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Practical Considerations for Implementing a New Syphilis Action Plan

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The call for a new syphilis action plan requires us to think about the practical considerations of implementation such a plan. What would success in prevention and controlling syphilis look like? Would success look the same in different groups for whom actions to control syphilis are needed? What tools or approaches are lacking that we will need to enter a new era of action to prevention and control syphilis? In the United States, we have witnessed dramatic increases in syphilis transmission, equally dramatic successes in syphilis control, and a reemergence of syphilis and concentration in sexual networks of gay men.¹ How do we build a new syphilis action plan that meets the epidemiologic realities of our current situation, and that is built to produce and sustain reductions in syphilis transmission and its health impacts?

Embarking on a new syphilis action plan should start with reviewing past successes, and defining what success will look like for the new plan. Programs to address infectious diseases can aspire to different goals, which must be considered relative to the epidemic situation, available tools and resources, and competing demands on public health systems. Control of infectious diseases signifies reductions of disease incidence, prevalence, or mortality in geographically defined areas to a locally acceptable level. Elimination refers to complete cessation of incidence in a geographically defined area, although the disease-causing agent persists in other areas. In the case of syphilis, successes of prevention programs have different feasible targets in different at-risk groups, such as congenital syphilis, syphilis among MSM, and syphilis among heterosexuals. The epidemic properties and healthcare settings relevant to these priority populations suggest that our aspirations for a new era in syphilis prevention might differ for these groups.

For congenital syphilis, the clinical outcomes are devastating, but the points of clinical intervention – screening pregnant women and/or treatment of newborns – are conducive to implementing syphilis elimination programs. Most women engage in prenatal care, and most deliveries occur in medical care settings where screening programs can be implemented. In this setting, programs aiming towards elimination of congenital syphilis are aspirational, but reasonable to strive for.

In contrast, syphilis epidemics in MSM occur among men who have relatively low levels of routine screening for any sexually transmitted infection^{2,3}, and among whom the signs and symptoms of genital syphilis may not raise sufficient concern to seek clinical evaluation. In this setting, control of syphilis is a more realistic goal for MSM. However, there are some specific opportunities and challenges among MSM that deserve special consideration in implementing holistic control measures. First, it is important to consider innovative systems

that help promote routine screening for STIs, understanding that men (and especially young men) are notoriously bad at engaging in routine wellness visits.⁴ Programs for the distribution of HIV test kits have been evaluated and show promise for uptake of routine screening and for men to distribute test kits to their sexual networks⁵; programs for mail-out STI testing have also been evaluated and should be tested in randomized trials to determine whether programs of at-home STI testing could increase screening among MSM.^{6,7} Second, some manifestations of syphilis in MSM, including ocular syphilis and neurosyphilis, are clinically serious conditions which may be underdiagnosed.^{8–10} Provider education programs to increase screening for syphilis in the workup of relevant clinical syndromes should be prioritized. Third, syphilis has important relationships to ongoing epidemics of HIV transmission among MSM – especially among black and Hispanic MSM, who experience higher rates of STIs and HIV than white MSM. The epidemiologic relationships of HIV and syphilis – that syphilis diagnosis predicts incident HIV infections¹¹, that syphilis may increase infectiousness of men living with HIV¹² and susceptibility to HIV infection¹³, and that meta-analytic data document small increases in viral load (albeit of unknown clinical significance) among people living with HIV and an STI¹⁴ – suggest that programs to address syphilis need to be well integrated with HIV prevention and treatment programs.

The development of better diagnostic tests for syphilis have not kept pace with the development of innovative and convenient testing options for other infectious conditions, such as HIV or Hepatitis C. While the science of implementation for HIV self-testing is active and vibrant around the world, the requirements for collection of larger blood volumes required and more complicated syphilis screening algorithms have limited the ability to deploy point of service tests or at-home testing or at-home specimen collection kits to extent to reach of syphilis screening. History of syphilis infection is very common in MSM who are living with HIV¹⁵, necessitating care (and often consultation) in interpreting the results of RPR testing for men with persistent antibodies. New diagnostic approaches are needed that will allow syphilis screening to tap into new knowledge about point of care and at-home testing programs which are making strides in the areas of HIV, chlamydia and gonorrhea screening.

A new syphilis action plan will require a multi-sectoral response, and it is critical that health departments and providers concerned about decreasing new syphilis infections partner with a wide array of organizations to realize the goals of a new plan. If only STI specialists, researchers and health department staff engage in a renewed effort to control syphilis, the effort will fail. For congenital syphilis, strong partnerships with maternal-child health programs are critical. For syphilis among MSM, partnerships with community based organizations already engaging with men around HIV prevention are natural partners. As many MSM continue to meet sex partners using mobile apps, the proprietors of the mobile services should be actively engaged in promoting information and education for their customers. Many app providers already have mechanisms for promoting health services which could be called upon for syphilis education and disseminating recommendations for syphilis screening. Novel ways to reach MSM and make STI testing convenient and affordable, such as the Dean Street Clinic model in London¹⁶, should be evaluated, and effective approaches should be scaled up.

All those who care about and work towards HIV prevention should be engaged with syphilis elimination efforts, because of the programmatic and biological synergies between syphilis and HIV. In all components, engagement with medical education programs – including medical schools and nursing schools – is important to focus on syphilis as a part of differential diagnoses for a variety of clinical presentations, and to ensure that providers have the skills and comfort to recommend and conduct routine STI screening. Such training should reach from primary medical curricula and into specialty training in dermatology, ophthalmology, neurology, and family practice.

A consideration of a new syphilis action plan reveals the recurrent truths about public health efforts: that pathogens once thought vanquished return, that people at risk for one infectious threat or often also at risk for others, and that the interaction of pathogens is complicated. The practical considerations for a new era of action against syphilis are equally familiar: reach people where they are already seeking services, aim to streamline diagnosis and treatment, try to innovate and leverage new technologies, enlist the broader community of caring professions to reach more people sooner, and never, ever give up.

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