

# Scaling up Micronutrient Interventions in Nigeria: How the SISN Framework is being used to guide implementation research



**Olutayo Adeyemi**  
**Department of Human**  
**Nutrition and Dietetics,**  
**University of Ibadan**

# Outline

- Learning goals
- Research overview
- Conceptual framework for research
- Methods
- Contributions to implementation science

# Learning Goal(s)

*At the end of this presentation, you will be able to....*

- Describe ongoing implementation research on micronutrient powder (MNP), iron-folic acid supplementation (IFAS), and multiple micronutrient supplement (MMS) in Nigeria
- Identify one advantage the SISN domains of implementation framework has over competing frameworks


# Research Collaborators



Federal Ministry of Health

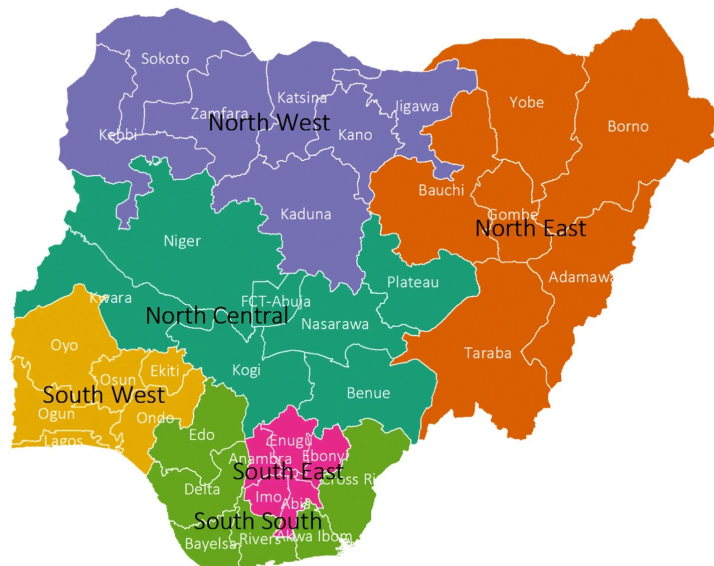


# SISN's Classification Scheme of Implementation Research

|                                                            | 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                                 |                                                   |                     |                                                                                     |

# Country Context

- **Nigeria has 774 local government areas (LGAs) in 36 states, and a Federal Capital Territory (Abuja)**
  - States are grouped into geopolitical zones
  - Operates a federal structure: States and LGAs are largely autonomous
  - Responsibility for nutrition-relevant sectors shared across levels of government
    - Policy development at federal level
    - Program planning and roll out at state level
    - Program implementation at LGA level



# Research Background

---

Micronutrient deficiencies remain high in Nigeria. In 2021, anemia affected 62% of children 6 to 59 months old, 41% of adolescent girls 10 to 14 years old, 55% of women 15 to 49 years old, and 86% of pregnant women 15 to 49 years old (FGN & IITA, 2022)

---

Poor diet quality is a major cause of malnutrition

Just 56% of women 15 to 49 years and 12% of children 6 to 23 months old consumed a likely micronutrient adequate diet in 2018 and 2021, respectively (NPC & ICF, 2019; FGN & IITA, 2022)

---

Diets that meet all nutrient needs are unaffordable for 72% of the population (FAO et al., 2020). Micronutrient deficiencies will thus potentially remain high in the absence of intervention

---

MNP and MMS are priority interventions to address the situation. MMS will gradually replace IFAS. Both IFAS and MNP are being delivered through the primary health care system.

# Micronutrient Powder & Multiple Micronutrient Supplements in Nigeria

- **Micronutrient powder (MNP) delivery for children 6 to 23 months old commenced in 2015 with formative research, but roll-out and scale-up have been slow**
- **Pilot of multiple micronutrient supplements (MMS) for pregnant women, as replacement for iron-folic acid supplements (IFAS) is planned by government**

[www.implementnutrition.org](http://www.implementnutrition.org)



THE SOCIETY  
FOR IMPLEMENTATION  
SCIENCE IN NUTRITION



# Research Rationale

- **There is a need to develop operational guidelines and scale-up strategy for MNP and MMS**
- **Guidelines need to be based on implementation research (WHO, 2016; 2020)**
  - What factors are effective in introducing/scaling up MNP and MMS in Nigeria?
  - Under what conditions are the factors effective?

