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The voice of world endoscopy

Establishing and scaling up FIT-based screening in Mexico

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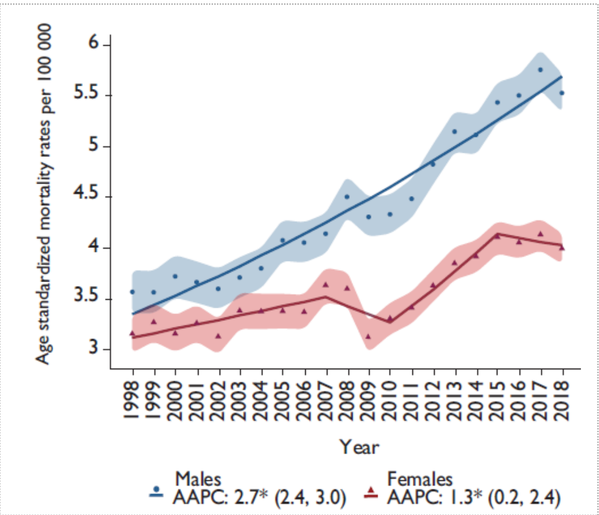
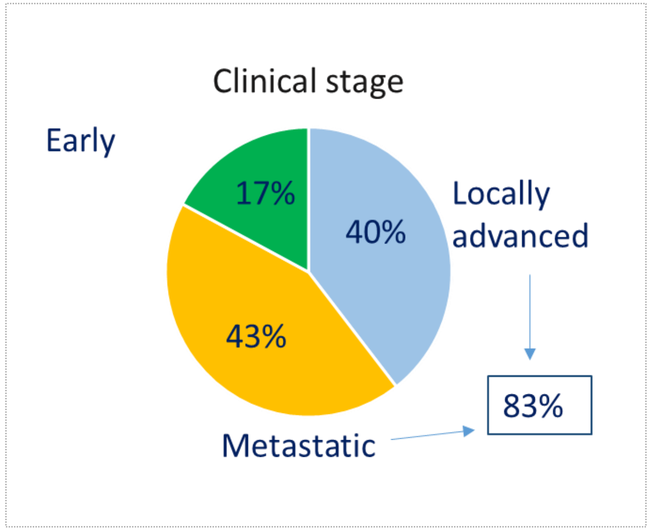
Colorectal cancer (CRC) burden in Mexico

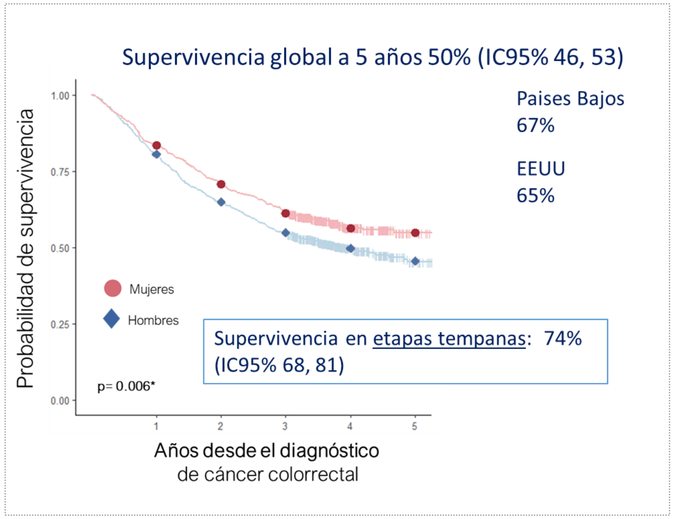
Leading cause of cancer mortality
3rd most common cancer
Mexico's population in 128M



Accelerated increase in colorectal cancer burden



Cancer detected in advanced stages



Poor overall survival

Espinosa-Tamez P et al., Salud Pub Mex 2022
GLOBOCAN, IARC 2024
Lozano S et al, unpublished

CRC screening is urgently needed

Initial experiences in CRC screening

Published OnlineFirst July 12, 2020; DOI: 10.1158/1940-6207.CAPR-20-0076

CANCER PREVENTION RESEARCH | RESEARCH ARTICLE

Fecal Immunologic Test Results and Diagnostic Colonoscopy in a Mexican Population at Average Risk for Colorectal Cancer

Maria Del Carmen Manzano-Robleda[1,5], Priscilla Espinosa-Tamez[2], Michael B. Potter[3], Martin Lajous[2,4], Katherine Van Loon[3], Li Zhang[3], Alejandro Jimenez-Peña[1,5], Julio Sánchez Del Monte[1,5], Alejandro Mohar[5], and Angélica Hernández-Guerrero[1,5]

