WEBINAR:
An Integrative Framework for Implementation Science in Nutrition

#SISNFramework

28th June 2017

THE SOCIETY FOR IMPLEMENTATION SCIENCE IN NUTRITION

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

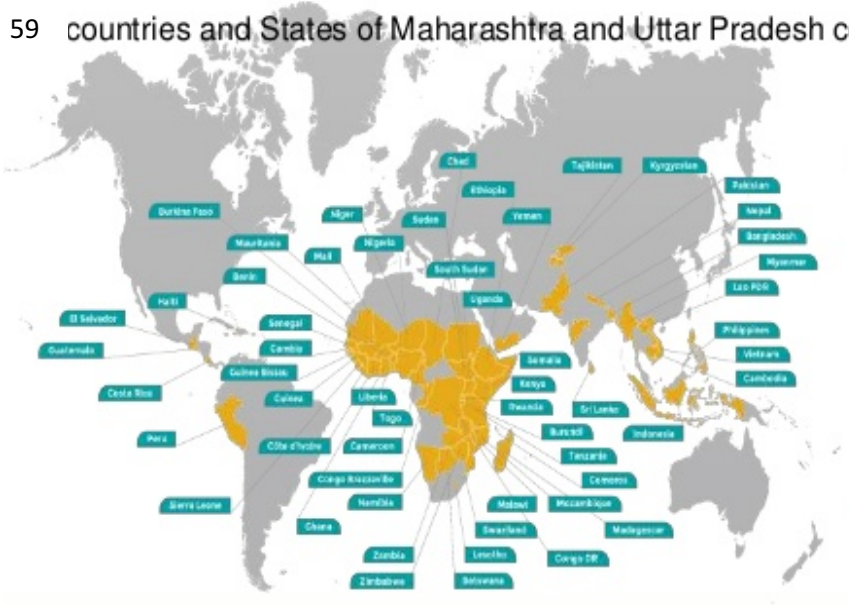
The Opportunity

Scaling Up NUTRITION

ENGAGE • INSPIRE • INVEST

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



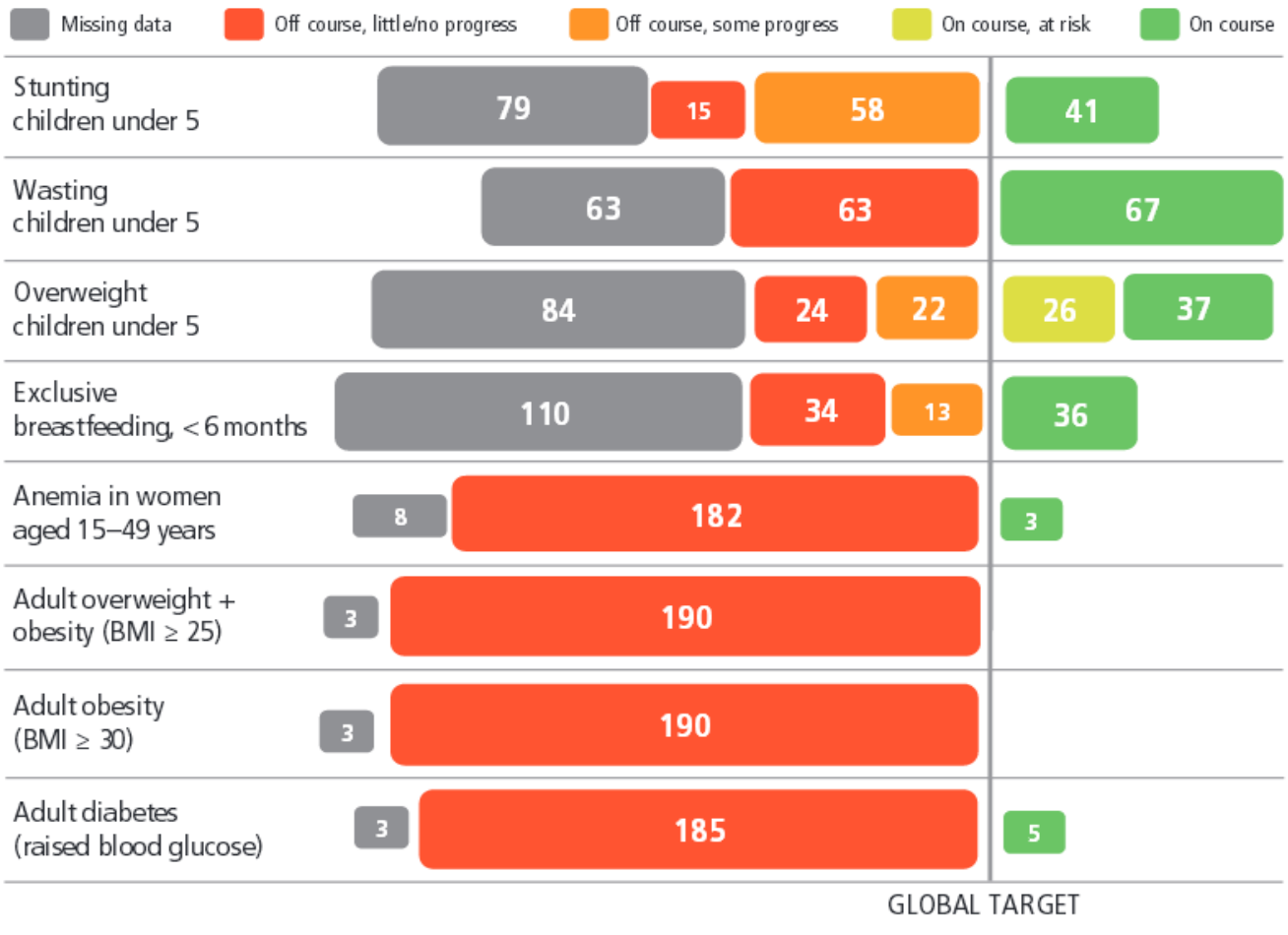
Evolution of Countries and States committed to SUN	
2010	Launch
2011	19
2012	33
2013	41 + 1
2014	54 + 1
2015	56 + 1
2016	57 + 2

