Utilizing an Implementation Science Lens to Optimize Urban HIV Responses

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Outline

• What is and why use implementation science to guide your work
• Stakeholder engagement
• Target implementation gaps
• Real-world examples
  – Biskhek, Kyrgyzstan – Fast Track City Implementation
  – Ukraine
  – Lima, Peru
Word Cloud: Terminology for Dissemination & Implementation Research

Research Gap from Evidence to Practice

.... and this is for the 14% of evidence-based practices that actually make it!

Effective use of Implementation Science & Practice

IMPLEMENTATION TEAM

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No

14%, 17 Yrs

Balas & Boren, 2000
Implementation Science

- **Definition**: The scientific study of *methods* to promote the systematic uptake of research findings and other evidence-based interventions into routine practice to improve the quality and effectiveness of health services and care.

- Implementation is part of a diffusion-dissemination-implementation continuum.
  - **Diffusion**: the passive, untargeted and unplanned spread of new practice
  - **Dissemination**: the active spread of new practices to a target audience using planned strategies
  - **Implementation**: the *process* of putting to use (e.g., scaling up) or integrating new practices within a setting

- A combination of several theories, models & frameworks.
  - Now >100 theoretical frameworks to guide the science of implementation
Interventions vs. Implementation Strategies

• The evidence-based intervention / practice / innovation is THE THING (e.g., ART, PrEP)

• Implementation strategies are the stuff we do to try to help people/places DO THE THING (e.g., facilitate, mHealth, same-day ART)

• Main implementation outcomes are HOW WELL they DO THE THING (e.g., close the implementation gap or scale up)

- Courtesy Geoff Curran
Making Sense of Implementation Theories, Models and Frameworks

- Knowledge to Action
- CFIR
- i-PARiHS
- Diffusion of Innovation
- Org Climate Readiness
- RE-AIM
- EPIS

Helping Navigate Dissemination and Implementation Models

The D&I Models Webtool is an interactive, online resource designed to help researchers and practitioners navigate D&I Models through planning, selecting, combining, adapting, using, and linking to measures.

Access The D&I Models Webtool Here!

Plan → Select → Combine → Adapt → Use → Measure

https://dissemination-implementation.org
In sum ..... we become systems engineers!

Faster!

Cheaper!

Better!

Forsberg K & Mooz H, Center for Systems Management, 1998
Practical Implementation and Implementation Science

• There can be tension between those who are doing the actual real-world implementation and those who are studying it or facilitating it

• Tensions can occur between multiple stakeholders (e.g.)
  – Funders and implementers
  – Implementers and targets (e.g., patients, clinicians)

• Outcomes are optimized when there are synergies between implementers and researchers
  – Creating synergies is key and is an active process

• Coordination between stakeholder groups (ideally community informed or led)
  – Aligning the benefits and the goals
Four Key Ingredients in Implementation Research

- Implementation Questions
- Implementation Research Team
- Community Partners
- Theories, Models, & Frameworks
Community Partners to Guide the Research Team

Increasing Level of Community Involvement, Impact, Trust, and Communication Flow

Outreach  Consult  Involve  Collaborate  Shared Leadership
Target Implementation Gaps – Understand Context

- Extend life
- Reduce transmission

Identify key populations
Reach key populations
Test key populations
Diagnose PLHIV
Enroll in care
Initiate ART
Sustain on ART
Suppress viral loads

Prevention
Bishkek, Kyrgyzstan
Percent Change in New HIV cases: 2010 to 2020

- 48% deaths
- 11% new cases

Kyrgyzstan: +19% deaths; +32% new cases
Kyrgyzstan Treatment Cascades

**HIV and Opioid Use Disorder**

- 62% of PWH are PWID
- 33% of PWH on ART
- 14.3% of PWID have HIV
- 5.8% of Total PWID on OAT
Patients on Methadone (2016-2021)

What are the opportunities to reverse this trend?

- Doubtful that opioid use has disappeared
- Major opioid routes with increased transit
- HIV cases and death remain on the increase
Evidence-Based Strategies to Prevent HIV Transmission in PWID

- Opioid Agonist Therapy
- Treatment as Prevention
- OST Coverage (>20%)
- SSP Coverage (>200 per year)
- Syringe Services Programs
- Pre-Exposure Prophylaxis
- HIV TasP
- PrEP
EPIS Framework
Exploration–Preparation-Implementation-Sustainment

UNDP
CDC
RNC
Etc

AFEW
Yale

OAT
Staff
Patients

OAT
Delivery

Leadership
Service Environment/Policies
Funding/Contracting
Inter-organizational environment and networks
Patients/client characteristics
Patients/client advocacy

Community academic partnerships
Purveyors/Intermediaries

Innovation/EBP fit: system, organization, provider, patient/client
Innovation/EBP developers
Innovation/EBP characteristics

Leadership
Organizational characteristics
Quality and fidelity monitoring/support
Organizational staffing processes
Individual characteristics

Moullin JC, Implement Sci 2019
NIATx Treatment Improvement Model

- A bundle of implementation tools that include expert facilitation (coaching) and quality process improvement specifically for behavioral healthcare settings to improve access and retention in treatment
  - Rapid assessment of barriers (nominal group technique)
  - Flow-charting

- Five principles include:
  - 1) understand and involve the customer;
  - 2) fix key problems;
  - 3) pick a powerful change leader;
  - 4) get ideas from outside the organization or field;
  - 5) use rapid-cycle (PDSA) testing to document changes.