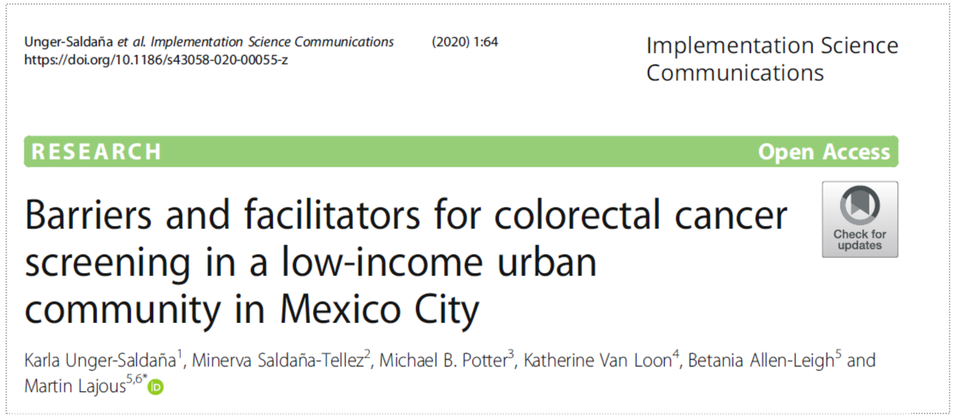
Family Practice, 2020, 1–4
doi:10.1093/fampra/cmz078

OXFORD

Epidemiology

Faecal immunochemical test-based colorectal cancer screening in Mexico: an initial experience

José María Remes-Troche[a], Gabriela Hinojosa-Garza[b], Priscilla Espinosa-Tamez[b], Arturo Meixueiro-Daza[a], Peter Grube-Pagola[c], Katherine Van Loon[d], Michael B. Potter[e] and Martin Lajous[b,f,*]



Unger-Saldaña *et al. Implementation Science Communications* (2020) 1:64
https://doi.org/10.1186/s43058-020-00055-z

Implementation Science Communications

RESEARCH Open Access

Barriers and facilitators for colorectal cancer screening in a low-income urban community in Mexico City

Karla Unger-Saldaña[1], Minerva Saldaña-Tellez[2], Michael B. Potter[3], Katherine Van Loon[4], Betania Allen-Leigh[5] and Martin Lajous[5,6*]

- Veracruz: 86% FIT return (6% >100ng/mL)
- Mexico City: 91% FIT return (15% ≥20ng/mL)
- Extensive reminders, intensive navigation, highly selected population

- Very low SES sub urban community
- **Barriers**: poverty, health literacy, limited clinical knowledge, perception of poor healthcare quality, fear, no risk perception
- **Facilitators**: info on screening, free of charge

Manzano-Robleda MC et al, **Cancer** Prev Res 2020
Remes-Troche JM et al, Fam Pract 2020
Unger-Saldaña Omp Sci Comm 2020

Screening is feasible, but not in all healthcare settings

Feasibility of population-based screening

Theory-based program co-designed with health authorities in clinical personnel.

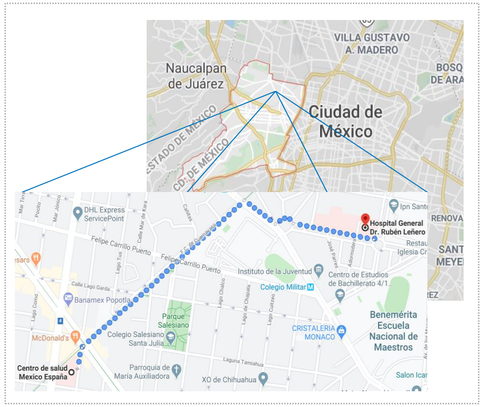
Community health workers involved in a door-to-door vaccination campaign for children offered FIT to eligible household members in central Mexico City.

We developed educational materials for patients and clinical personnel based on previously identified barriers.

