Developing Implementation Strategies using Implementation Mapping

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Multiple Levels of Influence

Local Community
- Community Level Resources
- Medical care offerings
- Population SES
- Lay support networks
- Private cancer organizations
- Local Hospital & Cancer Services
- Market
  - Market structure
  - Level of competition
  - Third party payers/insurance
  - Pay for performance initiatives
  - HMO / managed care penetration
  - Percent non-profit
  - Specialty mix
- Local Professional Norms
- MD practice organizations
- Use of guidelines
- Practice patterns

Local Community Environment

Organization and/or Practice Setting
- Leadership
- Organizational structure, policies and incentives
- Delivery system design
- Clinical decision support
- Clinical information systems
- Patient education & navigation

Provider/Team
- Knowledge, communication skills
- Perceived barriers, norms, test efficacy
- Cultural competency
- Staffing mix & turnover
- Role definition
- Teamwork

Family & Social Supports
- Family dynamics
- Friends, network support

Individual Patient
- Biological factors
- Socio-demographics
- Insurance coverage
- Risk status
- Co-morbidities
- Knowledge, attitudes, beliefs
- Decision-making preferences
- Psychological reaction/coping

Improved Quality of Cancer Care

Improved Cancer-Related Health Outcomes

National Health Policy
- Medicare reimbursement
- Federal efforts to reform healthcare
- National cancer initiatives
- Accreditations
- Professional standards

State Health Policy
- Medicaid reimbursement
- Hospital performance data policies (dissemination, visibility, etc.)
- State cancer plans/programs
- Regulations/limitations on reimbursement of clinical trials
- Activities of state-wide advocacy groups

Provider / Team
- Knowledge, communication skills
- Perceived barriers, norms, test efficacy
- Cultural competency
- Staffing mix & turnover
- Role definition
- Teamwork

Individual Patient
- Biological factors
- Socio-demographics
- Insurance coverage
- Risk status
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- Knowledge, attitudes, beliefs
- Decision-making preferences
- Psychological reaction/coping

(Bronfenbrenner, 1979; Taplin, et al., 2012)
Multilevel Framework of HPV Vaccination among Adolescents in the U.S.

**Individual-level**

- **Parental psychosocial factors**
  - Knowledge
  - Beliefs
  - Intention to vaccinate
  - Experience with preventive healthcare

- **Parent behavioral factors**
  - Accessing preventive healthcare

- **Adolescent behavioral factors**
  - Interaction with the healthcare system
  - Regular healthcare provider visits
  - Receipt of other adolescent vaccines

**Clinic-level**

- **Patient-focused clinic systems**
  - Reminder/recall systems
  - Phone calls
  - Text message reminders
  - Mailed letters
  - Outreach visits

- **Provider-focused clinic systems**
  - Assessment & feedback
  - AFIX
  - Provider reminders

**Provider-level**

- **Behavior**
  - HPV vaccine recommendation

**HPV vaccine uptake**

**Reduction of HPV-related cancers and genital warts**

**Outcomes**

**Determinants of Vaccination**

- **Multilevel Framework of HPV Vaccination among Adolescents in the U.S.**

- **Factors associated with adolescent HPV vaccination in the U.S.: A systematic review of reviews and multilevel framework to inform intervention development**

  Serena A. Rodriguez, Patricia Dohle Mullen, Diana M. Lopez, Lara S. Savas, Maria E. Fernandez (2020)

  Rodriguez, SA et al. (2020)
Implementation Strategies

**Implementation Strategies** – Methods or techniques used to enhance the adoption, implementation, sustainment, and scale-up of a program or practice.

**Discrete Strategy** – Single action or process (e.g., reminders, audit and feedback, supervision)

**Multifaceted Strategy or Implementation Intervention** – Combination of multiple discrete strategies.

Powell et al. (2012; 2015; 2019); Proctor et al. (2013)
How do we select or develop implementation strategies?