Image source: http://scalingupnutrition.org/

THE SOCIETY FOR IMPLEMENTATION SCIENCE IN NUTRITION

The Challenge

FIGURE 2.3 Number of countries at various stages of progress against the global targets on nutrition



Source: Global Nutrition Report 2016

The Challenge

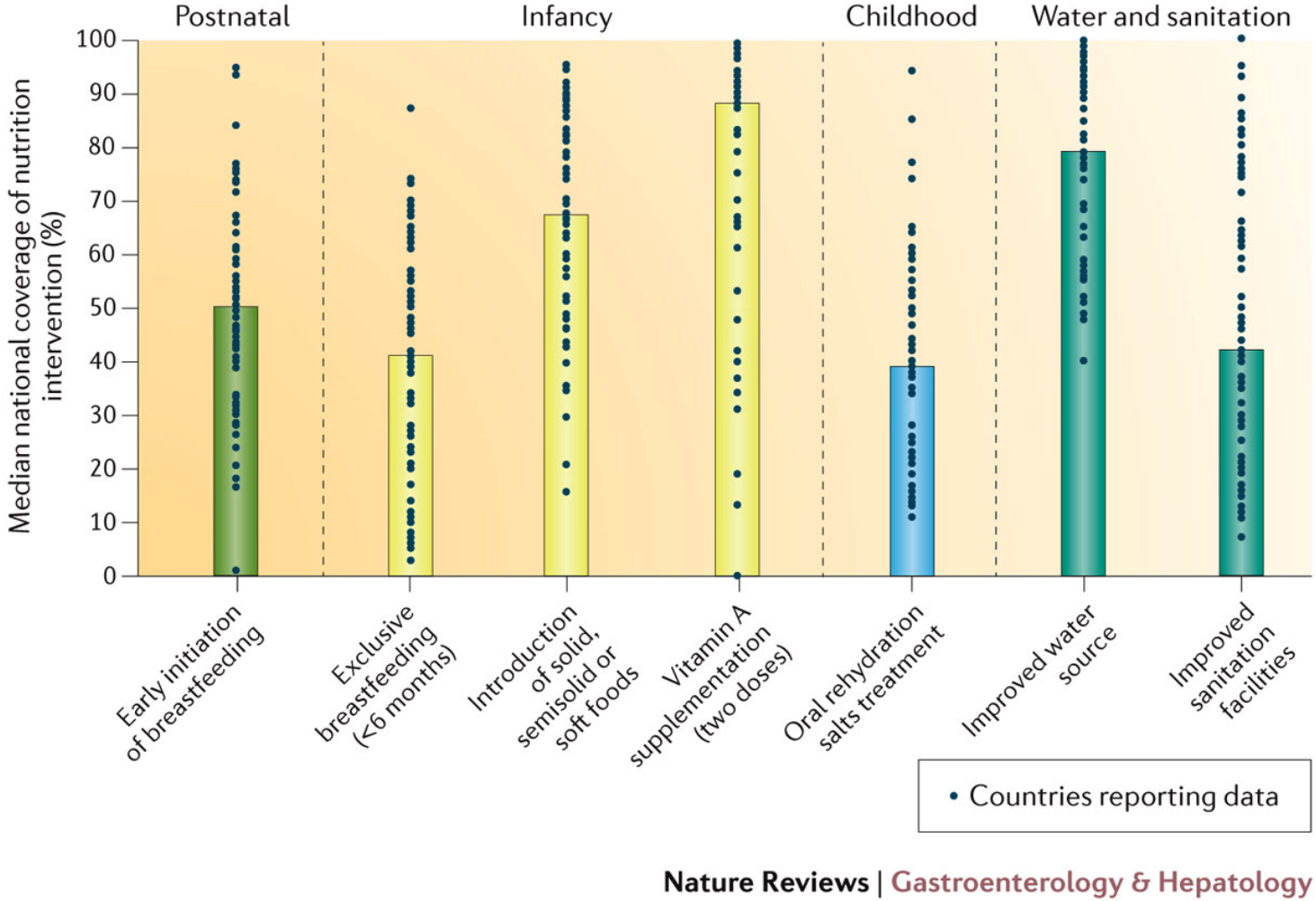


Figure 1: Median coverage and distribution by country of selected nutrition sensitive and specific interventions

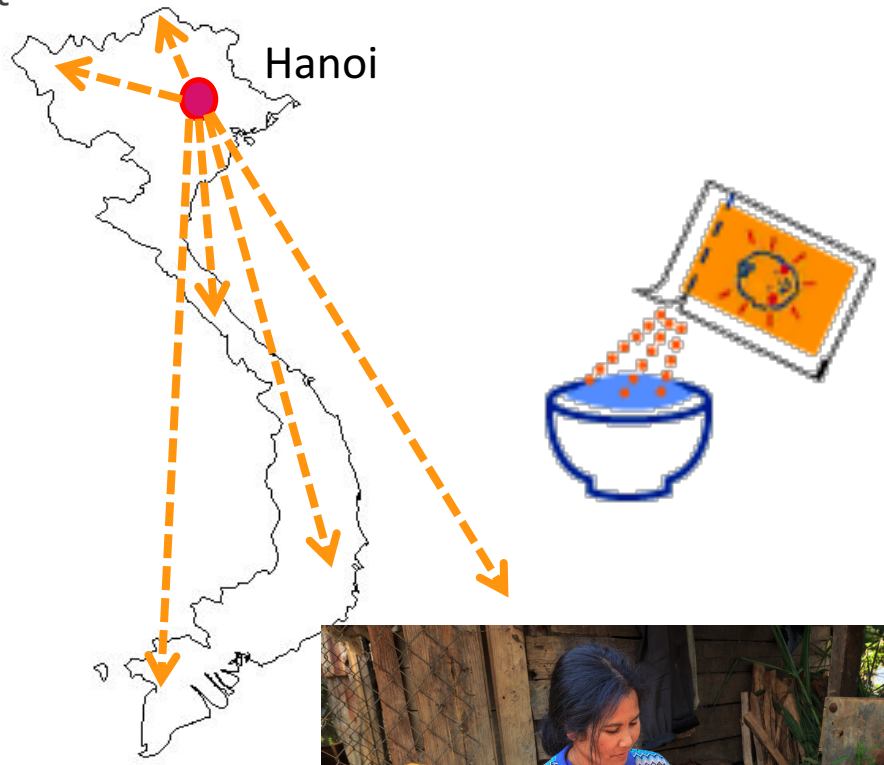
Source: Bhutta, Z. A. Nat. Rev. Gastroenterol. Hepatol. 2016 Aug;13(8):441-2