Results

- Offered FIT to 178 eligible individuals
- Mean age 62 years, 36% men
- 74% accepted participation, 71% returned kit to health center, 21% ≥20ng/mL, 50% colonoscopy completion
- Healthcare personnel considered the program acceptable, pertinent, feasible; Participants found it acceptable

prevent cancer® FOUNDATION



Espinosa-Tamez, unpublished

Screening coupled to existing public health programs is feasible

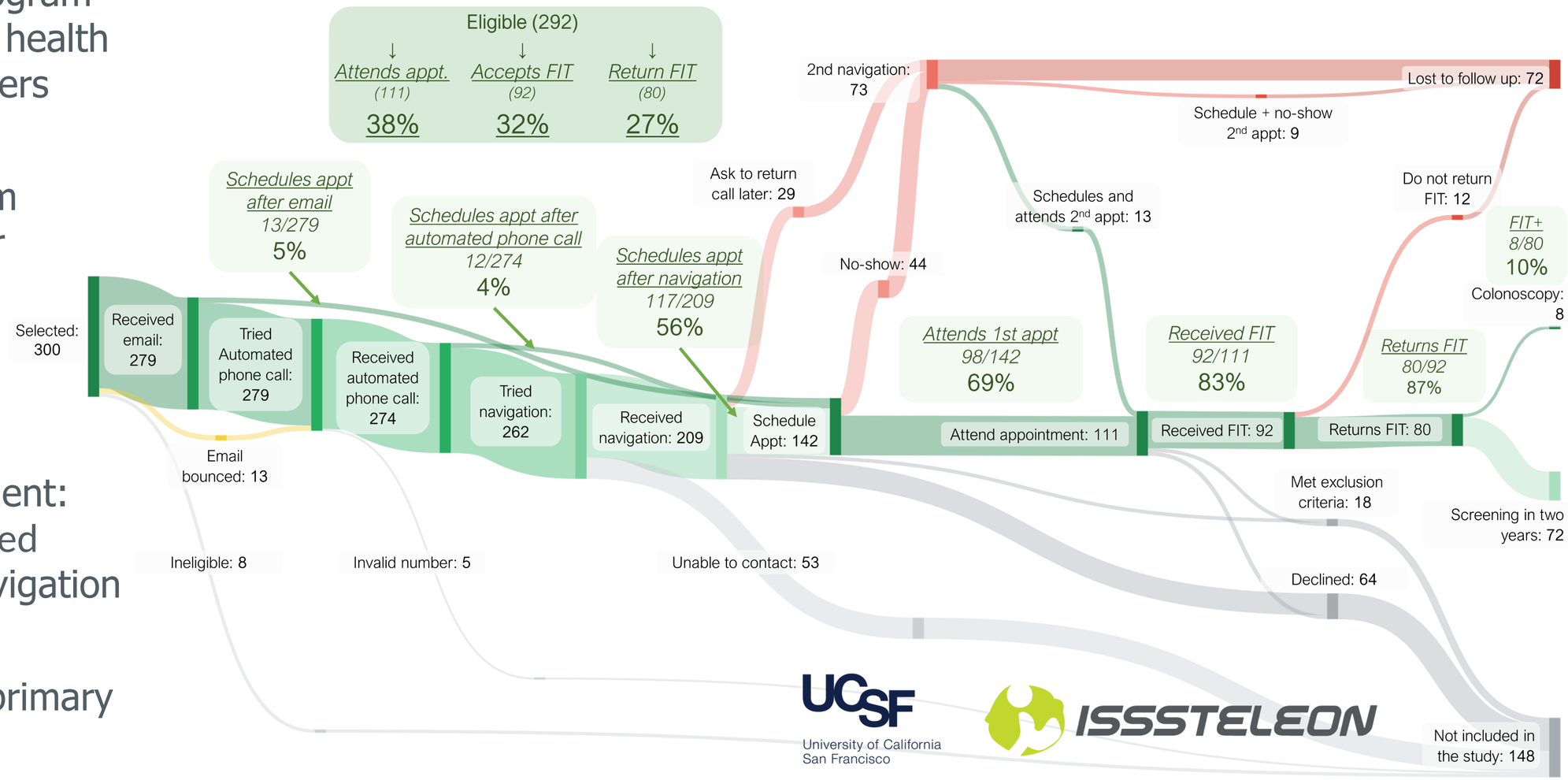
Feasibility in a health system

Theory-based program co-designed with health system stakeholders

Healthcare system providing care for 142,270 individuals in northern Mexico

Program recruitment: email → automated phone call → navigation

FIT provided by primary care doctor



UCSF University of California San Francisco

ISSSTELEON

Designed an acceptable, culturally appropriate, and feasible program

LISTOS for Cancer Control: Leveraging Implementation Science To Optimize Strategies for Cancer Control

