Maternal infections: syphilis and preterm birth

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Background

• Untreated syphilis infection causes significant perinatal morbidity and mortality in about 66% (CI: 58%-74%) of infants
  – Spontaneous abortion, stillbirth, neonatal death, low birth weight, congenital syphilis
• If detected before the third trimester, syphilis is treatable with 1-3 injections of benzathine penicillin
• Historical test of choice: Rapid Plasma Reagin Test (RPR)
  – Requires a laboratory to be performed and is impractical in rural settings
• “New” test (2002): Immunochromatographic strip (ICS)
• As of 2013, merely 40% of women in sub-Saharan Africa SSA are getting screened during antenatal care
Global Burden of Syphilis Infection in the Antenatal Care Setting

Newman et al., PLOS Medicine, 2013.
How large is the public health burden?

- WHO, 2011 Global Burden of Disease in the African region: 5.2 million DALY’s
- 1 DALY represents one year of healthy life that is lost due to morbidity or early mortality
- The majority of the burden is in neonates and young children
- However, the GBD methodology assesses the burden at birth and does not include stillbirth
Including all relevant outcomes

- Maternal syphilis infection in Africa is estimated to cause about 88,000 stillbirths and 35,000 neonatal deaths/year*
- DALY burden increases to 12.5 million DALYs, of which stillbirth accounts for 8 million*
- Similar to the public health burden of TB in the African region (11.9 million DALYs)
- Two thirds of the public health burden is in settings where women do attend antenatal care at least once, but are not screened for syphilis

*Kuznik et al., Sexually Transmitted Diseases, 2015*
How complicated is it to screen?

- The ICS requires one drop of blood
- Results are available in about 15 minutes
- Minimal training and equipment required
Syphilis screening in ANC is highly cost-effective in SSA*

*Kuznik et al., PLoS Medicine, 2013
Concluding Remarks

• Syphilis infection in ANC constitutes a major, perhaps under-recognized, public health burden in SSA

• New point of care tests are accurate, cheap, and require minimal training

• There is hardly a better, or more cost-effective, way to spend a healthcare dollar than on syphilis screening in ANC
Questions?