Multi-disease integration of testing (HIV/HPV)

Presenter
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Lesotho population is approx. 1.8 million

Lesotho has aligned itself with UNAIDS targets of reaching 90, 90, 90 (95/95/95)

LEPHIA:
- Lesotho currently at 82% , 91% , 88%
- HIV Prevalence is 25.6%
- Women disproportionately affected
  - 30.4% among women and 20.8% among men
  - 22.8 among pregnant women (hence high demand for EID)
- Coverage for VL in Pregnant and breastfeeding women low

POC EID introduced in 2015 with support from UNITAID
Background Continued

• Cervical cancer is the most common female cancer and most common cause of cancer death in Lesotho (incidence at 52.1 ASR and Mortality at 39.1 (ASR) (Globocan 2018)
• Most women have never had screening for Cervical Cancer and women presenting with cervical cancer often present in advanced disease.
• Current screening methods are Pap Smears and Visual Inspection with Acetic Acid (VIA) (have Limitations)
• Elimination of Cervical cancer as a Public Health problem requires the use of high precision screening Test
• With support of UNITAID HPV Nucleic Acid Testing was piloted at two sites in Lesotho leveraging on EID POC platforms (Gene Xpert 4)
POC EID: Moving to Elimination of Pediatric HIV

• Through Unitaid-supported project implemented by EGPAF, 13 GeneXpert IV and 15 mPimas were placed to run POC EID;
• POC EID was integrated on 1 additional GeneXpert already used for TB testing
• These 29 platforms currently support access to POC EID at 160 sites through a hub-and-spoke network (covering > 80% of EID demand)
• Sample processing done by nursing staff
## POC EID Results in Lesotho-2015-2019

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Pre-intervention (referral lab EID) 9 sites, 270 tests</th>
<th>Post-intervention (POC EID) 160 sites, 19,596 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of results returned to caregiver</td>
<td>76%</td>
<td>99.5%</td>
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<tr>
<td>Median turn-around-time from sample collect to caregiver (IQR)</td>
<td>63 days (44-75 days)</td>
<td>1 day (0-8 days)</td>
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<tr>
<td>Percent of HIV-infected infants started on ART within 60 days</td>
<td>50%</td>
<td>93%</td>
</tr>
<tr>
<td>Median turn-around-time from sample collection to HIV-infected infant ART initiation</td>
<td>61 days (23-67)</td>
<td>0 (0-3 days)</td>
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Integration of HPV and EID Testing: Methods

• Multiplex EID and HPV POC testing using Gene Xpert IV platform
• Provider and self collection of HPV samples used
• Client who test positive are linked to treatment (Thermo-coagulation or Loop Electrosurgical excision of the transformation zone)
Integration of HPV and EID Testing: Methods

- Health care workers were trained through clinical meetings and onsite practicals on the benefits of diagnostic integration of POC (EID and HPV)
- Women were sensitized on multi-diagnostic opportunities of POC
  - Potential for same day EID and/or HPV diagnosis
  - Accuracy of testing
  - Ability to do a self-collected HPV sample to run on the POC test
- Reorganized clients flow so that those requiring multiple POC based test can have various specimen taken at same day.
  - HPV and EID taken together
  - HPV test and Viral load taken on same day
  - In the future, we will integrate POC VL and we will streamline patient flow to incorporate VL needs
- POC tests are performed by dedicated nurse assistants at high volume sites having Gene Expert 4, however at low volume sites with Pima machines operated by MCH nurses
HPV pilot

- Multiplex EID and HPV POC testing using Gene Xpert IV platform
  - During HPV integration period, EID outcomes were unaffected by integration of HPV
    - 100% (225/225) of EID results were returned to caregiver
    - Median turn-around time 0 days
  - Plan to use lessons learnt in pilot to scale up to additional sites

<table>
<thead>
<tr>
<th>Total screened</th>
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<th>%</th>
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<tbody>
<tr>
<td>HIV – women</td>
<td>1317</td>
<td>43.89</td>
</tr>
<tr>
<td>HIV + women</td>
<td>1684</td>
<td>56.12</td>
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<tr>
<td>Self-collected</td>
<td>326</td>
<td>10.86</td>
</tr>
<tr>
<td>Clinician collected</td>
<td>2675</td>
<td>89.14</td>
</tr>
<tr>
<td>HPV -</td>
<td>2078</td>
<td>69.24</td>
</tr>
<tr>
<td>HPV+</td>
<td>923</td>
<td>30.76</td>
</tr>
<tr>
<td>HPV + among HIV - women</td>
<td>285</td>
<td>21.64</td>
</tr>
<tr>
<td>HPV + among HIV + women</td>
<td>638</td>
<td>37.89</td>
</tr>
</tbody>
</table>
Planned rollout of POC VL

- Multiplex EID and VL testing using Gene Xpert IV platform
- Will ride on existing POC EID machines
  - Hub and spoke approach
- Focus is pregnant and breastfeeding women
- PEPFAR funding through CDC
- Existing staff in MNCH will be trained on POC VL sample processing
- Sample transport through MOH supported Riders 4 Health

**Diagram:**

1. HIV+ woman presents for prenatal care
2. Blood drawn for viral load (VL)
3. Result delivered
4. Conventional VL performed
5. Blood sent to National Lab in Maseru
6. Ensure rapid intervention
7. Treatment change (if needed)
8. HIV infection controlled

**Algorithm:**

- POC VL
- Conventional VL
- 55-70 days delay
- Blood sent to National Lab
- Result delivered
- Treatment change (if needed)
- HIV infection controlled
Conclusion and way forward

• Multi-disease integration of point of care testing platform is feasible and acceptable to health care providers in Lesotho

• Improving diagnostics for women and their families: POC EID and HPV testing has turned around Early infant diagnosis and improved cervical cancer screening in Lesotho

• Lesotho plans to transition EID fully to POC platforms (and ease lab based machines for general population VL)

• Next steps for scaling up POC HPV testing: An additional 12 Cepheid platforms will be configured and used for integrated testing

• Integration of POC VL to existing POC EID machines will improve overall health outcomes for mother baby pairs
Thank you!

• As a healthcare provider, I am thrilled to be able to provide better, more integrated care to women and babies enrolled in our programs
• As a woman myself, I am extremely grateful to my government and all the support provided by external donors that enable this better quality of care
• On behalf of all Basotho, I would like to say KEA LEOHA!