1. BACKGROUND

- National HIV prevalence in Tajikistan: 0.3%.
- Prevalence among estimated 23,000 people who inject drugs (PWID): 13.5%.
- PWID represent <0.3% of the total population in Tajikistan.
- PWID make up ~19% of all PLHIV.
- HIV test coverage among PWID remains inadequate to meet UNAIDS 90-90-90 goals.
- Urgent need to expand testing services & treatment to PWID, who are disproportionately impacted by HIV.

2. METHODS

- Analysis of routine program data.
- Three sub-national units (Dushanbe City, Districts of Republican Subordination, Sughd Oblast).
- Period under analysis: October 24, 2016 - June 30, 2017.
- Three approaches analyzed (two respondent driven approaches: unrestricted RDS and restricted RDS, and active case finding (ACF) approaches).
- Under unrestricted RDS recruitment could continue indefinitely.
- Under restricted RDS recruitment was stopped after two HIV-negative waves.
- Under the ACF intervention, ‘Peer Navigators’ (PN) - recruited their peers for HTS through direct outreach.

3. RESULTS

- Most clients were male (57.6%).
- Proportion of females was higher among those tested under unrestricted RDS (13.0%) compared to ACF (9.9%) and restricted RDS (8.6%) (p=0.001).
- Average age: 36.3 years.
- Approximately 68% of clients reached through RDS were self-reported first-time testers, compared to 85% of ACF clients (p=0.001).

4. CONCLUSION

- Flagship demonstrated feasibility of conducting RDS for HIV case-finding among PWID at scale.
- Tested ~6,000 PWID in eight months.
- While yield from RDS-based approaches was greater than ACF approach, client profiles differed between strategies.
- Multiple case-finding approaches may be needed to reach first 90.
- Variations on RDS implementation may increase testing yields, and should be considered by program implementers.
- Differential distribution of outcomes.
- Limiting recruitment after a number of HIV-negative waves.
- Utilizing technologies like recency assays.
- Future research should explore:
  - Cost per case-detected and cost-effectiveness.
  - Local frequency of RDS-based methods over time.
  - Costs and health impact of an ongoing vs. campaign-style approach.

### Table 1. Demographic and Clinical Characteristics of People who Inject Drugs Recruited to HIV Testing in Tajikistan

<table>
<thead>
<tr>
<th>Variable</th>
<th>RDS1 (n=2,143, 20.8%)</th>
<th>RDS2 (n=4,187, 34.2%)</th>
<th>ACF (n=4,440, 45.1%)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>279 (13.0)</td>
<td>311 (8.8)</td>
<td>411 (9.1)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Age (Mean, Standard Deviation [SD])</td>
<td>37.9 (9.2)</td>
<td>36.1 (8.5)</td>
<td>35.8 (8.7)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Never tested for HIV</td>
<td>1,448 (67.6)</td>
<td>2,420 (48.8)</td>
<td>3,950 (65.1)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Shared needle with recruiter</td>
<td>620 (28.9)</td>
<td>778 (23.2)</td>
<td>-</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Migration experience</td>
<td>923 (63.0)</td>
<td>1,743 (49.6)</td>
<td>2,706 (58.3)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Network size (mean, SD)</td>
<td>7.5 (6.4)</td>
<td>7.6 (5.5)</td>
<td>-</td>
<td>0.034</td>
</tr>
<tr>
<td>HIV positive</td>
<td>32 (1.5)</td>
<td>90 (2.6)</td>
<td>68 (1.5)</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Log odds of new HIV infection significantly higher for females and those recruited through RDS (1 or 2).

#### FIG-1 Predictors of New HIV Infection: 3 Approaches

Ever Tested for HIV
- Female Sex
- Age
- RDS2 (Rel. to ACF)
- RDS1 (Rel. to ACF)

### FIG-2 Predictors of New HIV Infection: unrestricted RDS vs. restricted RDS

- History of migration
- Shared needle with recruiter
- Had sex with recruiter
- Ever Tested for HIV
- Female Sex
- Age
- RDS1 (Ref. RDS2)

Log odds of new HIV infection higher among females and those never tested for HIV previously.

No significant differences between RDS1 & 2.

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