# Critical Elements of Implementation & Scaling Up

- **To facilitate comprehensive enquiry, needed a framework that:**
  - Addresses all the elements required for successful scale up (Gillespie et al.,2015)
  - Is flexible and adaptable

Clear vision or goal for impact

Intervention characteristics

Enabling organizational context

Champions & incentives

Contextually relevant strategies

Operational & strategic capacities

Optimal financing

Adequate governance

Monitoring, learning, & accountability

# Potential Frameworks

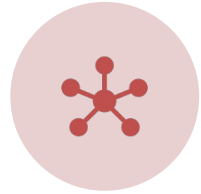
- Enabling environment framework (Gillespie et al., 2013)
- Scaling up impact on nutrition framework (Gillespie et al., 2015)
- Nutrition commitment factors framework (Baker et al., 2018)
- SISN domains of implementation framework (Tumilowicz et al., 2019)



4 frameworks  
were  
considered



All inherently  
assess the  
same factors



Group factors  
in different  
ways

# Domains that Affect Implementation Quality (SISN) Framework (Tumilowicz et al., 2019)



# Selected Framework

- **SISN's five domains that affect implementation quality framework**
  - Groups factors according to aspects of implementation not according to themes
  - Likely facilitates use of findings because of ease of application to individual domains

# Methods

| Domain                                        | Factors Assessed                                                                                                                                                                                                        | Source of Data                                                                                                                                                                              |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Objects of Implementation</b>              | <ul style="list-style-type: none"><li>• Ability of policies, strategies, and guidelines to guide implementation</li><li>• Extent to which guidance is provided for each of the five domains of implementation</li></ul> | <ul style="list-style-type: none"><li>• Desk review of policies, strategies, and guidelines relevant to implementation of MNP and MMS</li></ul>                                             |
| <b>Implementing Organization(s) and Staff</b> | <ul style="list-style-type: none"><li>• Interest and influence of stakeholders</li><li>• Linkages among stakeholders</li></ul>                                                                                          | <ul style="list-style-type: none"><li>• Desk review</li><li>• Key informant interviews</li></ul>                                                                                            |
| <b>Enabling Environment</b>                   | <ul style="list-style-type: none"><li>• Evidence generation and use</li><li>• Multisectoral and vertical coordination of interventions</li><li>• Advocacy</li><li>• Funding</li></ul>                                   | <ul style="list-style-type: none"><li>• Desk review</li><li>• Key informant interviews</li><li>• Frontline worker survey</li><li>• Focus group discussion for bottleneck analysis</li></ul> |

