

Implementing testing approaches for SARS-CoV-2 to address health disparities: lessons learned from sexually transmitted infections

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INTRODUCTION

SARS-CoV-2 is a novel coronavirus and the cause of COVID-19 (<https://www.who.int/>). There are currently 45 million individuals diagnosed with COVID-19 and over 1.2 million who have died worldwide.¹ Of these, nine million cases and over 228 000 deaths have occurred in the USA.¹ COVID-19 has disproportionately impacted individuals with comorbidities and of older age. Other social risk factors predicting vulnerability to COVID-19 include low socioeconomic status, race/ethnicity and occupational setting. There has been a higher number of COVID-19 cases and deaths among marginalised groups. Populations in the USA with a greater COVID-19 burden include African American/black and Hispanic/Latino communities. There are limited data on SARS-CoV-2 and sexual orientation and gender diversity. However, based on existing health disparities, the lesbian, gay, bisexual, transgender and queer (LGBTQ+) community is also likely to be disproportionately impacted by COVID-19. A key component of addressing COVID-19 is diagnostic testing for SARS-CoV-2. However, approaches and models to implementing accessible SARS-CoV-2 testing, especially for vulnerable communities, have not been well described.

STIs also disproportionately affect underserved and marginalised communities, with 376 million new infections of curable STIs worldwide in 2016.² In the USA, African American/black, Hispanic/Latino and LGBTQ+ individuals are at a greater risk for STIs due to proximal and distal social determinants of health, including economic stability, physical

environments, social and community context, education, and healthcare access.³ Similarly, the impact of social determinants has worsened STI health outcomes among vulnerable populations across the world.³ Given the overlap in communities affected by COVID-19 and STIs, there are significant lessons to be learned from experiences with STI testing. We examine challenges related to COVID-19 testing and offer potential solutions derived from STI testing that may increase access for those most at risk and mitigate health disparities (figure 1).

SARS-COV-2 TESTING AND CONTAINMENT

The ability to perform PCR-based testing for SARS-CoV-2 is essential. During the initial stages of the pandemic, challenges arose including developing accurate tests, obtaining adequate testing supplies and distributing tests across

populations in need. Contact tracing to engage individuals exposed by others positive for SARS-CoV-2 is a major component of prevention.⁴ Contact tracing for COVID-19 can build on STI programme infrastructure, such as existing partner notification services.⁵ In some states, disease investigation specialists performing STI contact tracing have diverted efforts to COVID-19. These specialists routinely reach positive cases, notify their contacts about exposure and refer them to clinical care and treatment. While using existing STI contact tracing infrastructure could prove effective in scaling up response to COVID-19, the feasibility and acceptability of contact tracing should also be assessed. Studies indicate STI-related stigma as a barrier to contact tracing, including seeking testing and treatment, informing partners of exposure, and disclosing partner information.⁵ Contact tracing for COVID-19 may involve similar challenges. However, timely testing and identification is critical to identifying cases, including asymptomatic cases, and preventing transmission. With no vaccine or cure for SARS-CoV-2, accurate and high volume testing is crucial to containment of the virus. Therefore, public health capacity and resources should be allocated to disseminate effective messaging and implement interventions that increase public awareness and acceptability towards testing uptake, contact tracing and quarantine measures.⁴

Figure 1. Improving Access to COVID-19 Testing

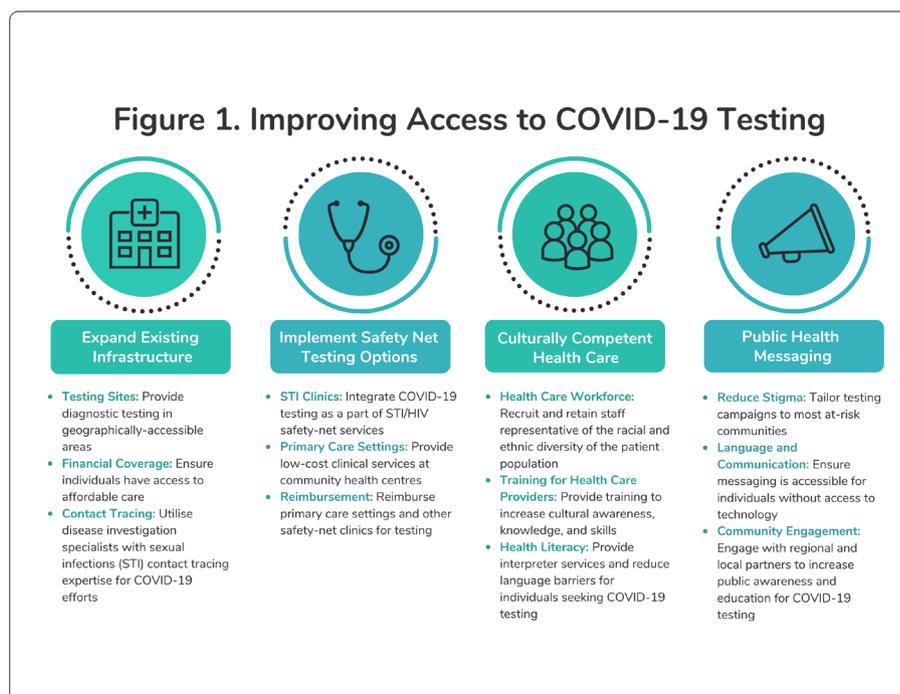


Figure 1 Improving access to COVID-19 testing.

