**SYPHILIS SELF-TESTING IN ZIMBABWE – STIRIG NEWSLETTER SUBMISSION**

*(Syphilis is a sexually transmitted infection (STI) that causes substantial morbidity but is frequently asymptomatic. Men who have sex with men (MSM) are disproportionately affected by syphilis in multiple settings, but testing uptake remains low, particularly in low- and middle-income countries. There are multiple barriers preventing MSM from accessing STI testing, particularly in Zimbabwe where homosexuality is criminalised. One way to increase test uptake is self-testing for syphilis, whereby the individual takes the test and interprets the result in private. Self-testing may overcome some of the barriers associated with facility-based testing, thus promoting early diagnosis and interrupting syphilis transmission.)*

The Zimbabwe-China syphilis self-testing project was piloted amongst men who have sex with men in Guangzhou, China and Harare, Zimbabwe. Following previous successful clinical trials to increase HIV self-testing uptake among MSM in these settings, materials and tools were developed to pilot this method of testing for syphilis. In Zimbabwe, the project is an ongoing collaboration between the London School of Hygiene and Tropical Medicine, the Pangaea Zimbabwe AIDS Trust (PZAT) and the Biomedical Research and Training Institute (BRTI) in Harare, Zimbabwe. The work is being led by Joe Tucker and Michael Marks in collaboration with Definate Nhamo, Takudzwa Mamvuto, Gwendoline Chapwanya, Imelda Mahaka, Collin Mangenah, Fern Terris-Prestholt, Clarisse Sri-Pathmanathan, Katharina Kranzer, and Rashida Ferrand.

Formative research, exploring context-specific facilitators, barriers, and the usability of syphilis self-testing in Zimbabwe was conducted among MSM in 2020. A two-armed pilot randomised trial was then completed between October 2020 and July 2021 to assess the effectiveness of syphilis self-testing compared to facility-based testing [(NCT04480749)](https://clinicaltrials.gov/ct2/show/NCT04480749I). In addition, an economic cost analysis was undertaken, from both the provider and the client’s perspective.

The first study, [published in *Sexually Transmitted Infections*](https://sti.bmj.com/content/early/2021/06/29/sextrans-2020-054911)last year, found that syphilis self-testing can increase test uptake among MSM in Zimbabwe. Facilitators for self-testing included increased privacy, autonomy and empowerment, convenience, high trust in blood-based tests, avoidance of social and healthcare provider stigma, and reduced contact with facility-based services in the COVID-19 context. Barriers to syphilis self-testing involved the challenge of using a finger-prick test, the reluctance to test due to fear or poor awareness, and incomplete linkage to care. Participants reported high self-test usability (89.6%), suggesting that syphilis self-testing is highly acceptable in this subgroup of MSM. Study findings were consistent with HIV self-testing data in Southern Africa, as well as syphilis self-testing data from China. A [2020 pilot randomized controlled trial in China](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3870696), led by Weiming Tang and Cheng Wang, showed that syphilis self-testing increased test uptake compared to facility-based testing.

[The pilot trial](https://clinicaltrials.gov/ct2/show/NCT04480749I), which involved 100 MSM in Harare, found that syphilis self-testing increased test uptake in comparison to facility-based testing: 74% of MSM completed a self-test, distributed through a community-based organisation, and 58% completed a facility-based test. Overall, fourteen participants (14%) had a positive test result, however poor rates of confirmatory testing and linkage to care were observed. The economic cost analysis found that the total annual provider cost per facility-based syphilis test was 30 USD, versus 15 USD per self-test. The total user cost per client per clinic visit, necessary for confirmatory testing and treatment, was 9 USD. Three visits would thus consume almost 92% of a client’s weekly income due to productivity losses and transport expenses. The issue of linking to confirmatory testing and treatment following a reactive self-test was apparent in both the formative research and the pilot. This could be due to the high client costs, or due to ongoing stigma in healthcare facilities. Poor linkage to syphilis care has also been raised in pre-existing evidence and would negatively impact the capacity for testing to translate into public health benefits for syphilis control.

This research demonstrates that syphilis self-testing can increase test uptake among hidden populations of MSM in Zimbabwe. More research is needed into how this can be implemented, perhaps alongside HIV self-testing services, as STI testing in Zimbabwe is not easily accessible to MSM and is not part of the current standard of care. Additional clinical trials are needed to assess the effectiveness of syphilis self-testing when limited input from community-based organisation is provided. In addition, policies which clearly include MSM are necessary to reduce the burden of syphilis. The study was supported by the Dermatology Hospital of Southern Medical University, the UK Department of Health and Social Care, the UK Department for International Development, the UK Global Challenges Research Fund, the Medical Research Council, the Wellcome Trust, and the NIH (NIAID K24AI143471, P30 AI050410).

**Useful links:**

**STI-BMJ 2020 paper**

Sri-Pathmanathan C, Nhamo D, Mamvuto T, et al Syphilis self-testing to expand test uptake among men who have sex with men: a theoretically informed mixed methods study in Zimbabwe Sexually Transmitted Infections Published Online First: 29 April 2021. doi: 10.1136/sextrans-2020-054911

<https://sti.bmj.com/content/early/2021/06/29/sextrans-2020-054911>

**Pilot randomised trial conducted July 2020 to October 2021 in Zimbabwe**

<https://clinicaltrials.gov/ct2/show/NCT04480749>

**Pilot randomised controlled trial in China (2020)**

<https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3870696>