The Challenge

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

Nutritional Status

www.implementnutrition.org

THE SOCIETY FOR IMPLEMENTATION SCIENCE IN NUTRITION

The Reason for the Challenge

Nutrition Interventions

Characteristics, Capacities and Dynamics

Implementing organizations

Frontline workers, supervisors and managers

Clients, households and communities

Enabling Environment: Government, funders, civil society, private sector

Nutrition Outcomes

Nutritional Status

www.implementnutrition.org

THE SOCIETY FOR IMPLEMENTATION SCIENCE IN NUTRITION

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

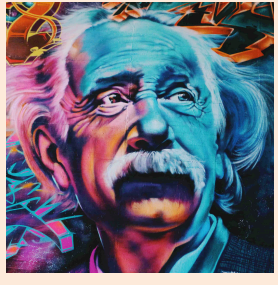
Why We Need a (Thoughtful) Framework for Implementation Science

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

- Conventional notions of "**research**" may not meet the needs of implementers, in terms of the questions, methods, timeliness and dissemination

- Conventional notions of **"implementation"** may not include all the relevant decisions and processes that affect programmatic effectiveness, scale and quality

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



Hammer image source: https://stlong.files.wordpress.com/2011/06/hammer_nail.jpg

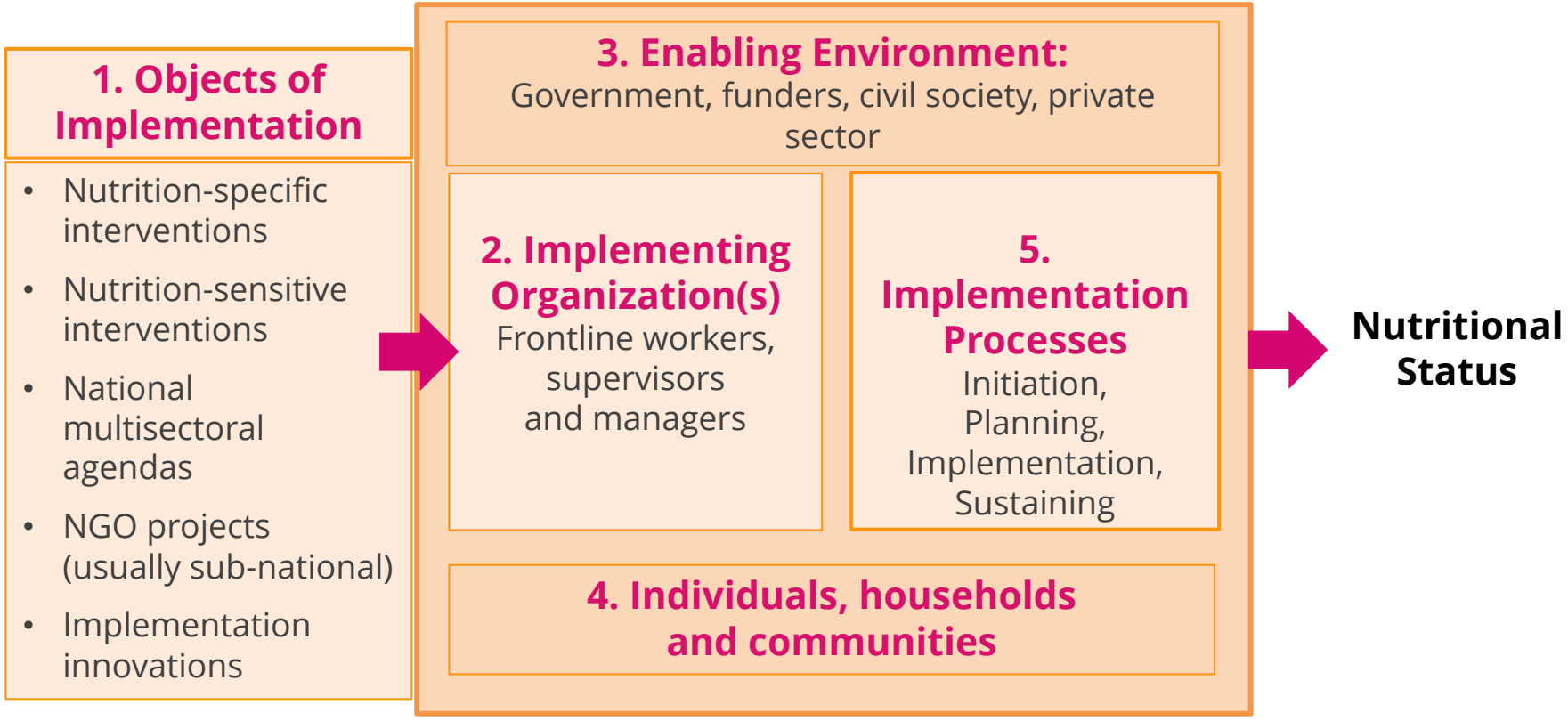
THE SOCIETY FOR IMPLEMENTATION SCIENCE IN NUTRITION