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STRUCTURAL BARRIERS RELATED TO SARS-COV-2 TESTING

Despite the increasing availability of SARS-CoV-2 testing in the USA and many countries, there remain significant testing gaps among individuals most affected by SARS-CoV-2. In the USA, one of the biggest barriers is the lack of accessible tests and testing sites. STI testing operations have included mobile sites, walk-in clinics and other infrastructure implemented as alternatives to medical facilities. Testing mechanisms for SARS-CoV-2 have adopted similar approaches, such as drive-through testing sites. However, these approaches do not adequately address geographical healthcare disparities currently exacerbated by SARS-CoV-2. Rural communities tend to be more geographically isolated from healthcare settings. Those in urban settings may rely on public transit, which may lead to their increased risk of SARS-CoV-2 exposure. To improve testing accessibility, states have implemented novel approaches including referring mobile testing vans to neighbourhoods with the highest rates of positive cases of SARS-CoV-2, sending healthcare workers directly to residents' homes, and establishing temporary and mobile testing sites. Innovative interventions should be adapted worldwide to scale on and improve access to SARS-CoV-2 testing.

Providing affordable testing is key to improving testing rates. Health systems should consider the financial implications of testing and hospitalisation needs associated with COVID-19. In the USA, recent policies required no insurance cost-sharing for Food and Drug Administration-approved SARS-CoV-2 tests. However, out-of-pocket costs for provider visits and laboratory or radiological studies may be expensive. These policies are limited to individuals who may lack a primary care physician (PCP) (25%), are uninsured (9%) or are underinsured (29%) in the USA.⁶⁻⁸ Testing eligibility criteria that screen out asymptomatic individuals are restrictive for workers with mandated workforce COVID-19 testing. However, individuals who test positive or who must quarantine risk losing their jobs or critical wages. To determine the impact of COVID-19, countries should reassess existing resources and efforts to both financially support and sustain high rates of testing per capita and expand access to care for those most affected by COVID-19.

LESSONS LEARNED FROM STI TESTING

Existing public health infrastructure and current approaches to STI testing could be used to address COVID-19 testing. Government and public health entities should transition clinical expertise from STI clinic settings to COVID-19 efforts to inform targeted outreach efforts to marginalised populations and implement contact tracing programmes. PCPs are the backbone of many healthcare systems and STI testing is recommended by many organisations as part of routine primary care. Safety-net options for STI screening and treatment include the use of publicly funded STI clinics and PCPs. Integrating SARS-CoV-2 testing as part of STI/HIV safety-net services and within primary care settings that can provide low-cost clinical services may be one approach to address testing among vulnerable populations. Community clinics should be engaged, equipped and incentivised to perform PCR-based diagnostic SARS-CoV-2 testing as part of existing clinical infrastructure or set up in key locations to improve access to underserved populations.

Safety-net SARS-CoV-2 testing at specific COVID-19 clinics or as part of community clinics should cover testing costs. Similar to STI testing, specimens could be sent to government-funded laboratories for SARS-CoV-2 testing. Reimbursement to PCPs and other clinics for testing uninsured and underinsured patients in the USA is important for creating a sustainable financial model in these settings. Doing so, however, will require timely collaboration from public health departments, government oversight entities and insurers to offset the costs and reimburse underfunded clinics. Other healthcare systems across the world should allocate adequate funding and resources to support clinical capacity for widespread SARS-CoV-2 testing.

STI clinics also have the potential to address rising rates of interpersonal violence during imposed social isolation measures, quarantine and location periods.⁹ Due to the frequent concurrence of STIs, HIV and interpersonal violence, clinic providers in these settings are more likely to be familiar with best practices in intervention approaches and referral resources. Government and public health policies should incorporate resources such as interpersonal violence hotlines tailored to COVID-19 as part of the pandemic response.

There have been efforts to make rapid point-of-care testing options in STI testing, including rapid HIV and hepatitis

C virus tests that can be performed in community organisations or at home, rather than in clinical settings. STI clinics have also initiated specimen self-collection for tests conducted at medical facilities. Scaling rapid point-of-care testing would be ideal to improve access to SARS-CoV-2 testing. At-home and/or self-collection options would limit healthcare worker exposure to SARS-CoV-2, thus reducing the likelihood of infection and burden on the healthcare system. Telemedicine visits, which have been increasingly implemented in some STI clinical settings in lieu of inperson visits, should also be used for COVID-19 screening and care.

Much of the success in testing and treating STIs has come from community engagement, including communication, public awareness and education.¹⁰ The same will likely be true for SARS-CoV-2 testing. Public health institutions and health systems should tailor COVID-19 messaging to the linguistic and multicultural needs of key populations. Public health messaging, including culturally congruent testing campaigns, is critical to improve testing among marginalised and at-risk communities. Individuals with low health literacy or lack of technology (ie, internet) may not be able to access certain forms of messaging or education. Behavioural scientists, health communication specialists and health educators will be an important link in communicating with populations most in need. It is important that messages that are disseminated be culturally congruent while also promoting individual and societal health.

CONCLUSION

Lessons learned from STI testing suggest that accessible, affordable and scalable testing is a necessary component of reducing the spread of SARS-CoV-2. STI testing models also highlight the importance of intentionally focusing efforts on traditionally underserved communities affected by COVID-19 by examining cost, testing operations, awareness campaigns and social policies that could support increased testing and containment. Testing for SARS-CoV-2 and addressing health disparities are key components of reducing the impact of COVID-19 among underserved communities.

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