1. Conduct an assessment of factors that influence implementation processes and outcomes (e.g. characteristics of the innovation, setting, preferences of involved stakeholders, barriers and facilitators)

2. Develop or select and tailor strategies to address these.

It’s not that easy

“Everything should be made as simple as possible. But not simpler.”
Albert Einstein
Challenges in Selecting Implementation Strategies

- While some compilations exist, they may be less relevant for certain settings (clinical vs public health or community settings)
- Strategies included in compilations are broad and may represent qualitatively different things (delivery channel, assessments, processes)
- Limitations of the empirical literature in describing strategies
- Underutilization of conceptual models and theories in the literature,
- Variations related to the EBPs and the contexts in which they are implemented

Waltz, et al. 2014; Powell et al. 2017
Knowledge generation comes from the hands of practitioners/implementers as much as it comes from those usually playing the role of intervention researcher.

Methods for Designing and Tailoring Implementation Strategies

- Group Model Building
- Conjoint Analysis
- Concept Mapping
- Intervention Mapping

Baker et al. (2015); Bosch et al. (2007); Colquhoun et al. (2017); Grol et al. (2013); Powell et al. (2017)
What is Intervention Mapping?

• A **systematic approach** to multilevel intervention development, implementation & evaluation

• Uses an **ecological** approach

• Provides a **framework** for decision-making at each step of development
  ▪ Theory
  ▪ Empirical evidence
  ▪ New data
  ▪ Community input

• Incorporates **community participatory** processes
History of Intervention Mapping

Stimulated by questions that include how and when to:

➢ Use theory?
➢ Apply empirical evidence?
➢ Collect new data?

...to create effective behavior or systems change interventions

➢ How to take an ecological approach to program planning?
➢ How to address changing the behavior of people in the environment?
➢ How to address the complexity of multi-causation of problems and multi-level intervention points?
1. Co-creating interventions in ways that enhance their potential for being adopted, implemented, and sustained

2. Collaborative adaptations using IM Adapt to improve fit of evidence-based interventions

3. Co-Designing implementation strategies to influence adoption, implementation and sustainment of evidence-based approaches (*Implementation Mapping*)

Implementation Mapping

**Intervention Mapping (2016)**

**Steps**

1. Logic model of the problem
2. Logic model of change
3. Program Design
4. Program Production
5. Plan for Implementation
6. Program Evaluation

**Implementation Mapping Process (2019)**

**Task 1.** Conduct a needs and assets assessment and identify adopters and implementers.

**Task 2.** Identify adoption and implementation outcomes, performance objectives, and determinants; create matrices of change.

**Task 3.** Choose theoretical methods; Select or create implementation strategies.

**Task 4.** Produce implementation protocols and materials.

**Task 5.** Evaluate implementation outcomes.

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What is Implementation Mapping?


Implementation Science + Intervention Mapping = Implementation Mapping

Tasks for Developing the Implementation Plan

From Intervention Mapping Text (2016)

Task 1. Identify potential program implementers.
Task 2. State outcomes and performance objectives for program use
Task 3. Construct matrices of change objectives for program use
Task 4. Design implementation interventions

Implementation Mapping Process (2019)

Task 1. Conduct a needs and assets assessment and identify adopters and implementers.
Task 2. Identify adoption and implementation outcomes, performance objectives, and determinants; create matrices of change.
Task 3. Choose theoretical methods; Selector create implementation strategies.
Task 4. Produce implementation protocols and materials.
Task 5. Evaluate Implementation Outcomes.

This process can be used…

• For new programs, demonstration, and research projects:
  • Plan for initial implementation to ensure program is used as intended during the evaluation trial

• For programs that have already been evaluated:
  • Develop or tailor implementation strategies to improve uptake and use
  • Develop dissemination strategies for “scale-up” and widespread use
Implementation Mapping Tasks

Task 1: Conduct a needs and assets assessment and identify adopters and implementers

Task 2: Identify adoption and implementation outcomes, performance objectives, and determinants; create matrices of change

Task 3: Choose theoretical methods; Select or create implementation strategies

Task 4: Produce implementation protocols and materials

Task 5: Evaluate implementation outcomes

Understanding needs & assets = Who?
Planning change = What & Why?
Choosing & operationalizing implementation strategies = How?
Evaluating = Is it working?

