Technology Intervention Framework: A practice-based approach to understanding digital health interventions

Community Working Session #1

14 September 2023

Welcome! Please introduce yourself in the chat.

HIV Treatment Continuity Technology Intervention Framework (TIF)

v0.3

> ⚠ This copy is a work in progress. The interactions described are a moment in time snapshot of the interventions that are being used to help HIV patients stay in treatment. To provide input or feedback see
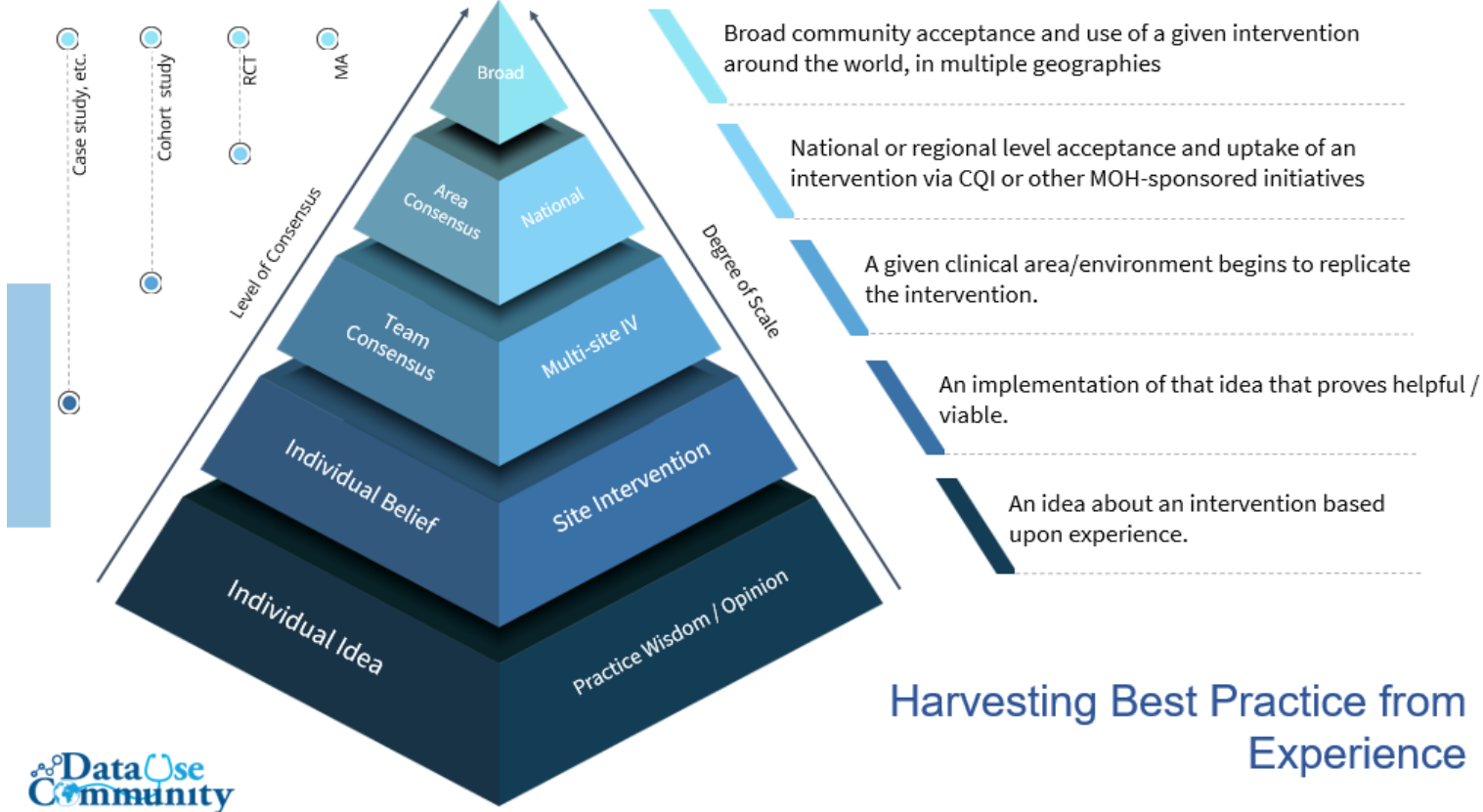> 📄 **How to Provide Feedback and Input on the TIF and Toolkit**

HIV TIF Framework Overview and Structure

The TIF was created as a way to describe the technology interventions for HIV retention in care. The TIF is a snapshot of the intervention in time as described. The framework for cataloging interventions is intended to be applicable to broader topics.