# Methods

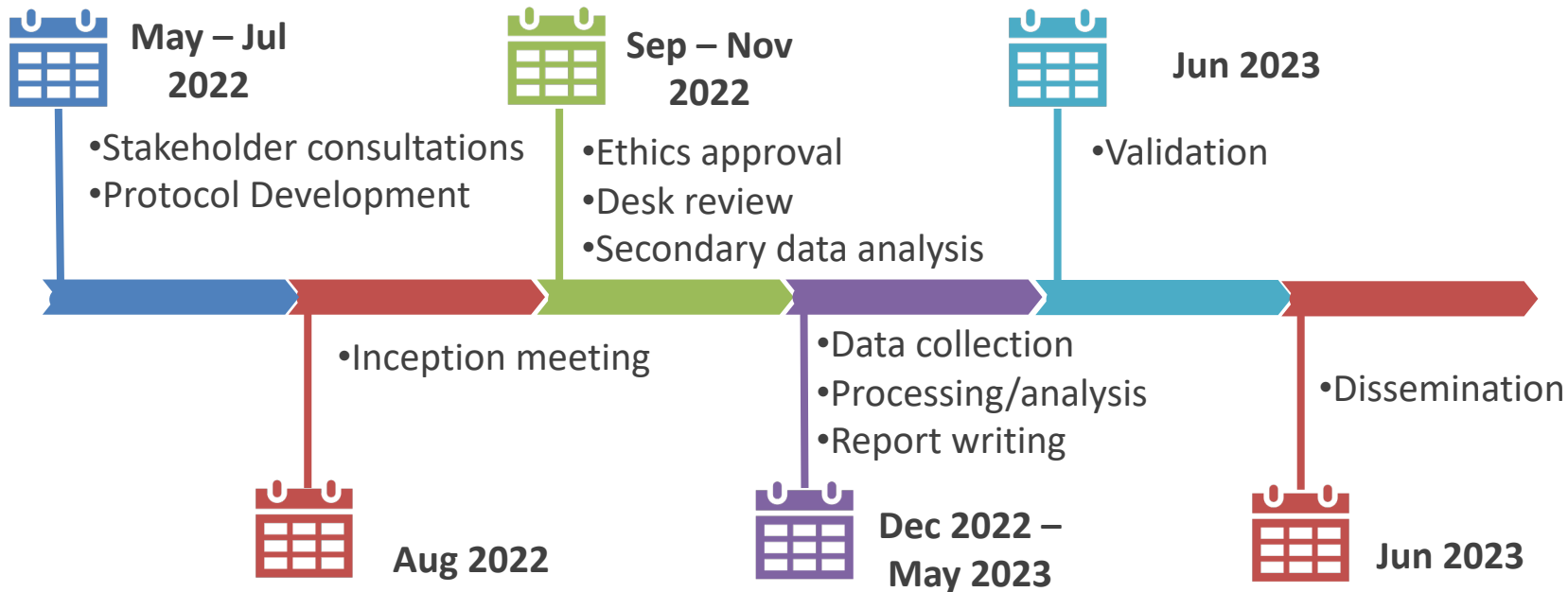
| Specific Objective                               | Factors Assessed                                                                                                                                                                                                        | Source of Data                                                                                                                                             |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Beneficiary characteristics                      | <ul style="list-style-type: none"><li>• Demand for interventions</li><li>• Barriers to intervention demand</li></ul>                                                                                                    | <ul style="list-style-type: none"><li>• Secondary analysis of NDHS 2018 data</li><li>• Beneficiaries' survey</li><li>• Key informant interviews</li></ul>  |
| Delivery mechanisms and implementation processes | <ul style="list-style-type: none"><li>• Supply of interventions</li><li>• Strategic, delivery, and operational capacity</li><li>• Fidelity of intervention delivery</li><li>• Barriers to intervention supply</li></ul> | <ul style="list-style-type: none"><li>• Frontline worker survey</li><li>• Frontline worker direct observation</li><li>• Key informant interviews</li></ul> |

# Study Population





# Timeline



# Contribution to IS

- **Implementation failures are often due to several reasons, some of which may be beyond control of implementers**
- **Use of multidimensional framework and data can support comprehensive enquiry and robust triangulation of results**
- **Methods may be helpful in contexts where:**
  - intervention coverage has been persistently low and specific contributory factors are unclear
  - different groups of stakeholders have primary responsibility for each domain of implementation

# Conclusion

- **Ongoing implementation research on MNP, IFAS, and MMS in Nigeria provides an opportunity to understand how to effectively roll out and scale up MNP and MMS**
- **The SISN domains affecting implementation quality framework has been useful for guiding comprehensive enquiry according to recognizable action areas**

# Acknowledgements



Federal Ministry of Health



UNIVERSITY OF IBADAN



National Bureau of Statistics



# Core Project Team

- **Amina Shehu**
- **Edikan Uwatt**
- **Muhammad Auwal Saliu**
- **Olufolakemi Anjorin**
- **Olutayo Adeyemi**
- **Olutayo Toromade**

