THE COSTS OF PrEP IMPLEMENTATION ACROSS HIGH RISK POPULATIONS IN ZIMBABWE

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with PSI, Zimbabwe MOHCC & OPTIONS teams

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Background

• Zimbabwe is scaling up availability of oral PrEP to populations at high risk:
  • >3% incidence per year: AGYW (16 - 24), FSW, MSM

• Need to understand costs of actual implementation to inform:
  • Program budgeting, national scale-up & cost-effectiveness (PrEP-it modeling)
Background

- Zimbabwe is scaling up availability of oral PrEP to populations at high risk:
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- Need understanding on actual implementation costs to inform:
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Costs of observed program implementation:
- Sample included all PrEP services implementing ≥12 months, Jan-Dec 2018:
  - 6 PSI Zimbabwe clinics
  - 1 government health facility
- Provider perspectives (full economic costs)
- Time & Motion (1-6 providers per site) in all facilities
- Total costs and unit cost per person
- Modeling cost per person year protected on PrEP ($ppy)
# Site characteristics

<table>
<thead>
<tr>
<th></th>
<th>Site 1</th>
<th>Site 2</th>
<th>Site 3</th>
<th>Site 4</th>
<th>Site 5</th>
<th>Site 6</th>
<th>Site 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management</td>
<td>PSI</td>
<td>PSI</td>
<td>PSI</td>
<td>PSI</td>
<td>PSI</td>
<td>PSI</td>
<td>Public sector</td>
</tr>
<tr>
<td>Site type</td>
<td>Stand-alone</td>
<td>City Health Clinic</td>
<td>Stand-alone</td>
<td>Stand-alone</td>
<td>Stand-alone</td>
<td>Stand-alone</td>
<td>City Health Clinic</td>
</tr>
<tr>
<td>Clinic size (visits/year)</td>
<td>124,124</td>
<td>5,070</td>
<td>22,356</td>
<td>53,214</td>
<td>28,217</td>
<td>3,614</td>
<td>63,928</td>
</tr>
<tr>
<td>Maturity (months)</td>
<td>29</td>
<td>27</td>
<td>29</td>
<td>32</td>
<td>32</td>
<td>29</td>
<td>18</td>
</tr>
</tbody>
</table>
Outputs: Initiations and continuation at months 3 and 6

Average annual number of visits

<table>
<thead>
<tr>
<th>Category</th>
<th>Week 0</th>
<th>Week 12</th>
<th>Week 28</th>
</tr>
</thead>
<tbody>
<tr>
<td>All AGYW (15-19 and 20-24)</td>
<td>1674</td>
<td>963</td>
<td>519</td>
</tr>
<tr>
<td>All FEMALES (25 and older)</td>
<td>1384</td>
<td>739</td>
<td>473</td>
</tr>
<tr>
<td>All MALES (all ages)</td>
<td>1663</td>
<td>544</td>
<td>312</td>
</tr>
<tr>
<td>All PEOPLE</td>
<td>4721</td>
<td>2246</td>
<td>1304</td>
</tr>
</tbody>
</table>

Average annual number of visits: 2.9, 3.2, 1.9, 2.6
Total costs by population

Total cost = Ave $ initiation visit * # initiated by population
+ Ave $ follow up visit * # of follow up visits by population
## Unit costs by population

<table>
<thead>
<tr>
<th>Population Description</th>
<th>Average cost per person initiated</th>
<th>Cross Facility (min - max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All AGYW (15-19 and 20-24)</td>
<td>$232</td>
<td>($217 - $262)</td>
</tr>
<tr>
<td>All FEMALES (25 and older)</td>
<td>$236</td>
<td>($230 - $263)</td>
</tr>
<tr>
<td>All MALES (all ages)</td>
<td>$221</td>
<td>($210 - $255)</td>
</tr>
</tbody>
</table>
Cost per person year protected on PrEP:
Step 1: Estimate Number needed to initiate by continuation duration

Number needed to achieve 1 person-year-protected on PrEP
= 52 weeks / average weeks of continuation
Cost per person year protected on PrEP:

Step 2: Attach costs to Initiation and continuation duration

$ppY protected = \$_{initiations} \cdot Q_{initiationsNeeded} + \$_{follow up visits} \cdot Q_{FUs}$

Here for AGYW:

\[ \$202 \cdot \frac{52}{17} \text{ weeks} + \$13.24 \cdot Q_{fu} = \$1,312 \]
## Unit costs along the continuation cascade

<table>
<thead>
<tr>
<th></th>
<th>Average continuation in weeks</th>
<th>Total cost per person year</th>
<th>Cross facility (min - max )</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGYW (15-19 and 20-24)</td>
<td>17</td>
<td>$1,312</td>
<td>($1,068 - $2,452)</td>
</tr>
<tr>
<td>FEMALES (25 and older)</td>
<td>21</td>
<td>$1,192</td>
<td>($1,045 - $1,480)</td>
</tr>
<tr>
<td>MALES (all ages)</td>
<td>11</td>
<td>$1,646</td>
<td>($1,132 - $4,512)</td>
</tr>
</tbody>
</table>
Discussion

**Total Cost Drivers**
- Cost per person initiated similar across populations *BUT*
- More variation in cost per person year due to difference in *continuation* across populations.
  - Men show shortest continuation,
  - Adult women longest
- Huge drop in $/ppY with higher continuation
- $/initiation comparable to other estimates, but $/continued client is higher

**Why do clients initiate but not continue PrEP?**
- Better targeting and support for continuation

**Future research & programmatic needs**
- Tracking longitudinal PrEP client data to better understand/measure PrEP cycling on & off
## Zimbabwe Costing Study Team

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