Supplemental File 2.

*Implementation Determinants Codebook*

<table>
<thead>
<tr>
<th>Parent code</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFIR Determinant</td>
<td></td>
</tr>
<tr>
<td>Innovation Characteristics (Implementation Determinants)</td>
<td>1.1.x: Innovation Source</td>
</tr>
<tr>
<td>Innovation Characteristics (Innovation Determinants)</td>
<td>1.1.y: Innovation Source</td>
</tr>
<tr>
<td>Innovation Characteristics (Implementation Determinants)</td>
<td>1.2.x: Evidence-Base</td>
</tr>
<tr>
<td>Innovation Characteristics (Innovation Determinants)</td>
<td>1.2.y: Evidence Base</td>
</tr>
<tr>
<td>Innovation Characteristics (Implementation Determinants)</td>
<td>1.3.x: Relative Advantage</td>
</tr>
<tr>
<td>Innovation Characteristics (Innovation Determinants)</td>
<td>1.3.y: Relative Advantage</td>
</tr>
<tr>
<td>Innovation Characteristics (Implementation Determinants)</td>
<td>1.4.x: Adaptability</td>
</tr>
<tr>
<td>Innovation Characteristics (Innovation Determinants)</td>
<td>1.4.y: Adaptability</td>
</tr>
<tr>
<td>Innovation Characteristics (Implementation Determinants)</td>
<td>1.5.x: Trialability</td>
</tr>
<tr>
<td>Innovation Characteristics (Innovation Determinants)</td>
<td>1.5.y: Trialability</td>
</tr>
<tr>
<td>Innovation Characteristics (Implementation Determinants)</td>
<td>1.6.x: Complexity</td>
</tr>
<tr>
<td>Innovation Characteristics (Innovation Determinants)</td>
<td>1.6.y: Complexity</td>
</tr>
<tr>
<td>Innovation Characteristics (Implementation Determinants)</td>
<td>1.7.x: Design</td>
</tr>
<tr>
<td>Innovation Characteristics (Innovation Determinants)</td>
<td>1.7.y: Design</td>
</tr>
<tr>
<td>Innovation Characteristics (Implementation Determinants)</td>
<td>1.8.x: Cost</td>
</tr>
<tr>
<td>Innovation Characteristics (Innovation Determinants)</td>
<td>1.8.y: Cost</td>
</tr>
<tr>
<td>Innovation Characteristics (Implementation Determinants)</td>
<td>1.9.x: Other Innovation Characteristics</td>
</tr>
<tr>
<td>Innovation Characteristics (Innovation Determinants)</td>
<td>1.9.y: Other Innovation Characteristic</td>
</tr>
<tr>
<td>Outer Setting (Implementation Determinants)</td>
<td>2.1.x: Critical Incidents</td>
</tr>
<tr>
<td>Outer Setting (Innovation Determinants)</td>
<td>2.1.y: Critical Incidents</td>
</tr>
<tr>
<td>Outer Setting (Implementation Determinants)</td>
<td>2.2.x: Local Attitudes</td>
</tr>
<tr>
<td>Outer Setting (Innovation Determinants)</td>
<td>2.2.y: Local Attitudes</td>
</tr>
<tr>
<td>Outer Setting (Implementation Determinants)</td>
<td>2.3.x: Local Conditions</td>
</tr>
<tr>
<td>Outer Setting (Innovation Determinants)</td>
<td>2.3.y: Local Conditions</td>
</tr>
<tr>
<td>Outer Setting (Implementation Determinants)</td>
<td>2.4.x: Partnerships &amp; Connections</td>
</tr>
<tr>
<td>Outer Setting (Implementation Determinants)</td>
<td>2.5.x: External Pressure</td>
</tr>
<tr>
<td>Outer Setting (Innovation Determinants)</td>
<td>2.5.y: Partnerships &amp; Connections</td>
</tr>
<tr>
<td>Outer Setting (Implementation Determinants)</td>
<td>2.5a.x: Market Pressure</td>
</tr>
<tr>
<td>Outer Setting (Implementation Determinants)</td>
<td>2.5b.x: Societal Pressure</td>
</tr>
<tr>
<td>Outer Setting (Innovation Determinants)</td>
<td>2.5b.y: Societal Pressure</td>
</tr>
<tr>
<td>Outer Setting (Implementation Determinants)</td>
<td>2.6.x: Policies &amp; Laws</td>
</tr>
<tr>
<td>Outer Setting (Innovation Determinants)</td>
<td>2.6.y: Policies &amp; Laws</td>
</tr>
<tr>
<td>Outer Setting (Implementation Determinants)</td>
<td>2.6.x: Financing</td>
</tr>
<tr>
<td>Outer Setting (Innovation Determinants)</td>
<td>2.6.y: Financing</td>
</tr>
<tr>
<td>Outer Setting (Implementation Determinants)</td>
<td>2.6d.x: Performance-Measurement Pressure</td>
</tr>
<tr>
<td>Outer Setting (Implementation Determinants)</td>
<td>2.7.x: Structural/Systemic Oppression</td>
</tr>
<tr>
<td>Outer Setting (Innovation Determinants)</td>
<td>2.7.y: Structural/Systemic Oppression</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.1: Structural Characteristics</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.1a: Physical Infrastructure</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.1b: Information Technology Infrastructure</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.1c: Work Infrastructure</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.2: Relational Connections</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.2a: Relational Connections</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.2b: Communication</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.3: Culture</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.3a: Equity-Centeredness</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.3b: Recipient-Centeredness</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.3c: Deliverer-Centeredness</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.3d: Learning-Centeredness</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.4: Tension for Change</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.5: Compatibility</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.6: Relative Priority</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.7: Incentive Systems</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.8: Mission Alignment</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.9: Available Resources</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.9a: Funding</td>
</tr>
<tr>
<td>Inner Setting</td>
<td>3.9b: Space</td>
</tr>
</tbody>
</table>
Inner Setting 3.9: Available Resources