Implementation Science Models and Frameworks

Specify Implementation Performance Objectives: Figuring out the WHAT before the HOW

What are the subcomponents of the Implementation behavior?
- What do the program implementers need to do to deliver the essential program components with acceptable completeness, fidelity and adaptation?
Identify determinants, methods and strategies to address determinants of implementation

Implementation

- **Determinants:** Outcome expectations, Self-efficacy, Attitudes *(Can come from individual theories or integrated frameworks)*

- **Methods:** Persuasion, Active learning, Social support, Dissonance reduction, Modeling, Skill building *(Guidance from individual theories, from IM)*

- **Strategies (how these methods are operationalized):** Workshops, Discussion, Problem analysis, Role playing, Team meeting, Problem solving, Guided practice, Newsletters, Model stories, Resources, Information
Implementation Mapping

Implementation Mapping

Theories & Frameworks

Empirical Evidence

Stakeholder Input

Implementation Strategy
Implementation Mapping Logic Model

**Evidence-Based Intervention (EBI)**

- Program, Guideline or other Health Innovation

**Multilevel Implementation Context**
- Setting characteristics, policy climate, culture, readiness, resources

**Implementation Strategies**
- Contain *methods* (techniques) and *practical applications*...
- to change determinants

**Determinants of Program Use**
- Determinants of Adoption
- Determinants of Implementation
- Determinants of Maintenance

**Program Use Tasks (Performance Objectives)**
- Adoption Performance Objectives
- Implementation Performance Objectives
- Maintenance Performance Objectives

**Program Use Outcomes**
- Adoption
- Implementation
- Maintenance

**Health and Quality of Life Outcomes**

**Planning process**

- How?
- Why?
- What?
- Who?
Implementation Mapping Logic Model

EBI (Evidence-Based Intervention) - Program, Guideline or other Health Innovation

- Implementation Strategies
  - **Methods** (techniques)
  - **Practical applications** to change determinants

- Determinants of Program Use
  - Determinants of Adoption
  - Determinants of Implementation
  - Determinants of Maintenance

- Program Use Tasks (Performance Objectives)
  - Adoption Performance Objectives
  - Implementation Performance Objectives
  - Maintenance Performance Objectives

- Program Use Outcomes
  - Adoption
  - Implementation
  - Maintenance

Health and Quality of Life Outcomes


Planning process
Simplified Implementation Mapping Logic Model

Evidence-Based Intervention (EBI)

Implementation Strategies
Determinants of EBI Use
Tasks for EBI Use (Performance Objectives)
Implementation Outcomes
Effectiveness outcomes

Task 1: Understanding needs & assets
Task 2: Planning change
Tasks 3 & 4: Choosing & operationalizing strategies
Task 5 Evaluate
Evaluation Frameworks

Peace of Mind Program Implementation Intervention

• Telephone-based EBI to increase mammography appointment adherence in underserved women
• Designed for use in FQHCs and charity clinics providing access to mammography services

Task 1: Identify Potential Program Implementers

- Who will decide to adopt and use the program?
- Which stakeholders will decision makers need to consult?
- Who will make resources available to implement the program?
- Who will implement the program?
- Will the program require different people to implement different components?
- Who will ensure that the program continues as long as it is needed?
Adoption Outcome

• [Someone] adopts the [innovative program] as indicated by [the evidence to indicate adoption]

• The management team at [each] clinic decides to adopt the Peace of Mind Program (PMP) as indicated by the clinic director signing a memorandum of understanding
Example Performance Objectives for Adoption (Task 2)

The Management Team members will:

- Review PMP materials and evaluation results
- Compare the intended outcomes with current mammography services and completion rates
- Agree to participate in the PMP
- Agree to expand mammography services
- Provide a program champion for the PMP
- Review the PMP program manual including phone-counseling scripts