- U54 to establish a Center to advance equitable uptake, use, and sustainment of effective cancer control interventions in Mexico and Latin America through implementation science research and capacity building
  - Under NCI's Global Implementation Science for Equitable Cancer Control Initiative
  - 3 other centers in Africa
  - Admin & Engagement and Research Capacity Building cores; Two research projects
- Research project: Adaptation and implementation of a colorectal cancer screening program
  - First rigorous application of implementation science methods for improving CRCS in Mexico.
  - Built on prior experience in ISSSTELeon funded by UCSF

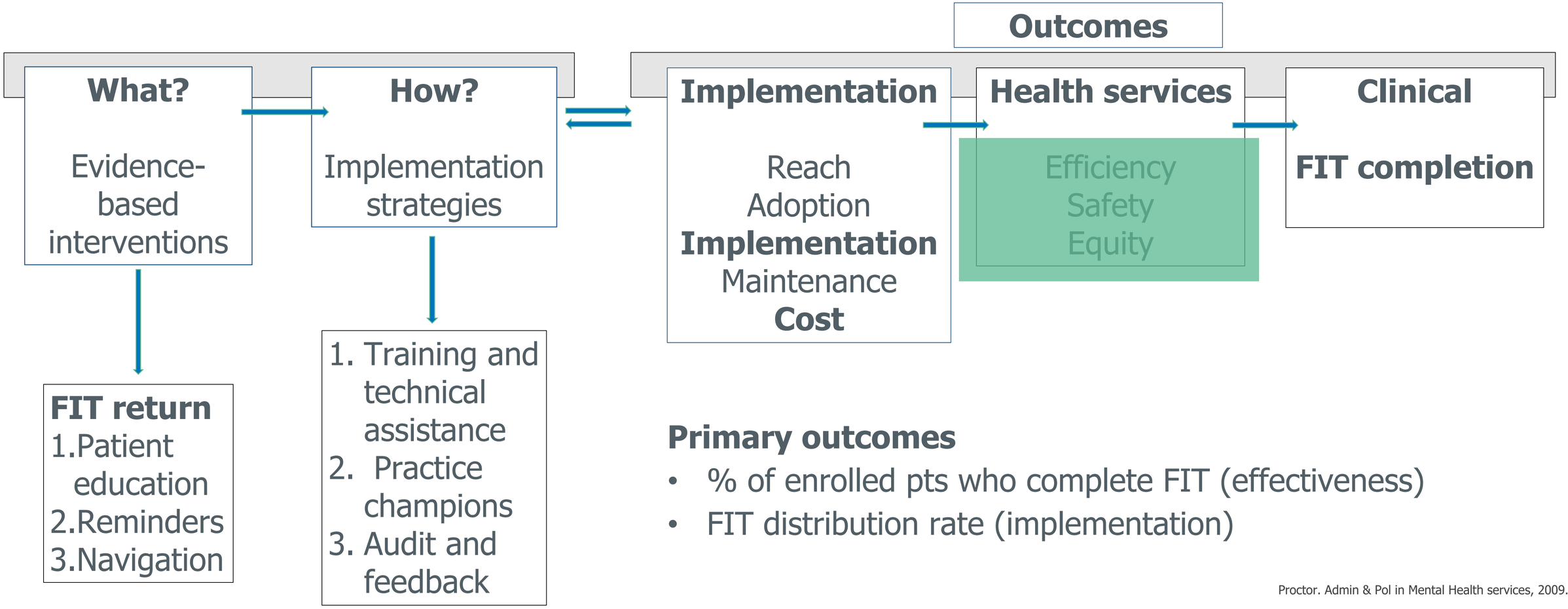
Instituto Nacional de Salud Pública

UTHealth Houston Institute for Implementation Science

UCSF University of California San Francisco

Likelihood of program development success has increased

Research questions



Primary outcomes

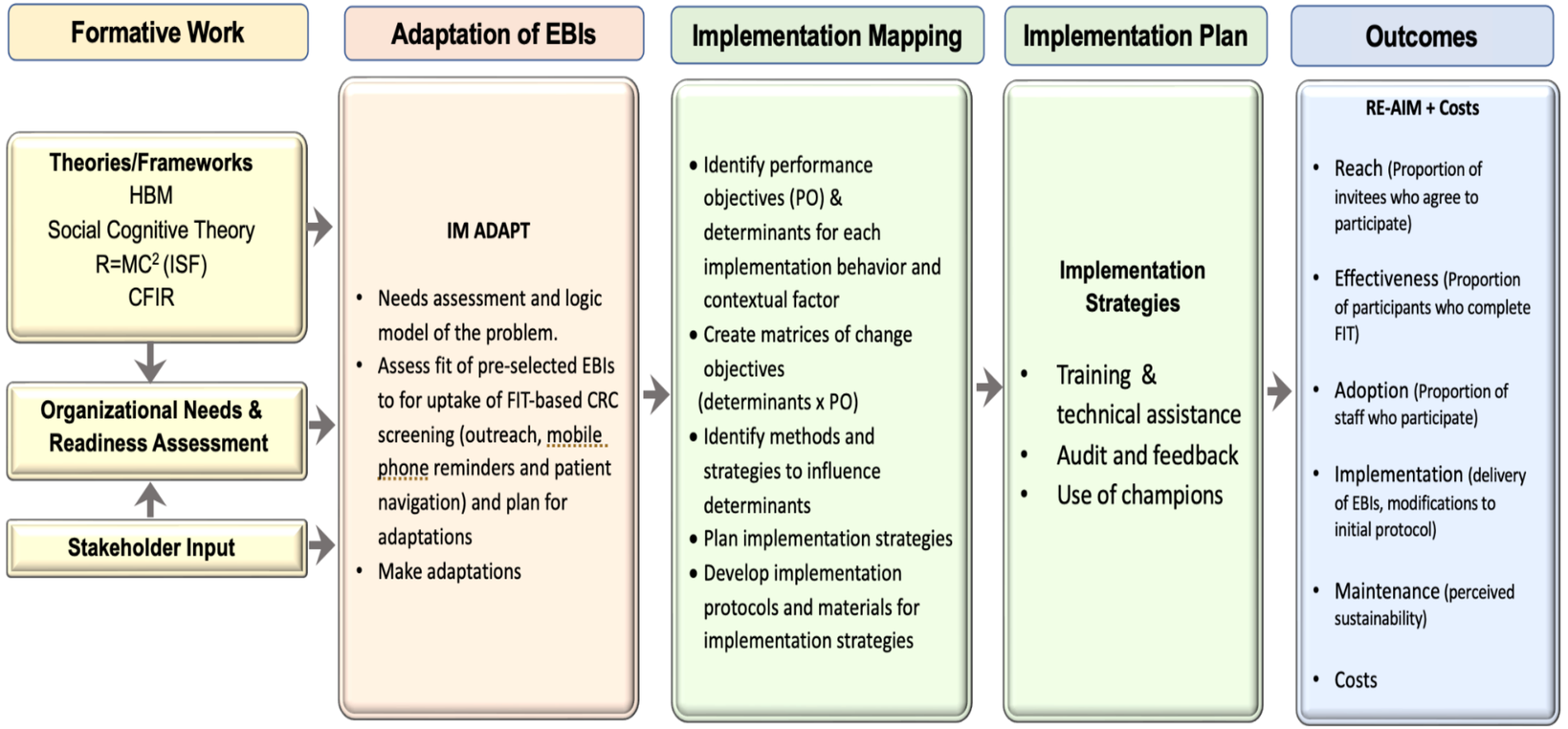
- % of enrolled pts who complete FIT (effectiveness)
- FIT distribution rate (implementation)

Proctor. Admin & Pol in Mental Health services, 2009.

Conceptual framework

Models and frameworks will provide guidance on adaptation, implementation outcomes, determinants, processes, and measures.

We will use Implementation Mapping to systematically plan the implementations strategies



Fernández ME et al, Frontiers in Public Health, 2019

1. Adapt EBI's and intervention strategies

- Adapt EBIs (evidence-based interventions) to the local context
  - EBIs: Provision of FIT and patient education, telephone navigation, patient reminders through mobile phone text messaging to encourage FIT return
  - IM ADAPT, a systematic process based on Intervention Mapping, will be used

- Design implementation strategies to support of the adapted EBIs
  - Initial selection of implementation strategies: Training and Technical Assistance, Practice Champions, and Audit and Feedback

2. Evaluate the effectiveness and implementation

- Evaluate EBI effectiveness of the adapted EBIs in a 3-arm RCT

  Arm 1: FIT distribution + pt education; Arm 2: Arm 1 + pt reminders + pt navigation; Arm 3: Arm 1 +pt reminders