Implementation

"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)

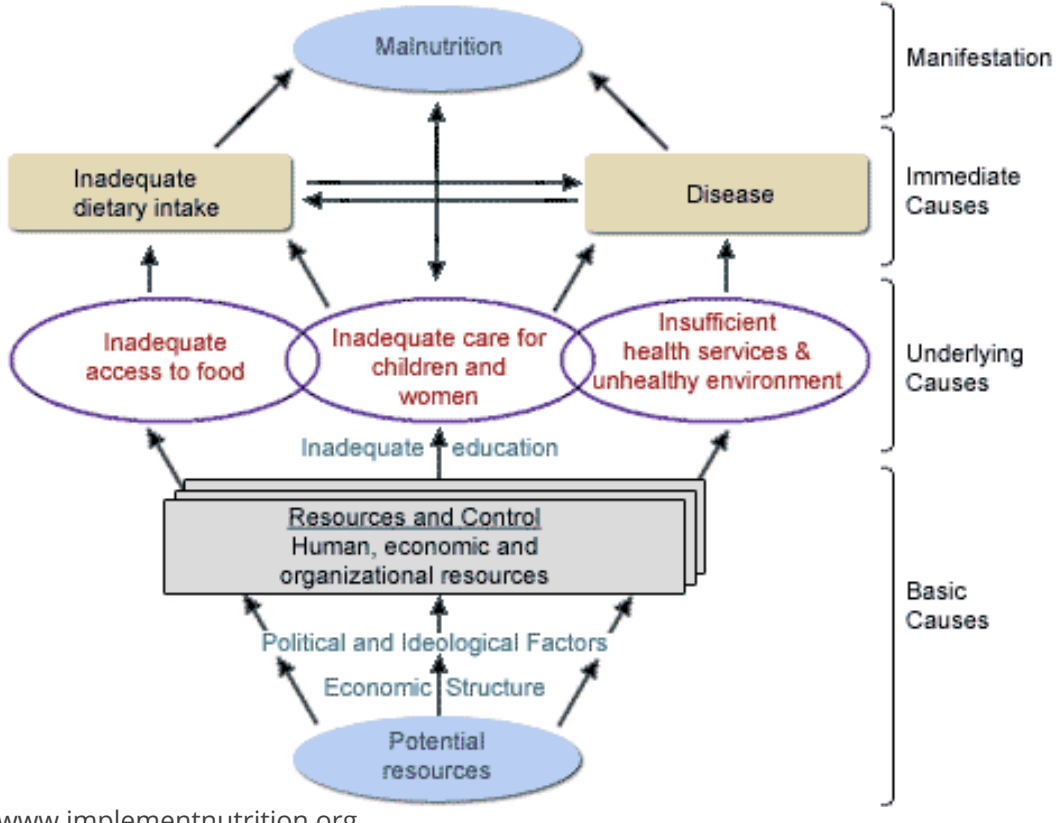


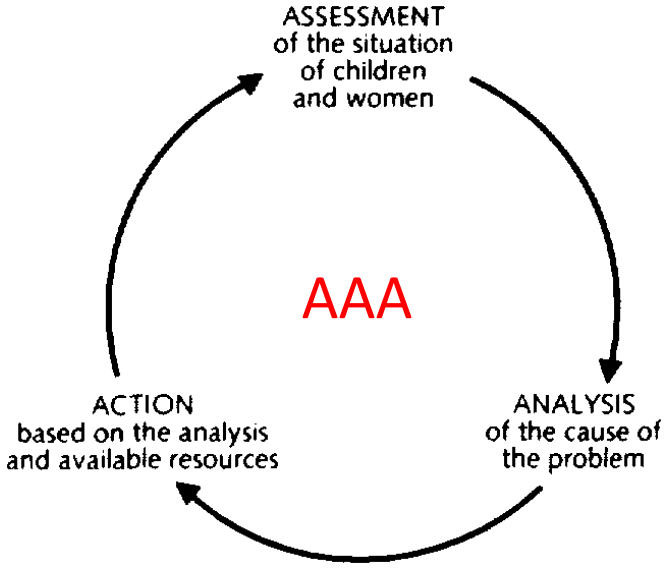
Adapted from Damschroeder et al., *Implementation Science* 4:50, 2009