(cont’d …)
Example Performance Objectives for Implementation (Task 2)

Clinic decision makers will:
- Communicate with staff about practice change/role changes for patients due for mammography
- Designate time for EBI training

Program champion will:
- Arrange for any change to EHR or reporting for PMP
- Arrange for patient referrals for mammograms

Patient navigator will:
- Conduct telephone barrier counseling
- Use active-listening protocol when talking with patient

Identify implementation determinants, methods and practical applications to address determinants (Task 2)

**Determinants**: Outcome expectations, Self-efficacy, Attitudes about the innovation (relative advantage, complexity, compatibility, etc.)

**Methods**: Persuasion, Active learning, Social support, Dissonance reduction, Modeling, Skill building

**Practical Applications (how these methods are operationalized)**: Workshops, Discussion, Problem analysis, Role playing, Team meeting, Problem solving, Guided practice, Newsletters, Model stories, Resources, Information
Implementation Strategies have change *Methods* and *Practical Applications*

- A *method* is a general process for influencing changes in the determinants of behavior and environmental conditions
  
  *(element of core functions)*

- A *practical application* is a concrete, real-word technique for the operationalizing methods in ways that fit with the intervention group and the context in which the intervention will be conducted
  
  =*how you will present and deliver the theoretical method*

  *(Forms- activities that operationalize, carry out & achieve the functions)*
## Peace of Mind Program Implementation Plan

<table>
<thead>
<tr>
<th>Stage</th>
<th>Agent</th>
<th>Determinants/Change Objectives</th>
<th>Theoretical Change Methods</th>
<th>Practical Applications/ Strategy</th>
</tr>
</thead>
</table>
| Implementation    | Program Champion Navigator     | Awareness/Perceptions          | • Information  
• Persuasion  
• Skill building and guided practice  
• Modeling  
• Monitoring and feedback  
• Technical assistance / capacity building  
• Facilitation  
• Vicarious reinforcement | • Face to face training held over two four hour sessions. BHC navigators model EBI behavior and provide ongoing implementation support on-site  
• PMP research team available via email, phone and training booster sessions as needed  
• Paperwork processes to provide funds for patients needing financial assistance from PMP |
|                   | Navigator                      | Outcome Expectations           |                                                                                               |                                 |
|                   |                                | Skills and Self-efficacy       |                                                                                               |                                 |
|                   |                                | Feedback and Reinforcement     |                                                                                               |                                 |

<table>
<thead>
<tr>
<th>Texas FQHC Partners</th>
<th>Counties Served Urban/Rural</th>
<th># of Clinic Sites</th>
<th>CRCS Rate (%)</th>
<th>CPRIT CRCS Program</th>
<th>1115 Waiver CRCS Program</th>
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<tr>
<td><strong>TEXAS GULF COAST REGION</strong></td>
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<td></td>
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<td>Gulf Coast Health Center</td>
<td>Jefferson, Orange, Hardin/Jasper</td>
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<tr>
<td>Coastal Health &amp; Wellness</td>
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<td>Amistad Community Health Center</td>
<td>Nueces</td>
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<td>Access Health</td>
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<td>31.8</td>
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<tr>
<td>Avenue 360</td>
<td>Harris</td>
<td>6</td>
<td>34.4</td>
<td>X</td>
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<tr>
<td><strong>EAST TEXAS REGION</strong></td>
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<td></td>
<td></td>
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<tr>
<td>Hope Community Medicine</td>
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<td>Genesis PrimeCare</td>
<td>Bowie, Gregg/Cass, Harrison, Marion</td>
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<td>Wellness Pointe</td>
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<td>5</td>
<td>27.8</td>
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<td>East Texas Community Health Services</td>
<td>Angelina, Nacogdoches</td>
<td>3</td>
<td>53.0</td>
<td>X</td>
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<tr>
<td>Carevide</td>
<td>Collin, Hunt, Fannin, Delta, Kaufman, Hopkins</td>
<td>6</td>
<td>29.0</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Total: 10 FQHCs</strong></td>
<td><strong>Urban: 16 Rural: 16</strong></td>
<td><strong>39</strong></td>
<td><strong>24.7</strong></td>
<td></td>
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</tbody>
</table>
Conceptual Framework for Implementation Strategy Development and Tailoring

