implementation and impact.

2. Business-as-usual implementation and business-as-usual research is not sufficient: Both must change. Good examples already exist.

3. The “Integrative Framework” presented here provides a way to improve the quality of implementation in a practical and timely fashion, by systematizing, integrating and utilizing diverse forms of knowledge at all stages of the implementation process.

4. SISN provides a mechanism for implementers, researchers and other parties to collaborate in this effort.
This refers to practical IR embedded in and connected to implementation, such as stakeholder analysis, opinion leader research, formative research, rapid assessments, operations research, special studies, process evaluation, costing studies, Delphi studies and various forms of quality improvement or quality assurance, and more.

The Society for Implementation Science in Nutrition (SISN) is an integrative framework for implementation science in nutrition. It is designed to collaboratively assess, build on strengths and address weaknesses in the five domains during all phases of planning and implementation. The five domains include objects of implementation, implementing organization(s), enabling environment, implementing processes and individuals, households, and communities. The goal is to collaborate, assess, build on strengths, and address weaknesses in a timely manner.
Want to find out more about SISN and the benefits of membership?

- Check out our website: www.implementnutrition.org
- E-mail us at: implementnutrition@gmail.com
- Follow us: @implementnutri

The Society for Implementation Science in Nutrition
References


- Damschroeder et al. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science *Imp Sci* 2009 4:50
References for Case Studies


Permission For Use

Please share the webinar recording and this pdf of the slides with colleagues and other implementation stakeholders.

This webinar and the associated pdf slides may be copied in any form and used for non-commercial purposes provided that:

- The content is not altered
- It is clearly indicated that SISN is the originator of this material
- Please include the following statement when using one or more of the webinar slides in your own presentation: Slide courtesy of the Society for Implementation Science in Nutrition ([www.implementnutrition.org](http://www.implementnutrition.org))
- Please contact us at [implementnutrition@gmail.com](mailto:implementnutrition@gmail.com) if you require this content in a different format.

www.implementnutrition.org
THE SOCIETY FOR IMPLEMENTATION SCIENCE IN NUTRITION