Why are we here?

- Kickstart a series of community working sessions to iteratively refine the TIF with community input
  - Share, Engage, Learn!

Background: Technology Intervention Framework (TIF)

- **<u>The Situation</u>**: Multiple technology-based interventions and approaches for a given health issue

  - Since 2021, 25 DUC community events showcasing various digital health interventions supporting HIV treatment continuity

- **<u>The Problem</u>**: Difficult to understand the implementation considerations and impact of these interventions due to lack of shared language/perspective of assessing technical attributes and capabilities

- **<u>The Solution</u>**: Technology Intervention Framework (TIF) offers a practice-based approach to bring together different pieces via shared understanding and common language to describe implementer approaches/technical attributes for addressing the same health challenge

What is the TIF?

- Offers decision-makers a framework to examine the **intersection of data exchange and clinical/public health touchpoints, and the technology interventions** available to support this.

  – Touchpoints can be a point of interaction between parties involved in care delivery at the individual- and systems-level

    > Individual → Patient and Health System (e.g. patient information collected via EMR during visit registration)

    > System → System and Health System (e.g. facility-level EMR transmitting data to the national data repository)

- Surfaces common digital health interventions/technical attributes for the same health challenge

- Provides practice-based approach for assessing digital health interventions – reducing time and resources needed to assess impact and technical pain points

  – Support peer-to-peer learning via sharing of best practices and lessons learned using common language to describe technical approaches

Use Case #1: HIV Treatment Continuity

Before Interaction

- Pre-Appointment Support
- Population-Based Scheduling
- Congestion Redistribution

During Interaction

- Proactive Adherence Counseling
- Reactive Adherence Counseling
- Visit Management

After Interaction

- Anticipatory Guidance

RETENTION IN CARE

INITIATION IN CARE

SUSTAIN ON ART
UNDETECTABLE VIRAL LOAD

Data Indicators of Leaks
- Missed Appointments
- Missed Dispensing
- Clinic Wait Times

Potential Causes
- Silent Transfers
- Patient Deceased
- Clinic Wait Times
- Poor Care Quality
- Low Patient Satisfaction
- Data Quality Issues/Gaps