Texas CDC Colorectal Cancer Control Program

Formative Work
- Theories/Frameworks
  - Social Cognitive Theory, Interactive Systems Framework, R=MC²
- Organizational Needs & Readiness Assessment
- Stakeholder Input

Implementation Mapping
- Identify performance objectives (PO) (i.e. who has to do what to implement the EBI) & determinants for each implementation behavior and contextual factor
- Create matrices of change objectives (determinants x PO)
- Identify methods and strategies to influence determinants
- Plan implementation strategies
- Develop implementation protocols and materials for implementation strategies

Implementation Plan
- Implementation Strategies
  - Practice facilitation
  - EHR Optimization
  - Telementoring (via ECHO)
  - Use of Champions
  - Professional training and technical assistance

RE-AIM Outcomes
- Reach
  - Eligible patients who receive CRCS recommendation
- Effectiveness
  - Screened eligible patients Followed-up with colonoscopy among those who screen positive
- Adoption
  - All EBI components
- Implementation
  - Fidelity, Implementation level
NCFH/UTHealth Partnership: CULTIVANDO LA SALUD

- CDC’s National Breast and Cervical Cancer Early Detection Program (NBCCEDP)

- Goal - to increase breast and cervical cancer screening among Hispanic farmworker women 50 years of age and older.

- Develop, test, replicate and disseminate a breast & cervical cancer prevention program targeting Hispanic farmworker women.

- Systematic planning using theory, evidence, and new data (Intervention Mapping)

- Replicable model
  - Adopted in over 50 communities across the country
  - Hays County CLS program began in 2006 supported by a Susan G Komen grant

(Fernandez, Gonzales, et al., 2005, HPP; 2009 AJPH)
Original Multisite community-based trial focused on migrant farmworkers

Adapted for Group Delivery in community settings to Women 21+ years

BCCS promotora delivered intervention for low-income women 21+ years in Canóvanas, PR.

Expansion to include virtual group delivery, social marketing outreach in ~20 county area around Houston & Corpus Christi
Partnering to Plan Implementation Strategies

- Used Implementation Mapping for planning program delivery
- Used Promotora Model
- Door to door outreach
- Conducted educational sessions
- Made referrals to screening
- Follow-up
CLS → *Salud en Mis Manos* (SEMM)

Community-engaged strategies to reach Latinas

(1) CHWs outreach and education in community settings

(2) CHW-delivered behavioral education door to door and group

(3) Telephone-based health coach navigation (HCN) to help women overcome barriers

<table>
<thead>
<tr>
<th></th>
<th>Adjusted OR</th>
<th>95% C.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intent-to-treat a</td>
<td>1.91**</td>
<td>(1.27, 2.88)</td>
</tr>
<tr>
<td>Per Protocol b</td>
<td>3.09***</td>
<td>(1.88, 5.08)</td>
</tr>
</tbody>
</table>

![Figure 1. Proposed target area](image)
To use Implementation Mapping to develop SEMM-Dissemination and Implementation Assistance (SEMM-DIA) implementation strategy to deliver SEMM in safety net clinics.
Leveraging Partnerships for Implementation Strategy Development and Tailoring

**Theoretical Model**
- Social Cognitive Theory

**Organization Program Coordinators**
- Perceived benefit
- Leadership skills
- Outcome expectations
- Self-efficacy

**Determinants: LHWs**
- Skills & Self-efficacy
- Attitudes
- Behavioral beliefs
- Outcome expectations
- Behavioral capabilities