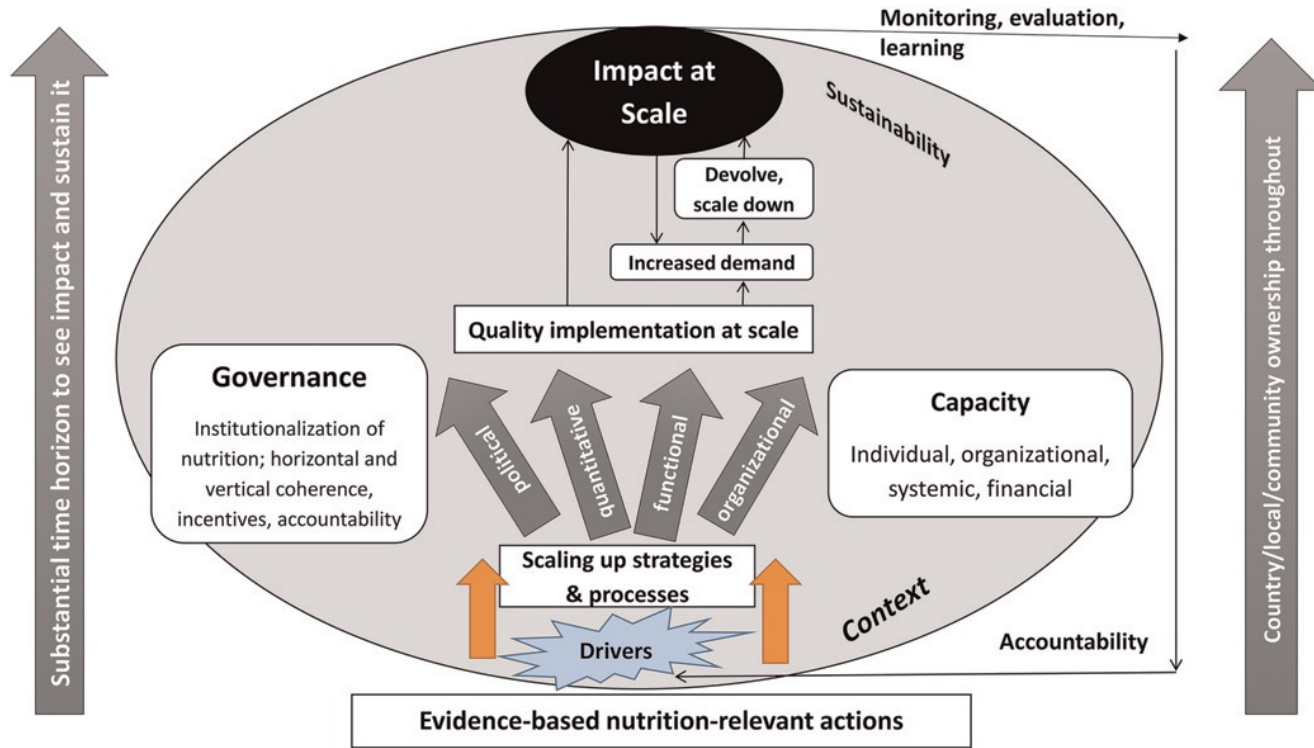


[www.implementnutrition.org](http://www.implementnutrition.org)

# Enabling Environment Framework (Gillespie et al., 2013)

|                                                                             | Creating and Sustaining Momentum                                                                                                                                                                                  | Converting Momentum to Results                                                                                                                                                                            |
|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Framing, generation, &amp; communication of knowledge &amp; evidence</b> | <ul style="list-style-type: none"> <li>• Framing and narratives</li> <li>• Evidence of outcomes &amp; benefits</li> <li>• Advocacy</li> <li>• Evidence of interventions coverage, scale, &amp; quality</li> </ul> | <ul style="list-style-type: none"> <li>• Research around what works contextually</li> <li>• Program evaluation (impact pathways)</li> <li>• Generation of demand for evidence of effectiveness</li> </ul> |
| <b>Political economy &amp; governance</b>                                   | <ul style="list-style-type: none"> <li>• Multisectoral coordination</li> <li>• Accountability mechanisms</li> <li>• Incentivizing private sector contributions</li> </ul>                                         | <ul style="list-style-type: none"> <li>• Vertical coordination</li> <li>• Civil society &amp; private sector involvement in delivery</li> </ul>                                                           |
| <b>Capacity &amp; resources</b>                                             | <ul style="list-style-type: none"> <li>• Leadership &amp; championing</li> <li>• Systemic capacity &amp; strategic capacity</li> </ul>                                                                            | <ul style="list-style-type: none"> <li>• Delivery &amp; operational capacity</li> <li>• Resource mobilization</li> <li>• Prioritization &amp; sequencing of actions</li> </ul>                            |