THE SOCIETY FOR IMPLEMENTATION SCIENCE IN NUTRITION

Conceptual Frameworks: Entry Points for Deeper Analysis

Conceptual Framework of Malnutrition





www.implementnutrition.org

THE SOCIETY FOR IMPLEMENTATION 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

Perceived and Actual: source, evidence, advantage, adaptability, trialability, complexity, design quality and packaging, cost

3. Enabling Environment and Stakeholder Dynamics:

Government and donor policies, practices, resources & regulations, peer/ network influences, national, societal & cultural influences, accountabilities

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*

5. Implementation Processes

Initiating, Scoping & Engaging
- *assessing fit and readiness with opinion leaders, formal leaders, champions, facilitators, partners*

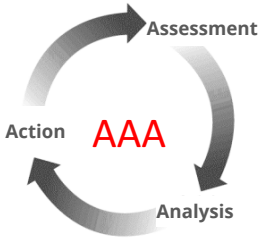
Planning
- *Theory of Change / PIP*
- *Formative research*
- *Design & adaptation*
- *Implementation strategy*

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*

4. Individuals, households and communities:

Needs, resources, capacities, social, cultural, behavioral, economic, political factors



Implementation Outcomes ↔ Client Outcomes

THE SOCIETY FOR IMPLEMENTATION SCIENCE IN NUTRITION

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)

A Classification Scheme of Implementation Research

THE SOCIETY FOR IMPLEMENTATION SCIENCE IN NUTRITION

	Commitment, Support, Financing and Sustainability		
Objects of Implementation	**Initiation and Scoping**	**Planning and Design**	**Implementation, Iterative Improvement and Scaling Up**
Nutrition-specific interventions			
Nutrition-sensitive actions			
Operationalizing a national multisectoral nutrition agenda			
NGO projects (typically sub-national)			
Implementation Innovations			

A Classification Scheme of Implementation Research

THE SOCIETY FOR IMPLEMENTATION SCIENCE IN NUTRITION

	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.		
Objects of Implementation	**Initiation and Scoping**	**Planning and Design**	**Implementation, Iterative Improvement and Scaling Up**
Nutrition-specific interventions **Nutrition-sensitive actions** **A national multisectoral nutrition agenda** **NGO projects (typically sub-national)** **Implementation innovations**	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.	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.	diverse forms of operations research, special studies, process evaluation, quality improvement/quality assurance schemes and monitoring and evaluation systems.

Toolkit image source: http://worldartsme.com

A Few Examples of IR in the Published Literature

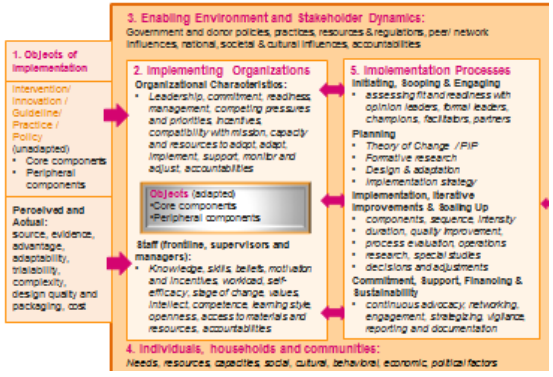
THE SOCIETY FOR IMPLEMENTATION SCIENCE IN NUTRITION

	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		
Objects of Implementation	**Initiation and Scoping**	**Planning and Design**	**Implementation, Iterative Improvement and Scaling Up**
Nutrition-specific interventions	1.Stakeholder Perspectives on Regulating School Food in Mexico	2. Ca and IFA Suppl in Kenya	3. IFA in Pakistan 4. IFA Faltering (DHS)
Nutrition-sensitive actions	5. Stakeholder Perceptions of Nutrition-Sensitive Agric in East Africa	6. National Flour Fortification 7. Landscape Analysis of Nutr-Sensitive Agric in Senegal	
Operationalizing a national multisectoral nutrition agenda	8. Intersectoral Convergence in Odisha, India	9. Governance of MSN in Nepal	10. MSN in Ethiopia and Nepal
NGO projects (typically sub-national)		11. IYCF Behavior Change in Bangladesh 12. Mama Sasha (OFSP) in Kenya 13. IYC Foods in Kenya	14.. HKI Homestead FP in Cambodia 15. QI / PDSA cycles
Implementation innovations	16. MNP Delivery Model in Vietnam 17. Program Assessment Guide (PAG)		

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."

