What will it take for Ghana to achieve 90-90-90?

Costing an enhanced HIV treatment cascade

Health Policy Plus
HIV landscape in Ghana: losses along the cascade and gap vs. 90-90-90 scenario

- **1.6%** HIV prevalence (age 15-49)
- **~24%** new infections from key population groups

- **2.7 million**: 2017 HIV testing target
- **~90%** undiagnosed people living with HIV (PLHIV) located in four priority regions

Source: Ghana Spectrum file 2016; NACP 2017 Treat All Update; GHS 2016; HPP: Prioritizing HIV Interventions in a Resource-Constrained Setting
Objectives of public sector cost analysis of Ghana’s HIV clinical cascade

Rationale
Provide evidence on the resource needs for the government to meet 90-90-90 by 2020 in order to advocate for financing and inform policy

Key Study Considerations
• Interventions to help retain clients and reinitiate those lost to follow-up within cascade
• Possibility for cost efficiencies from differentiated care

Stakeholders
GHS, NACP, GAC, MOH, PEPFAR, USAID, GHSC-PSM, EQUIP, Care Continuum
Ghana cascade steps and sub-steps for costing

Identification
- Early Infant Diagnosis (EID)
- Community Outreach
- Drop-in Centers
- Key Populations and Prison Testing
- Prevention of Mother-to-Child Transmission (PMTCT)

Linkage
- Referral Systems
- Models of Hope
- Defaulter Monitoring

Treatment
- Laboratory Monitoring
- Opportunistic Infections (OIs) Treatment
- Treatment with antiretroviral drugs (ARVs)

Retention and Viral Suppression
- Transport for Labs
- Community Support Groups
- Models of Hope
- Viral Load Monitoring
## Methods and activities

**Data Collection**
- Secondary data from existing programmatic sources
- Expert opinion from structured interviews

**Programmatic Review**
- Consideration of where undiagnosed PLHIV may be and ways to improve targeted testing
- Key bottlenecks along the treatment cascade

**Cost Modeling and Data Analysis**
- Changes to testing yields over time
- Cost efficiency gains from more efficient service delivery models
GFATM and PEPFAR supply plan vs. resource needs for commodities

Source: GFATM and PEPFAR supply plan and HP+ calculation, assumes 2019–2020 funding remains constant at 2018 levels
Potential cost efficiency of $28 million (2017-2020) from differentiated care for stable patients

Undifferentiated care - **140,448**
- New patient
  - Clinical visits per year: 8
  - Annual lab tests: 2
- Stable, established patient
  - Clinical visits per year: 5
  - Annual lab tests: 2
- Unstable patient
  - Clinical visits per year: 12
  - Annual lab tests: 2

Resources needed: $21.6 million

Differentiated care - **188,163**
- New patient
  - Clinical visits per year: 3
  - Annual lab tests: 1
- Stable, established patient
  - Clinical visits per year: 2
  - Annual lab tests: 1
- Unstable patient
  - Clinical visits per year: 12
  - Annual lab tests: 1

ART patients targeted for 2017

ART patients that can be supported in 2017 given the same resource envelope needed to meet target using undifferentiated care

Source: HP+ analysis
Effects of Models of Hope peer counselling and defaulter tracking

Currently supported with $35 per month stipend

Source: Models of Hope interviews and HP+ analysis
## Prioritization for HIV testing

**Source:** NACP 90-90-90 roadmap, NACP 2017 update, and HP+ interpolation

<table>
<thead>
<tr>
<th>Key Population</th>
<th>Size</th>
<th>Prevalence</th>
<th>% of All New Infections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men Who Have Sex with Men</td>
<td>30,579</td>
<td>17.5%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Female Sex Workers and Partners</td>
<td>51,937</td>
<td>11.1%</td>
<td>18.4%</td>
</tr>
<tr>
<td>Prisoners</td>
<td>13,714</td>
<td>2.3%</td>
<td>0.8%</td>
</tr>
<tr>
<td>People Who Inject Drugs</td>
<td>9,598</td>
<td>16.9%</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

Source: NACP 90-90-90 roadmap, NACP 2017 update, and HP+ interpolation
Over time, diminishing yields will increase the cost per positive patient identified.
Key results and takeaways

- Country HIV testing and counseling strategies are limited when they do not consider varying costs by testing mode or specify a cost-efficient testing mix
  - Once high yielding populations are addressed, a revised targeted strategy is needed

- Models of Hope appears to be an effective way to reduce loss to follow-up at linkage and retention (~$3.5 million additional cost per year)

- Differentiated care for stable patients adds efficiencies and increases number of patients that can be supported for same resource envelope
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