Missed Interaction

- Missed Appointment Reminder
- Intensive Outreach
- Targeted Adherence Support

Knowledge Sharing: TIF Repository of Digital Health Interventions

Additional interventions documented found here: TIF GitBook Page: HIV Treatment Continuity Technology Intervention Framework (TIF) - Data Use Community (ohie.org)
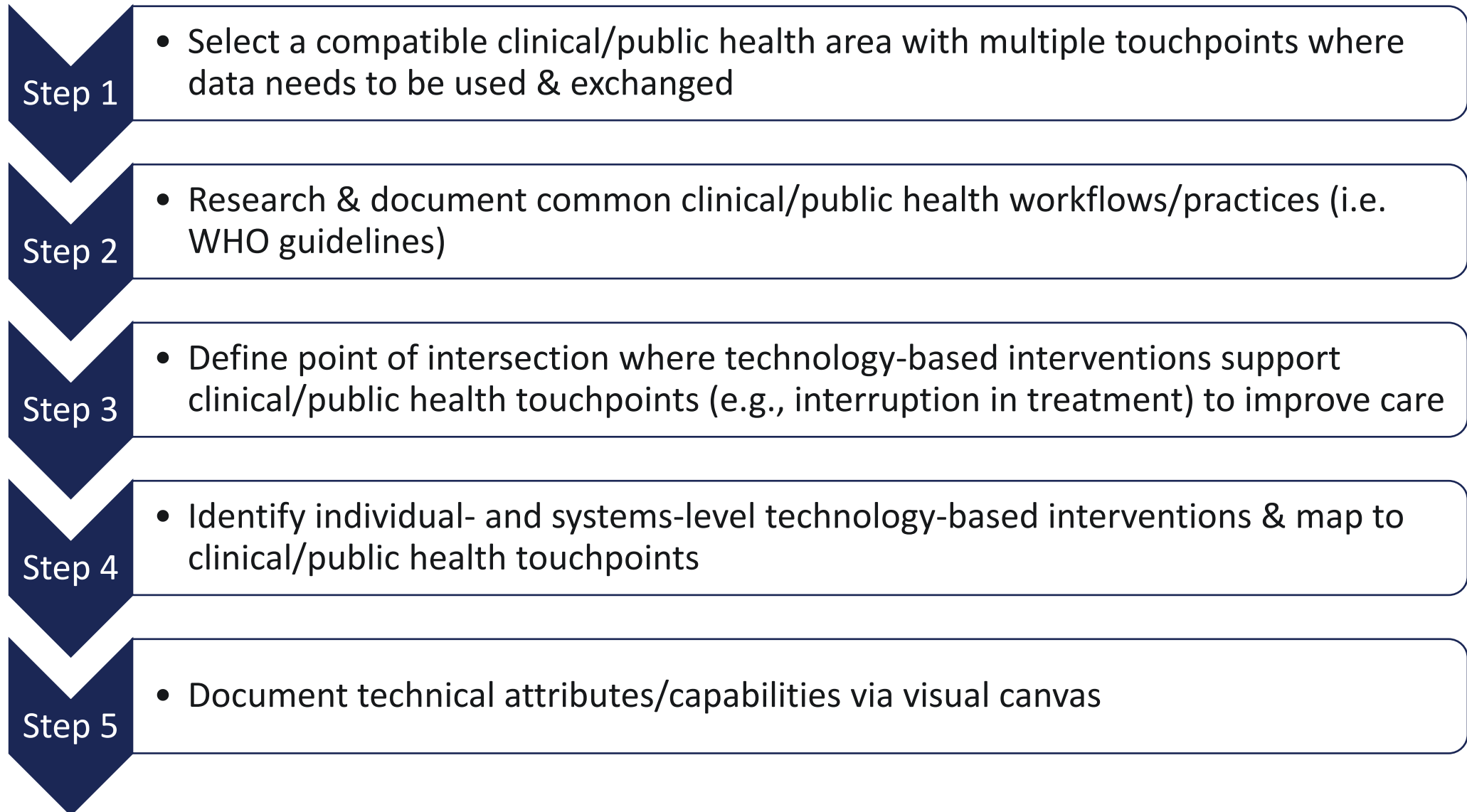
What is the TIF?

- **What the TIF is**
  - A tool for surfacing common digital health interventions for a given health challenge
  - A tool for comparing and contrasting data/digital interventions
  - Framework for understanding implementer approaches through agreeing on a common language to communicate/examine technology interventions
  - Resource to assess trends and synthesizing practice-based evidence
- **What the TIF is not**
  - A tool that describes the entire clinical cascade
  - Formal conceptual model or an academic model
  - Resource that describes data/information flows
  - Inclusive of all interventions

TIF Methodology

Step 1
- Select a compatible clinical/public health area with multiple touchpoints where data needs to be used & exchanged

Step 2
- Research & document common clinical/public health workflows/practices (i.e. WHO guidelines)

Step 3
- Define point of intersection where technology-based interventions support clinical/public health touchpoints (e.g., interruption in treatment) to improve care

Step 4
- Identify individual- and systems-level technology-based interventions & map to clinical/public health touchpoints

Step 5
- Document technical attributes/capabilities via visual canvas

Model Canvas 0.2

Data Elements

Data elements required to support the intervention.

May include data elements produced by the intervention.

Evidence

Information about effectiveness, costs...

Technology & Interoperability

-Type of digital health asset it's implemented in

Infrastructure required to support the intervention

-Which systems it needs to interact with

-Standards required

Calculations/Algorithms

Information about how specific data elements are calculated (for example, a patient determined to be "low-risk" for X)

Factors to Reach Scale

- Current scale/status (eg # of sites, messages, etc)
- Challenges for reaching scale

Implementation Considerations

- Description of the optimal environment
- Context needed to be successful
- Potential pitfalls
- Technology penetration
- Language considerations
- Workforce training needed

Governance Considerations

- Privacy & Security concerns/processes needed
- Description of consent needed
- Data use/sharing agreements

Questions?