

## The sound of silence: missing the opportunity to save lives at birth

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The adverse impact of syphilis on child health has been known for over 500 years, yet the World Health Organization (WHO) only targeted congenital syphilis for elimination in 2007.<sup>1</sup> Syphilis in pregnancy is not rare. Far more pregnant women have syphilis than human immunodeficiency virus (HIV) infection: 1.9 million (2008) and 1.49 million (2010), respectively.<sup>2</sup> The fraction of pregnant women with syphilis that is detected and treated is unknown, but estimates suggest that it is less than 10%.<sup>3</sup> Whereas untreated maternal HIV infection is transmitted to infants in about one third of the cases, untreated maternal syphilis nearly always results in an adverse pregnancy outcome. For these reasons, syphilis is as important an infection during pregnancy as infection with HIV. It therefore makes sense to build on global efforts to prevent and treat HIV infection during pregnancy to strengthen the fight against maternal syphilis.

The adverse pregnancy outcomes that can result from syphilis include fetal death, stillbirth or premature birth, low birth weight and congenital syphilis infection. The frequency of these outcomes has been poorly quantified. In a literature review published in the present issue of the *Bulletin*, Gomez et al. tried to generate summary estimates of syphilis-related adverse pregnancy outcomes by reviewing 3258 studies published up to December 2011. They specifically looked for studies that compared pregnancy outcomes in untreated syphilitic women and non-syphilitic women belonging to the general population. Only 6 studies, representing 1715 pregnant women with untreated syphilis and 22 515 non-syphilitic women, satisfied those criteria and were included in the analysis. Adverse birth outcomes were observed in 66.5% (range: 53.4–81.8) of the women with untreated syphilis and in 14.3% (range: 10.25–20.8) of the women without syphilis. Hence, the frequency of adverse pregnancy outcomes was 4.5 times higher in the former than in the latter group.

The adverse pregnancy outcomes associated with maternal syphilis can be easily prevented, yet implementing proper measures within health systems has been difficult.<sup>5</sup> Laboratory-based and rapid point-of-care syphilis tests identify most maternal syphilis infections. A single dose of benzathine penicillin early in pregnancy is highly effective at preventing adverse pregnancy outcomes.<sup>6</sup> Testing and treatment combined cost less than one United States dollar. The problem, then, is not a lack of affordable tests or treatment, but the absence of political will. In many countries, most maternal syphilis infections remain unidentified and untreated. Currently 12 countries – the Central African Republic, China, Ghana, Honduras, Indonesia, Madagascar, Mozambique, Myanmar, Papua New Guinea, the United Republic of Tanzania, Uruguay and Zambia – are recognized by WHO as high priority countries for congenital syphilis elimination owing to their large burdens of maternal syphilis.<sup>7</sup> Additionally, countries such as Bangladesh, Brazil and Nigeria have large populations and high rates of maternal syphilis and should be considered priority countries as well.

No one knows why some global disease elimination programmes have traction while others, such as the one for congenital syphilis, do not. Shiffman & Smith articulated a four-category framework for the prioritization of global health initiatives: actor power (or leadership), ideas (or communication), political contexts and issue factors such as disease severity, availability of effective interventions and existence of credible indicators.<sup>8</sup> Since these factors are all well established in the case of congenital syphilis, the lack of traction must have to do with leadership, communication and politics. Aware that progress on congenital syphilis elimination has been slow, in June 2012 WHO updated its elimination strategy to twin the prevention of mother-to-child transmission (PMTCT) of HIV with that of syphilis. Thus, PMTCT should

no longer be seen as applicable to HIV infection alone, but to both HIV and syphilis. Such integration is a major step towards the comprehensive prevention of congenital infections.

An exciting innovation that could accelerate the PMTCT of HIV infection and syphilis is the dual rapid test for syphilis and HIV infection.<sup>9</sup> In many countries supply chain management for syphilis tests is difficult. Dual rapid tests would greatly strengthen the PMTCT of syphilis because programmes for the PMTCT of HIV are better resourced and have stronger external and internal stakeholders than those for the prevention of syphilis. The community involved in the PMTCT of HIV infection is largely unaware that maternal syphilis greatly increases the risk of mother-to-child HIV transmission.<sup>10</sup> Identifying and treating maternal syphilis in mothers co-infected with HIV should further reduce the mother-to-child transmission of HIV infection.

Gomez et al.'s study is an important contribution to the evidence base. Evidence, however, has not been lacking in the effort to eliminate congenital syphilis, a scourge for centuries. Neither have affordable, safe and effective diagnostic and therapeutic tools. The missing elements have been community advocacy, political will and private donor investment. What will it take? Is anyone listening to the sound of silence? ■

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