**Theoretical Change Methods**
- Modeling
- Persuasion
- Guided practice
- Social support

**Intervention Strategy Development**
- **Intervention Mapping (IM)**
  - IM provides a road map to develop CLS-DIA
  - Identify performance objectives (PO) and determinants of adoption, implementation & maintenance
  - Create matrices of change objectives (determinants x PO)
  - Identify methods and strategies to influence determinants
  - Develop CLS-DIA components, materials and messages

**Outcomes**
- **RE-AIM**
  - **Intervention**
    - **Reach**
      - % of eligible women identified who complete education session
  - **Effectiveness**
    - BC & CC screening completion
    - HPV vaccination initiation
  - **Implementation Fidelity**
    - LHWs deliver CLS education, a clinic referral, and at least one follow-up navigation telephone call to each participant
  - **Implementation Dose**
    - Duration of education session
    - # Navigation calls
  - **Maintenance**
    - Sustained program use at 3 years

**Interactive Systems Framework**
- **Synthesis and Translation System**
  - Use CBPR methods to translate and adapt information about CLS program for local context
- **Prevention Support System**
  - Support (capacity building) for implementing & sustaining EBIs
  - Improving capacity of LHWs to deliver community-based education programs
  - Train LHWs on CLS materials, protocols
- **Prevention Delivery System**
  - Support (capacity building) for implementing CLS (LHW practitioner level)
  - Support (capacity building: readiness) to fit CLS with practices, protocols in organization
Implementation Mapping Tasks

Task 1. Conduct a needs and assets assessment and identify adopters and implementers
• Identified SEMM program implementation barriers and facilitators.
• Identified the adopters and implementers and explored factors influencing implementation of SEMM.

Task 2. Identify adoption and implementation outcomes, performance objectives, and determinants
• Used assessment results, theory, and evidence to identify why key actors would adopt and deliver SEMM.
• Articulated performance objectives (who must do what and why?).
• Identified determinants and contextual factors to support implementation and developed matrices of change objectives.

Task 3. Choose theoretical methods; select or create implementation strategies
• Selected methods to address the determinants identified in Task 2.
• Operationalized the methods to develop/selected and tailor implementation strategies.

Task 4. Produce implementation protocols and materials
• Produced protocols and materials needed for strategies (identified in Task 3) to be included in the SEMM-DIA implementation package.

Task 5. Evaluate implementation outcomes
• Identified implementation outcomes (e.g., fidelity, reach), measures and the data collection approach.
Results of the Implementation Mapping Tasks

The Matrices of Change Objectives (developed in Task 2) served as a road map for selecting evidence-based methods. ([Table 2])

The change methods were operationalized into tailored implementation strategies (e.g., interactive skills and tips training for CHWs on communicating effectively with participants).

We developed implementation strategies (practical applications) for in-person and online delivery (SEMM-DIA online tool).

These strategies addressed determinants of implementation to support effective program implementation, as well as supporting program adopters in tailoring the intervention approach to ensure fit with the clinic goals, capacity, and culture.