Characteristics of Individuals (Innovation Determinants)
4.1.a.x: High-Level Leaders
Characteristics of Individuals
4.1.a.y: High-Level Leaders
Characteristics of Individuals (Innovation Determinants)
4.1.i.x: Innovation Recipients
Characteristics of Individuals (Implementation Determinants)
4.1.a.x: High-Level Leaders
Characteristics of Individuals (Innovation Determinants)
4.1.a.y: Innovation Recipients
Characteristics of Individuals (Implementation Determinants)
4.1.a.a.x Need
Characteristics of Individuals (Innovation Determinants)
4.1.a.a.y: Characteristics Not Associated with Behavior
Characteristics of Individuals (Implementation Determinants)
4.1.a.b.x Capability/Self-Efficacy
Characteristics of Individuals (Innovation Determinants)
4.1.a.b.y: Characteristics Not Associated with Behavior
Characteristics of Individuals (Implementation Determinants)
4.1.a.c.x Opportunity
Characteristics of Individuals (Innovation Determinants)
4.1.a.c.y: Characteristics Not Associated with Behavior
Characteristics of Individuals (Implementation Determinants)
4.1.a.d.x Motivation
Characteristics of Individuals (Innovation Determinants)
4.1.a.d.y: Characteristics Not Associated with Behavior
Characteristics of Individuals (Implementation Determinants)
4.1.a.e.x: Characteristics Not Associated with Behavior
Characteristics of Individuals (Innovation Determinants)
4.1.a.e.y: Characteristics Not Associated with Behavior
Characteristics of Individuals (Implementation Determinants)
4.1.b.x: Mid-Level Leaders
Characteristics of Individuals (Innovation Determinants)
4.1.b.y: Mid-Level Leaders
Characteristics of Individuals (Implementation Determinants)
4.1.b.a.x Need
Characteristics of Individuals (Innovation Determinants)
4.1.b.a.y: Characteristics Not Associated with Behavior
Characteristics of Individuals (Implementation Determinants)
4.1.b.b.x Capability/Self-Efficacy
Characteristics of Individuals (Innovation Determinants)
4.1.b.b.y: Characteristics Not Associated with Behavior
Characteristics of Individuals (Implementation Determinants)
4.1.b.c.x Opportunity
Characteristics of Individuals (Innovation Determinants)
4.1.b.c.y: Characteristics Not Associated with Behavior

Characteristics of Individuals (Innovation Determinants)
4.1.a.x: High-Level Leaders
Characteristics of Individuals (Innovation Determinants)
4.1.a.y: High-Level Leaders
Characteristics of Individuals (Implementation Determinants)
4.1.a.a.x Need
Characteristics of Individuals (Innovation Determinants)
4.1.a.a.y: Characteristics Not Associated with Behavior
Characteristics of Individuals (Implementation Determinants)
4.1.a.b.x Capability/Self-Efficacy
Characteristics of Individuals (Innovation Determinants)
4.1.a.b.y: Characteristics Not Associated with Behavior
Characteristics of Individuals (Implementation Determinants)
4.1.a.c.x Opportunity
Characteristics of Individuals (Innovation Determinants)
4.1.a.c.y: Characteristics Not Associated with Behavior
Characteristics of Individuals (Implementation Determinants)
4.1.a.d.x Motivation
Characteristics of Individuals (Innovation Determinants)
4.1.a.d.y: Characteristics Not Associated with Behavior
Characteristics of Individuals (Implementation Determinants)
4.1.a.e.x: Characteristics Not Associated with Behavior
Characteristics of Individuals (Innovation Determinants)
4.1.a.e.y: Characteristics Not Associated with Behavior
Characteristics of Individuals (Implementation Determinants)
4.1.b.x: Mid-Level Leaders
Characteristics of Individuals (Innovation Determinants)
4.1.b.y: Mid-Level Leaders
Characteristics of Individuals (Implementation Determinants)
4.1.b.a.x Need
Characteristics of Individuals (Innovation Determinants)
4.1.b.a.y: Characteristics Not Associated with Behavior
Characteristics of Individuals (Implementation Determinants)
4.1.b.b.x Capability/Self-Efficacy
Characteristics of Individuals (Innovation Determinants)
4.1.b.b.y: Characteristics Not Associated with Behavior
Characteristics of Individuals (Implementation Determinants)
4.1.b.c.x Opportunity
Characteristics of Individuals (Innovation Determinants)
4.1.b.c.y: Characteristics Not Associated with Behavior