Implementation Science and Implementation Knowledge

- 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.

SISN: Integrative Framework for Implementation Science in Nutrition

1. Contextual, Tacit and Experiential Knowledge

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

Implementation Science:
Existing and Emerging Knowledge About Implementation

2. Implementation Research in Context *

Frameworks, Tools, Guidelines

Capacity Building, Technical Assistance, Knowledge Brokering, Coaching

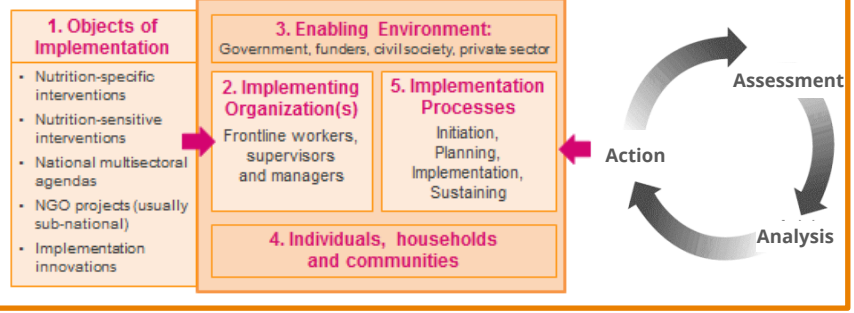
The Goal

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

* *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

The Five Domains That Affect Implementation



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

#SISNFramework

SISN: Integrative Framework for Implementation Science in Nutrition

1. Contextual, Tacit and Experiential Knowledge

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

Implementation Science:
Existing and Emerging Knowledge About Implementation

2. Implementation Research in Context *

Frameworks, Tools, Guidelines

Capacity Building, Technical Assistance, Knowledge Brokering, Coaching

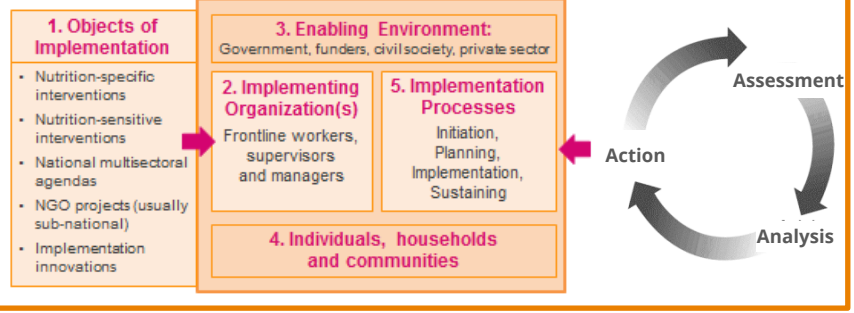
The Goal

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

* *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

The Five Domains That Affect Implementation



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

THE SOCIETY FOR IMPLEMENTATION SCIENCE IN NUTRITION

References

- International Food Policy Research Institute. Global Nutrition Report 2016: From Promise to Impact – Ending Malnutrition by 2030. Available from: http://globalnutritionreport.org/the-report/
- Bhutta, Z. A. Nutrition: How will the next 'Decade of Nutrition' be different from the past one? *Nat. Rev. Gastroenterol. Hepatol.* 2016 Aug;13(8):441-2
- Horton R Maternal and child undernutrition: an urgent opportunity Lancet 2008 Volume 371 (9608) 179 Available from: http://www.thelancet.com/series/maternal-and-child-undernutrition
- WHO/TDR Implementation Research Toolkit, 2014 Available from: http://www.who.int/tdr/publications/topics/ir-toolkit/en/
- Proctor, E., Silmere, H., Raghavan, R., Hovmand, P., Aarons, G., et al Outcomes for implementation research: conceptual distinctions, measurement challenges, and research agenda. *Adm Policy Ment Health Ment Health Serv Res 2011, 38*, 65 - 76.
- 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

1. Monterrosa, E.C., et al., *Stakeholder perspectives on national policy for regulating the school food environment in Mexico.* Health Policy and Planning, 2015. **30**(1): p. 28-38.

2. Martin, S.L., et al., *Adherence partners are an acceptable behaviour change strategy to support calcium and iron-folic acid supplementation among pregnant women in Ethiopia and Kenya: Acceptability of adherence partners to support micronutrient supplementation.* Maternal & Child Nutrition, 2016.

