

The tests have been enthusiastically welcomed by midwives and nurses at all implementing sites, who feel empowered by offering a better service to their clients and protecting the health of their infants. The tests have been welcomed by antenatal clinic attendees, who are now screened at their first visit and given their results immediately.

### Next Steps

- Increase messages and communication on early attendance in prenatal care
- Include rapid syphilis tests on the MOH priority diagnostic list for all facilities in Uganda
- Secure rapid syphilis tests for all ANC facilities in Uganda
- Review and implement diagnostic quality management processes to ensure accuracy and reliability of testing services
- Institutionalize partner invitation letters at all ANC facilities in the country
- Plan for monitoring and evaluation of syphilis screening data collection strategies

### Useful Resources

- The World Health Organization: The global elimination of congenital syphilis: rationale and strategy for action. [http://whqlibdoc.who.int/publications/2007/9789241595858\\_eng.pdf](http://whqlibdoc.who.int/publications/2007/9789241595858_eng.pdf)
- The United States Centers for Disease Control: Guidelines for Assuring Accuracy and Reliability of HIV Rapid Testing: Applying a Quality Systems Approach. [http://wwwn.cdc.gov/dls/ila/documents/HIVRapidTest%20Guidelines%20\(Final-Sept%202005\).pdf](http://wwwn.cdc.gov/dls/ila/documents/HIVRapidTest%20Guidelines%20(Final-Sept%202005).pdf)
- Global Fund: Guidelines for Procurement and Supply Chain. [http://www.theglobalfund.org/documents/psm/pp\\_guidelines\\_procurement\\_supplymanagement\\_en.pdf](http://www.theglobalfund.org/documents/psm/pp_guidelines_procurement_supplymanagement_en.pdf)
- The Elizabeth Glaser Pediatric AIDS Foundation. Quality management systems brief: Rapid syphilis testing study in Zambia and Uganda. 2011. The Elizabeth Glaser Pediatric AIDS Foundation Program Brief. [http://www.pedaids.org/Publications/Program-Briefs/QC\\_Syphilis\\_Brief\\_Itr\\_April2011\\_4web](http://www.pedaids.org/Publications/Program-Briefs/QC_Syphilis_Brief_Itr_April2011_4web).
- The Elizabeth Glaser Pediatric AIDS Foundation. Male involvement in PMTCT: Using syphilis testing to reach men. 2011. The Elizabeth Glaser Pediatric AIDS Foundation Program Brief. [http://www.pedaids.org/Publications/Program-Briefs/Syphilis\\_MaleInvolve\\_Itr\\_April2011\\_4web](http://www.pedaids.org/Publications/Program-Briefs/Syphilis_MaleInvolve_Itr_April2011_4web).

## Eliminating Congenital Syphilis in Uganda



photo: James Pursey

### Key Points

- Syphilis is a major public health problem in sub-Saharan Africa, associated with many adverse pregnancy outcomes, including spontaneous abortion, stillbirth, premature delivery, low birth weight, congenital syphilis and perinatal death.<sup>1,2</sup>
- In addition to the morbidity and mortality associated with syphilis and congenital syphilis, co-infection of syphilis and HIV is common and, among pregnant women, is a significant risk factor for mother-to-child transmission of HIV.
- The existing syphilis screening policy for pregnant women in Uganda is not widely implemented.
- New simple, affordable tests for syphilis are now available which make it possible to screen pregnant women for syphilis at the point of care without the need for a laboratory.

### Background

Globally, there are an estimated 12 million new cases of syphilis each year, the majority of which occur in developing countries.<sup>3</sup> In sub-Saharan Africa, the prevalence of syphilis among pregnant women attending ANC clinics ranges from 2.5% to 17%.<sup>4,5,6</sup> Co-infection of syphilis and HIV is common, with a recent systematic review of developed and developing country data estimating 9.5% of HIV-positive persons co-infected with syphilis.

Co-infected pregnant women have a significant risk factor for mother-to-child transmission of HIV.<sup>7,8</sup> A study in Malawi observed that pregnant women co-infected with HIV and syphilis were twice as likely to transmit HIV in utero to their infants than those infected only with HIV.<sup>9</sup> Penicillin is a widely available and inexpensive cure for syphilis and prevention method for congenital syphilis. Integrating HIV testing and syphilis screening for pregnant women may enhance prevention of mother-to-child transmission of HIV (PMTCT), and prevent the adverse pregnancy outcomes of untreated syphilis throughout pregnancy.