See www.NIATX.net
Exploring Barriers and Facilitators to Implementation

Nominal Group Technique
Barriers to Methadone Scale-up
Nominal Group Technique

**Group 1**
- Inaccurate information about methadone (5)
- Low motivation by patients for treatment (5)
- Myths about methadone (3)
- Registration procedures (3)
- Prison "caste" system (3)
- Stigma towards methadone clients (2)
- Medical comorbidities (2)
- Need for family support (1)
- Geographic limitations
- Healthcare system stigma

**Group 2**
- Stigma towards methadone (7)
  - Prison "caste" system (3)
- Myths about methadone (5)
- Registration procedures (4)
  - Documents required
- Uncertainty about future (1)
- Daily supervision
- How long to remain in treatment
- Low public awareness
- Policing near methadone program
- How methadone patients appear
Patient-Perceived Barriers to Methadone

- Bad reputation of methadone program (N=7)
- Too many logistical barriers for entry (N=5)
- Methadone is trading one addiction for another (N=4)
- Unclear expectations of program (expected cure) (N=4)
- Rigid policies for supervision/limited hours (N=4)
- Treated poorly by doctors (N=3)
- Interfered with their work (N=2)
- Not supported by families (N=1)
- A place to go to as a last resort
Implementation Tools - NIATx

- Flow Charting
- NGT
- Stimulus Lectures
Understanding and Involving the Customer

Funders

Site Visit

Site Visit

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Collaborative Learning and Team Building
Reduce Waiting Times

Reduce No Shows

Increase Entry into OAT

Reduce OAT Dropout

Improved OAT Outcomes

Plan

Act

Do

Study

Rapid Cycle Change Projects

⇧ 1° & 2° HIV Prevention & QoL;
⇩ addiction severity & drug use

NIATx Treatment Model
OAT Retention and Dosing: Kaplan Meier SCs

< 40 mg  40 – 85 mg  >85 mg

>95%  80%  70%

6 months

85%  65%  40%

3 years
Linkage to Methadone After Release From Prison (N=649)

- Low (N=335): 52%
- Medium (N=231): 36%
- High (N=83): 12%

Bachireddy C, IJDP, 2022
Opportunities for Change Projects

• **Planned change projects**
  – Increase the proportion of patients on 90mg or more per day
    • Community and prison settings
  – Focus on patients who are on the "standby" list
  – Supplemental counseling for positive drug tests
  – Work to support families
  – Increase proportion who are HIV tested
  – Enhance transition from prison to communities
OAT Patients: New Admissions vs Dropouts

Opportunity: What Happened During COVID that resulted in fewer dropouts while new admissions stayed about the same?

Increased Take-home dosing
Preliminary Outcomes

• OAT increased by 8% in Bishkek but continued to drop outside of Bishkek

• Change projects that achieved the best results:
  – Enhanced treatment in prisons and linkage to the community
  – Enhanced dosing strategies
  – Maintained patients on take-home dosing
  – Quick-start dosing → logistical work-up after stabilization

• Implementation products
  – Educational tools for patients and families

• Bridging Factors
  – Global Fund and CDC adopted performance indicators and P4P
  – New guidelines developed with fewer demands on patients and providers
  – Now planning to work throughout 3 countries in Central Asia
OAT Scale-up in Ukraine – COVID-19 as a Disruptor

- Weekly coaching
- Stimulus guidance
  - Safe transition to take-homes
  - Tele-communication
  - Adequate dosing

COVID-19
Order 200 Changed
BMT Started
MMT Started

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NEW Admission Rate (Entry) by Month by Three Clusters after Order 200 Changed

- Engaged Collaborators
- Risk Takers
- Delayed Adopters

Not all sites implement equally
Dropout Rate by Month by Clusters After Order 200 Changed

- Delayed Adopters
- Risk Takers
- Engaged Collaborators
Extending a lifeline to people with HIV and opioid use disorder during the war in Ukraine

Prof Frederick L Altice, MD • Daniel J Bromberg, MSc • Sergii Dvoriak, MD • Anna Meteliuk, MPH • Iryna Pykalo, MPH • Zahedul Islam, MBA • Lyu Azbel, PhD • Lynn M Madden, PhD

February 24, 2022

Lancet Public Health, 2022

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OAT Scale-Up After the Invasion by Russia

Take-home dosing
82% → 93%

February 24
Invasion

Number of Patients on Treatment

Feb-1 17232
Mar-1 16374

2022
Altice FL, Lancet Psych, 2022
Slava Ukraini!