Characteristics of Individuals (Implementation Determinants)
4.1b.x: Mid-Level Leaders
Characteristics of Individuals (Innovation Determinants)
4.1b.y: Mid-Level Leaders
Characteristics of Individuals (Implementation Determinants)
4.1c.x: Opinion Leaders
Characteristics of Individuals (Innovation Determinants)
4.1c.y: Opinion Leaders
Characteristics of Individuals (Implementation Determinants)
4.1d.x: Implementation Facilitators
Characteristics of Individuals (Innovation Determinants)
4.1d.y: Implementation Facilitators

4.1b.d.x Motivation
4.1b.d.y Motivation
4.1b.e.x: Characteristics Not Associated with Behavior
4.1b.e.y: Characteristics Not Associated with Behavior
4.1b.x: Mid-Level Leaders
4.1c.a.x Need
4.1c.a.y Need
4.1c.b.x Capability/Self-Efficacy
4.1c.b.y Capability/Self-Efficacy
4.1c.c.x Opportunity
4.1c.c.y Opportunity
4.1c.d.x Motivation
4.1c.d.y Motivation
4.1c.e.x: Characteristics Not Associated with Behavior
4.1c.e.y: Characteristics Not Associated with Behavior
4.1c.x: Opinion Leaders
4.1c.y: Opinion Leaders
4.1d.a.x Need
4.1d.a.y Need
4.1d.b.x Capability/Self-Efficacy
Characteristics of Individuals (Innovation Determinants)
4.1d.y: Implementation Facilitators
4.1d.b.y Capability/Self-Efficacy

Characteristics of Individuals (Implementation Determinants)
4.1d.x: Implementation Facilitators
4.1d.c.x Opportunity

Characteristics of Individuals (Innovation Determinants)
4.1d.y: Implementation Facilitators
4.1d.c.y Opportunity

Characteristics of Individuals (Implementation Determinants)
4.1d.x: Implementation Facilitators
4.1d.d.x Motivation

Characteristics of Individuals (Innovation Determinants)
4.1d.y: Implementation Facilitators
4.1d.d.y Motivation

Characteristics of Individuals (Implementation Determinants)
4.1d.e.x: Characteristics Not Associated with Behavior
4.1d.e.x: Implementation Leads
4.1e.a.x Need

Characteristics of Individuals (Innovation Determinants)
4.1d.y: Implementation Leads
4.1e.a.y Need

Characteristics of Individuals (Implementation Determinants)
4.1d.x: Implementation Leads
4.1e.b.x Capability/Self-Efficacy

Characteristics of Individuals (Innovation Determinants)
4.1d.y: Implementation Leads
4.1e.b.y Capability/Self-Efficacy

Characteristics of Individuals (Implementation Determinants)
4.1d.x: Implementation Leads
4.1e.c.x Opportunity

Characteristics of Individuals (Innovation Determinants)
4.1d.y: Implementation Leads
4.1e.c.y Opportunity

Characteristics of Individuals (Implementation Determinants)
4.1d.x: Implementation Leads
4.1e.d.x Motivation

Characteristics of Individuals (Innovation Determinants)
4.1d.y: Implementation Leads
4.1e.d.y Motivation

Characteristics of Individuals (Implementation Determinants)
4.1d.x: Implementation Leads
4.1e.e.x: Characteristics Not Associated with Behavior

Characteristics of Individuals (Innovation Determinants)
4.1d.y: Implementation Leads
4.1e.e.y: Characteristics Not Associated with Behavior

Characteristics of Individuals (Implementation Determinants)
4.1d.x: Implementation Leads
4.1e.x: Implementation Leads