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## About the Foundation

*The Elizabeth Glaser Pediatric AIDS Foundation is a global leader in the fight against pediatric HIV and AIDS, and has reached more than 11.6 million women with services to prevent transmission of HIV to their babies. The Foundation works at 5,400 sites in 17 countries to implement prevention, care, and treatment services; to further advance innovative research; and to execute strategic and targeted global advocacy activities in order to bring dramatic change to the lives of millions of women, children, and families worldwide.*

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## How Can We Prevent Congenital Syphilis in Uganda?

Syphilis screening and treatment in pregnancy is a cost-effective health intervention.<sup>10</sup> Currently Uganda's Ministry of Health (MOH) has a policy in place to encourage syphilis testing in prenatal care facilities, as an integral part of pre-conception care. However, syphilis testing supplies and the health-care workers trained to use them are primarily found in only a few syphilis surveillance sites in Uganda.

Testing is thus not widely accessible for pregnant women. In fact, syphilis testing is so little utilized that MOH antenatal care (ANC) patient registers have historically not included syphilis diagnostics as a required column. However, a recent integrated reproductive health and HIV register has been created by the MOH and rolled-out nationally that captures syphilis testing, which may encourage a stronger emphasis on the necessity of testing pregnant women for syphilis. To further this effort in Uganda, to reduce congenital syphilis and move to elimination, syphilis testing and treatment must move beyond the few syphilis surveillance sites to all ANC facilities.

## Rapid Syphilis Testing

In Uganda, syphilis infections often go undetected because syphilis cases are often asymptomatic (one study indicated that one third of syphilis infections among people living with HIV/AIDS are asymptomatic).<sup>11</sup> Critical challenges of the current methods used for syphilis testing, including the non-treponemal-based tests RPR and the treponemal-based tests TPPA/TPHA and FTA-ABS, include the requirement of refrigeration and laboratory equipment. The time needed to perform and analyze the test requires women to return on another day for results. If a pregnant woman has syphilis, her treatment will be delayed because she will have to wait for her next prenatal appointment to attain results. If she cannot return to this clinic again during her pregnancy, she may never know that she needs treatment for herself and her baby.

Recent developments in point-of-care syphilis testing have led to the availability of low-cost, rapid syphilis tests that require only a small volume of blood, no special laboratory equipment, and no refrigeration. These tests are simple to read and can be performed by staff with a relatively low amount of training. Diagnostic results are available in 15 to 20 minutes; test results and treatment can be provided to pregnant women during

one clinic visit. These tests have the potential to change the approach to syphilis testing, even in isolated clinics. In addition to these benefits, the rapid syphilis test can be performed alongside rapid HIV tests, allowing clients to receive these two important tests simultaneously.

**New simple, affordable tests for syphilis make it possible to screen pregnant women for syphilis at the point-of-care without the need for a laboratory.**

The World Health Organization, as a part of their Sexually Transmitted Infections Diagnostics Initiative, is partnering with a number of countries to pilot these tests to assess their acceptability in health clinics. The Elizabeth Glaser Pediatric AIDS Foundation has been working with the Uganda MOH to pilot the rapid syphilis tests in health clinics. The pilot was carried out at Mulago Hospital and in hospitals and primary health clinics in Jinja District. The findings from the study indicate that health-care workers are able to easily perform rapid syphilis tests. The sensitivity and specificity of the rapid syphilis test used in the study (SD BIOLINE Syphilis 3.0 rapid syphilis antibody test, Standard Diagnostics, Inc. Korea) is 99.3% and 99.5%, respectively. Evaluations of a range of available rapid syphilis tests have shown sensitivities between 85-98% and specificities between 93-100%.

The pilot introduction of rapid syphilis tests has strengthened the health system by:

- Shifting tasks from laboratory personnel to nurses and midwives in ANC clinics, creating a point-of-care system;
- Enabling health-care workers to provide services that they feel are helpful to their clients;
- Increasing access to syphilis screening and treatment for traditionally underserved populations;
- Increasing health-care provider knowledge and capacity;
- Facilitating the integration of HIV and syphilis screening; and
- Increasing involvement of male partners (implementing health care facilities invited partners of clients to clinics to utilize rapid HIV and syphilis testing services through a "partner invitation letter.")