3. Bin Nisar, Y., et al., *Perceptions of antenatal iron-folic acid supplements in urban and rural Pakistan: a qualitative study.* BMC PREGNANCY AND CHILDBIRTH, 2014. **14**(1): p. 344-344.

4. Sununtnasuk, C., A. D'Agostino, and J.L. Fiedler, *Iron+folic acid distribution and consumption through antenatal care: identifying barriers across countries.* Public health nutrition, 2016. **19**(4): p. 732-11.

5. Hodge, J., et al., *Is There an Enabling Environment for Nutrition-Sensitive Agriculture in East Africa?* Food and Nutrition Bulletin, 2015. **36**(4): p. 503-519.

6. Pena-Rosas, J.P., et al., *Monitoring and evaluation in flour fortification programs: design and implementation considerations.* Nutrition Reviews, 2008. **66**(3): p. 148-162.

7. Lachat, C., et al., *Landscape Analysis of Nutrition-sensitive Agriculture Policy Development in Senegal.* Food and Nutrition Bulletin, 2015. **36**(2): p. 154-166.

8. Kim, S.S., et al., *Understanding the role of intersectoral convergence in the delivery of essential maternal and child nutrition interventions in Odisha, India: a qualitative study.* BMC Public Health, 2017. **17**(1): p. 161.

9. Webb, P., et al., *Measuring Nutrition Governance.* Food and Nutrition Bulletin, 2016. **37**(4_suppl): p. S170-S182.

10. Kennedy, E., et al., *Implementing Multisector Nutrition Programs in Ethiopia and Nepal.* Food and Nutrition Bulletin, 2016. **37**(4_suppl): p. S115-S123.

References for Case Studies (continued)

11. Menon, P., R. Rawat, and M. Ruel, *Bringing Rigor to Evaluations of Large-Scale Programs to Improve Infant and Young Child Feeding and Nutrition: The Evaluation Designs for the Alive & Thrive Initiative.* Food and Nutrition Bulletin, 2013. **34**(3_suppl2): p. S195-S211.

12. Cole, D.C., et al., *Planning an integrated agriculture and health program and designing its evaluation: Experience from Western Kenya.* Evaluation and Program Planning, 2016. **56**: p. 11-22.

13. Tumilowicz, A., et al., *Using implementation research for evidence-based programme development: a case study from Kenya.* Maternal & Child Nutrition, 2015. **11**: p. 1-5.

14. Olney, D.K., et al., *Using Program Impact Pathways to Understand and Improve Program Delivery, Utilization, and Potential for Impact of Helen Keller International's Homestead Food Production Program in Cambodia.* Food and Nutrition Bulletin, 2013. **34**(2): p. 169-184.

15. Coleman, K.J., et al., *The healthy options for nutrition environments in schools (Healthy ONES) group randomized trial: using implementation models to change nutrition policy and environments in low income schools.* International Journal of Behavioral Nutrition and Physical Activity, 2012. **9**(1): p. 80.

16. Nguyen, M., et al., *A Delivery Model for Home Fortification of Complementary Foods with Micronutrient Powders: Innovation in the Context of Vietnamese Health System Strengthening.* NUTRIENTS, 2016. **8**(5): p. 259.

17. Pelletier, D., et al., *The Program Assessment Guide: An Approach for Structuring Contextual Knowledge and Experience to Improve the Design, Delivery, and Effectiveness of Nutrition Interventions.* Journal of Nutrition, 2011. **141**(11): p. 2084-2091.

18. Pomeroy-Stevens, A., et al., *Prioritizing and Funding the Uganda Nutrition Action Plan.* Food and Nutrition Bulletin, 2016. **37**(4_suppl): p. S124-S141.

19. Nisbett, N., et al., *What drives and constrains effective leadership in tackling child undernutrition? Findings from Bangladesh, Ethiopia, India and Kenya.* Food Policy, 2015. **53**: p. 33-45.

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
- **Cite as:** Society of Implementation Science in Nutrition *Webinar: An Integrative Framework for Implementation Science in Nutrition*. June 2017. Available from: www.implementnutrition.org/webinar_SISNframework
- 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)
- Please contact us at implementnutrition@gmail.com if you require this content in a different format.

THE SOCIETY FOR IMPLEMENTATION SCIENCE IN NUTRITION

THE SOCIETY
FOR IMPLEMENTATION
SCIENCE IN NUTRITION

THE SOCIETY
FOR IMPLEMENTATION
SCIENCE IN NUTRITION