<table>
<thead>
<tr>
<th>Implementors</th>
<th>Determinants</th>
<th>Methods</th>
<th>Practical Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Clinic Leadership</td>
<td>• Awareness/ Perceptions</td>
<td>• Persuasion</td>
<td>• Informational video describing SEMM goals, components, and benefits</td>
</tr>
<tr>
<td>• SEMM Program Manager/ Champion</td>
<td>• Relative Advantage</td>
<td>• Advanced organizers</td>
<td>• Video testimonials of clinic leaders discussing how/why they implemented SEMM in their clinics</td>
</tr>
<tr>
<td></td>
<td>• Comparability</td>
<td>• Modeling</td>
<td>• SEMM Implementation Action Plan Wizard to support clinic planning</td>
</tr>
<tr>
<td></td>
<td>• Complexity</td>
<td>• Communication</td>
<td>• Program implementation guide, CHW Handbook</td>
</tr>
<tr>
<td></td>
<td>• Triability</td>
<td>• Mobilization</td>
<td>• Email templates to get buy-in from Board/C-Suite and clinic staff</td>
</tr>
<tr>
<td></td>
<td>• Outcome Expectations</td>
<td>• Organizational consultation planning</td>
<td>• Roles and responsibilities Standard Operating Procedure (SOP) / SEMM manager/champion qualities checklist &amp; role presentation</td>
</tr>
<tr>
<td></td>
<td>• Skills &amp; Self-Efficacy</td>
<td>• Environmental reevaluation</td>
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<td></td>
<td>• Feedback and Reinforcement</td>
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<tr>
<td>• CHW/ Navigator</td>
<td>• Awareness/ Perceptions</td>
<td>• Information</td>
<td>• Video testimonials of CHWs/Navigators discussing implementation benefits and challenges</td>
</tr>
<tr>
<td></td>
<td>• Outcome Expectations</td>
<td>• Persuasion</td>
<td>• SEMM Implementation inventory /Implementation Readiness checklist</td>
</tr>
<tr>
<td></td>
<td>• Skills &amp; Self-Efficacy</td>
<td>• Skill building</td>
<td>• Video/animated tutorial for CHWs</td>
</tr>
<tr>
<td></td>
<td>• Feedback and Reinforcement</td>
<td>• Guided practice</td>
<td>• CHW Training manual/curriculum</td>
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<td></td>
<td>• Technical assistance /Capacity building</td>
<td>• Computer assisted SEMM training scripts</td>
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<td>• Facilitation</td>
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<tr>
<td></td>
<td></td>
<td>• Vicarious reinforcement</td>
<td>• SEMM in-reach/outreach strategy toolkit</td>
</tr>
</tbody>
</table>

SEMM-DIA Implementation Strategy Components
Implementation Mapping Logic Model

**EBI**

*Salud En Mis Manos (SEMM)*

**Implementation Strategies**
- Methods
  - Goal setting
  - Skill building
  - Persuasion
  - Advance Organizers
  - Modeling
  - Tailoring
  - Facilitation

*Practical Applications*
- e-training manuals/curriculum/video lessons
- Learning community (ECHO)
- Testimonials
- Process map

**Determinants of SEMM Use**
- **Implementation**
  - Attitudes
  - Self-Efficacy/Skills
  - Outcome expectations
  - Normative Beliefs
  - Relative Advantage
  - Compatibility
  - Complexity
  - Trialability, Observability
  - Priority
  - Leadership
  - Program Champion
  - **Impel Climate Support**

**Tasks (Performance Objectives)**
- **Clinic Leadership Tasks**
  - PO1. Review SEMM program objectives, components, and notes relative advantages of implementing SEMM.
  - PO2. Evaluate current screening and vaccination rates and notes current need of SEMM.
  - PO3. Communicate & obtain buy-in from the Board.
  - PO4. Identify and delegate staff to implement SEMM.

**SEMM Outcomes**
- Implementation Outcomes
  - Fidelity
  - Reach

**Contextual factors**
- Clinic Climate, Culture, Readiness, Policy, Resources

**Outcomes**
- Improved Breast and Cervical Cancer Screening and HPV vaccination rates
The planned SEMM-DIA online decision support tool will provide implementation support to increase clinic general capacity to implement the program, and the implementers’ motivation and capacity to deliver SEMM. (Figure 3)
Enhancing the Impact of Implementation Strategies

The field of implementation science was developed to better understand the factors that facilitate or impede implementation and generate evidence for implementation strategies. In this article, we briefly review progress in implementation science, and suggest five priorities for enhancing the impact of implementation strategies. Specifically, we suggest the need for: (1) enhance methods for designing and tailoring implementation strategies; (2) specify and test mechanisms of change; (3) improve tracking and reporting of strategies; (4) conduct more effectiveness research; and (5) increase economic evaluations.

1) Enhance methods for designing and tailoring
2) Specify and test mechanisms of change
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Powell, Garcia, & Fernandez (2019)
Forthcoming Issue of Frontiers in Public Health

Implementation Mapping for Selecting, Adapting and Developing Implementation Strategies

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Thank You!

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