# Scaling Up Impact on Nutrition Framework (Gillespie et al., 2015)





# Nutrition Commitment Framework (Baker et al., 2018)

| Category                                 | Factors                                                                                                                                             |                                                                                                                                             |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Actors</b>                            | <ul style="list-style-type: none"> <li>• Nutrition actor network</li> <li>• Strength of leadership</li> <li>• Civil society mobilization</li> </ul> | <ul style="list-style-type: none"> <li>• Supportive international actors</li> <li>• Private sector involvement</li> </ul>                   |
| <b>Institutions</b>                      | <ul style="list-style-type: none"> <li>• Strength of institutions</li> <li>• Vertical coordination</li> </ul>                                       | <ul style="list-style-type: none"> <li>• Legislative, regulatory, &amp; policy frameworks</li> </ul>                                        |
| <b>Political &amp; societal contexts</b> | <ul style="list-style-type: none"> <li>• Supportive political administrations</li> </ul>                                                            | <ul style="list-style-type: none"> <li>• Societal conditions &amp; focusing events</li> <li>• Ideology &amp; institutional norms</li> </ul> |
| <b>Knowledge, evidence &amp; framing</b> | <ul style="list-style-type: none"> <li>• Credible indicators &amp; data systems</li> <li>• Evidence</li> </ul>                                      | <ul style="list-style-type: none"> <li>• Internal frame alignment</li> <li>• External frame resonance</li> </ul>                            |
| <b>Capacities &amp; resources</b>        | <ul style="list-style-type: none"> <li>• Strategic capacities</li> <li>• Organizational capacities</li> </ul>                                       | <ul style="list-style-type: none"> <li>• Financial resources</li> </ul>                                                                     |

# References

- Baker P, Hawkes C, Wingrove K, Demaio AR, Parkhurst J, Thow AM, Walls H. What drives political commitment for nutrition? A review and framework synthesis to inform the United Nations Decade of Action on Nutrition. *BMJ global health*. 2018 Feb 1;3(1):e000485.
- Federal Government of Nigeria (FGN) and the International Institute of Tropical Agriculture (IITA). 2022. National Food Consumption and Micronutrient Survey 2021. Preliminary Report. Abuja and Ibadan, Nigeria: FGN and IITA. 288 pp.
- Food & Agriculture Org. The state of food security and nutrition in the world 2020: transforming food systems for affordable healthy diets. Food & Agriculture Org.; 2020 Jul 1.
- Gillespie S, Haddad L, Mannar V, Menon P, Nisbett N. The politics of reducing malnutrition: building commitment and accelerating progress. *The Lancet*. 2013 Aug 10;382(9891):552-69.
- Gillespie S, Menon P, Kennedy AL. Scaling up impact on nutrition: what will it take? *Advances in Nutrition*. 2015 Jul;6(4):440-51.
- Nigeria Population Commission. Nigeria demographic and health survey 2018. NPC, ICF; 2019.
- Tumilowicz A, Ruel MT, Pelto G, Pelletier D, Monterrosa EC, Lapping K, Kraemer K, De Regil LM, Bergeron G, Arabi M, Neufeld L. Implementation science in nutrition: concepts and frameworks for an emerging field of science and practice. *Current developments in nutrition*. 2019 Mar;3(3):nzy080.
- World Health Organization. WHO guideline: use of multiple micronutrient powders for point-of-use fortification of foods consumed by infants and young children aged 6–23 months and children aged 2–12 years. World Health Organization; 2016.
- World Health Organization. WHO antenatal care recommendations for a positive pregnancy experience: nutritional interventions update: multiple micronutrient supplements during pregnancy. World Health Organization; 2020.