Characteristics of Individuals (Innovation Determinants)
4.1d.y: Implementation Leads
4.1e.y: Implementation Leads
<table>
<thead>
<tr>
<th>Characteristics of Individuals (Implementation Determinants)</th>
<th>4.1f.x: Implementation Team Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characteristics of Individuals (Innovation Determinants)</td>
<td>4.1f.a.x Need</td>
</tr>
<tr>
<td>Characteristics of Individuals (Implementation Determinants)</td>
<td>4.1f.a.y Need</td>
</tr>
<tr>
<td>Characteristics of Individuals (Innovation Determinants)</td>
<td>4.1f.b.x Capability/Self-Efficacy</td>
</tr>
<tr>
<td>Characteristics of Individuals (Implementation Determinants)</td>
<td>4.1f.b.y Capability/Self-Efficacy</td>
</tr>
<tr>
<td>Characteristics of Individuals (Innovation Determinants)</td>
<td>4.1f.c.x Opportunity</td>
</tr>
<tr>
<td>Characteristics of Individuals (Implementation Determinants)</td>
<td>4.1f.c.y Opportunity</td>
</tr>
<tr>
<td>Characteristics of Individuals (Innovation Determinants)</td>
<td>4.1f.d.x Motivation</td>
</tr>
<tr>
<td>Characteristics of Individuals (Implementation Determinants)</td>
<td>4.1f.d.y Motivation</td>
</tr>
<tr>
<td>Characteristics of Individuals (Innovation Determinants)</td>
<td>4.1f.e.x: Characteristics Not Associated with Behavior</td>
</tr>
<tr>
<td>Characteristics of Individuals (Implementation Determinants)</td>
<td>4.1f.e.y: Characteristics Not Associated with Behavior</td>
</tr>
<tr>
<td>Characteristics of Individuals (Innovation Determinants)</td>
<td>4.1f.x: Implementation Team Members</td>
</tr>
<tr>
<td>Characteristics of Individuals (Implementation Determinants)</td>
<td>4.1f.y: Implementation Team Members</td>
</tr>
<tr>
<td>Characteristics of Individuals (Innovation Determinants)</td>
<td>4.1g.a.x Need</td>
</tr>
<tr>
<td>Characteristics of Individuals (Implementation Determinants)</td>
<td>4.1g.a.y Need</td>
</tr>
<tr>
<td>Characteristics of Individuals (Innovation Determinants)</td>
<td>4.1g.b.x Capability/Self-Efficacy</td>
</tr>
<tr>
<td>Characteristics of Individuals (Implementation Determinants)</td>
<td>4.1g.b.y Capability/Self-Efficacy</td>
</tr>
<tr>
<td>Characteristics of Individuals (Innovation Determinants)</td>
<td>4.1g.c.x Opportunity</td>
</tr>
<tr>
<td>Characteristics of Individuals (Implementation Determinants)</td>
<td>4.1g.c.y Opportunity</td>
</tr>
<tr>
<td>Characteristics of Individuals (Innovation Determinants)</td>
<td>4.1g.d.x Motivation</td>
</tr>
<tr>
<td>Characteristics of Individuals (Implementation Determinants)</td>
<td>4.1g.d.y Motivation</td>
</tr>
<tr>
<td>Characteristics of Individuals (Innovation Determinants)</td>
<td>4.1g.e.x: Characteristics Not Associated with Behavior</td>
</tr>
</tbody>
</table>
Characteristics of Individuals (Implementation Determinants)
4.1i.x: Innovation Recipients

Characteristics of Individuals (Innovation Determinants)
4.1i.y: Innovation Recipients

Motivation
4.1i.d.x

Characteristics Not Associated with Behavior
4.1i.e.x

Characteristics (Implementation Determinants)
4.1i.x: Innovation Recipients

Characteristics (Innovation Determinants)
4.1i.y: Innovation Recipients

Process
5.1: Teaming
5.2: Assessing for Needs
5.2a: Innovation Deliverers
5.2b: Innovation Recipients
5.3: Assessing Context
5.4: Planning
5.5: Tailoring Strategies
5.6: Engaging
5.6a: Innovation Deliverers
5.6b: Innovation Recipients
5.7: Doing
5.8: Reflecting and Evaluating
5.8a: Implementation
5.8b: Innovation
5.9: Adapting

Determinant Level
Implementation Determinant
Innovation Determinant
Mixed/Multi
Qualitative
Quantitative
Linkage to Care
PrEP
Testing/Diagnosis
Treatment
<table>
<thead>
<tr>
<th>Valence</th>
<th>Barrier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valence</td>
<td>Both</td>
</tr>
<tr>
<td>Valence</td>
<td>Facilitator</td>
</tr>
<tr>
<td>Valence</td>
<td>Neither</td>
</tr>
<tr>
<td>Valence</td>
<td>Unsure/Unspecified</td>
</tr>
</tbody>
</table>