BACKGROUND
- Limited data exist on the performance of the World Health Organization (WHO) symptom-based tuberculosis (TB) screening algorithm among pregnant women living with HIV
- TB screening for women receiving prevention of mother-to-child HIV transmission (PMTCT) services was implemented as part of a TB intensified case finding study in Nyanza Province, Kenya from May 2011–June 2012

METHODS
- Prospective recruitment of people living with HIV (PLHIV), including pregnant women enrolling in PMTCT services, at 15 randomly-selected HIV clinics in 4 districts of Nyanza Province
- Patient inclusion criteria
  - Age 7 years or older
  - Documented HIV infection
  - No HIV care or treatment (including PMTCT services) in the preceding 2 years
  - No TB diagnosis or treatment in preceding 1 year
- All PLHIV received TB assessment at enrollment:
  - WHO-recommended symptom screening
  - Chest radiograph (deferred for pregnant women)
  - Collection of 3 sputum specimens (regardless of symptoms) for smear microscopy, liquid culture, and Xpert MTB/Rif testing (Xpert)
  - Patients who did not have at least 2 sputum specimens with valid results (i.e. uncontaminated liquid culture and no error on Xpert) were excluded
- Remaining patients were classified as follows:
  - Pulmonary TB: Mycobacterium tuberculosis complex (MTBC) confirmed by one Xpert or one culture
  - No TB: No MTBC on Xpert or culture

PRELIMINARY RESULTS

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>ALL PLHIV (n=738)</th>
<th>Pregnant</th>
<th>Non-Pregnant Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulmonary TB (N=73)</td>
<td>84 (9.5%)</td>
<td>77 (9.0%)</td>
<td>68 (9.4%)</td>
<td>8 (0.0%)</td>
</tr>
<tr>
<td>Median age, years (Interquartile range, IQR)</td>
<td>30 (24–39)</td>
<td>25 (22–29)</td>
<td>28 (24–37)</td>
<td>37 (32–48)</td>
</tr>
<tr>
<td>Median CD4 cell count, cells/µL (IQR)</td>
<td>344 (168–518)</td>
<td>401 (255–637)</td>
<td>360 (168–541)</td>
<td>294 (128–441)</td>
</tr>
<tr>
<td>Pulmonary TB</td>
<td>83 (11.3%)</td>
<td>8 (6.0%)</td>
<td>41 (11.6%)</td>
<td>34 (13.6%)</td>
</tr>
</tbody>
</table>

WHO Algorithm Performance

- Sensitivity: 74.4%
- Specificity: 74.6%
- Negative Predictive Value: 93.9%
- Positive Predictive Value: 15.6%
- Negative Likelihood Ratio*: 0.52
- Positive Likelihood Ratio*: 1.47

CONCLUSIONS
- TB prevalence among pregnant women living with HIV was approximately half that of non-pregnant women and men living with HIV
- Half as many pregnant women reported TB symptoms at enrollment in HIV care as other PLHIV
- If TB diagnostic testing were limited to pregnant women reporting symptoms in the WHO algorithm, more than two-thirds of laboratory-confirmed pulmonary TB would have been missed
- Given its high negative predictive value among pregnant women, the WHO algorithm may be more useful for identifying candidates for isoniazid preventive therapy than for TB case finding

Additional analyses are needed to confirm these findings and assess whether different clinical or laboratory-based (e.g., Xpert) screening algorithms are more sensitive among pregnant women living with HIV