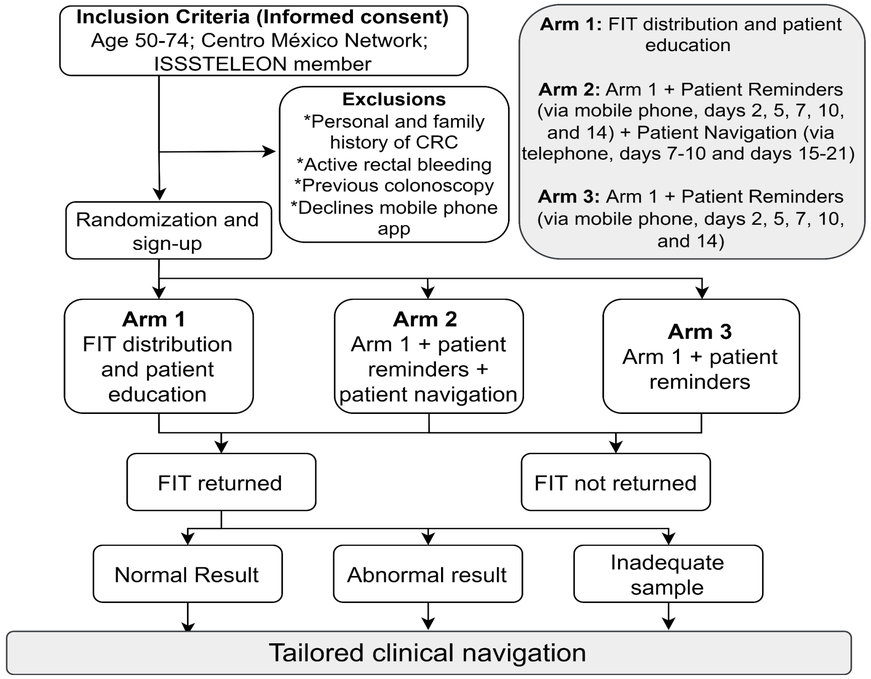
- Evaluate the impact of implementation strategies on implementation outcomes using an interrupted time series

  Phase 1: Training for program implementers; Phase 2: 12 months after Phase 1 deployment of practice champions and audit and feedback

2. Evaluate the effectiveness and implementation

Randomized trial

Figure 5. Study Flow Diagram



Implementation outcomes

Table 2. Sample RE-AIM outcomes and Data Sources

	Measures	Data Sources
Reach	Proportion of ISSSTELEON members invited who agree to participate, by gender and age	Outreach activity reports, recruitment records
Effectiveness	**Proportion of enrolled participants who completed FIT 60 days after randomization (primary EBI effectiveness outcome)**	Recruitment records, EHR
Adoption	Proportion of staff recruited/assigned to participate, and characteristics of participating and nonparticipating staff.	Recruitment records, Staff Surveys, KIIs
Implementation	**FIT distribution rate (primary implementation outcome)**	Recruitment records, EHR
	Fidelity to and adaptations of CRCS EBI protocols	Field notes, reminder and navigation logs
	Fidelity to and adaptations of EBI implementation strategies	Field notes, staff surveys, KIIs
	Change in organizational readiness	Staff Surveys, KIIs
Maintenance	Health promotion and clinical staff willingness to continue to participate in CRC screening	Staff Surveys, KIIs
	Perceived sustainability by ISSSTELEON leadership and implementers	KIIs

3. Estimate cost associated with EBIs and implementation strategies

- Micro-costing approach from the health system's perspective
- Development of a costing framework

  Resource use in all the implementation levels (patient, provider, or health institution) and sublevels (outreach, primary health clinics, hospitals, and ISSSTELEON's central office) specified
- Estimation of direct costs

  Per arm; per input category (e.g. staff, supplies); exclusive to screening and shared services; direct observation of staff time use
- Economic evaluation and scaling-up costs

  Incremental cost-effectiveness analysis; budgetary impact of different scaling-up scenarios

Initial ideas on scaling-up

- ISSSTELeon as a model for larger health systems in Mexico
  - ISSSTELeon is modeled after the Mexican Institute for Social Security (52M people covered)

- Consider a resource-stratified approach
  - Understand and evaluate availability of resources and institutional readiness
  - Define population at ↑ risk for targeted screening: age group; family history; risk prediction modeling
  - Define program: early diagnosis → early diagnosis + targeted screening → targeted screening → organized screening

Research team

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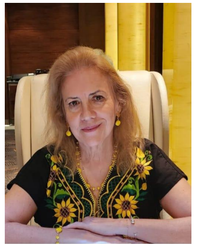

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Gracias

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