

Preventx.

Public health economics: STI testing in the digital age

How integrated remote testing can increase efficiency and facilitate cost savings



Summary

Public health directors need solutions that serve their populations while containing costs. Public health interventions must evolve to safeguard the well-being of communities; preventing and mitigating the spread of infections, including sexually transmitted infections (STIs); and ensuring equitable access to interventions, all in a cost-effective way.

In this era of advancing technology and changing healthcare landscapes, the emergence of online testing services that integrate with in-person clinics presents an opportunity to substantially enhance the efficiency, outcomes, and cost-effectiveness of STI testing and treatment.

This paper assesses the financial impact of an integrated remote and in-clinic testing solution within a US context.

Preventx is the largest provider of public remote sexual health testing and treatment in Europe. With over 15 years' experience, more than 5.5 million kits dispatched, and 15 million tests completed, Preventx holds the largest bank of remote testing data in the public health sphere and is now offering services in the US.

Public health value—at the population level

The integrated technology platform can help reach the hard to reach

The best-intentioned testing interventions fall short if they can't reach at-risk populations. Preventx addresses this concern in two ways:

First, the digital platform allows public health decision-makers and clinicians to target hard-to-reach groups. It is vital to consider the stigma factor; some people may be reluctant to engage with traditional healthcare pathways, such as attending a clinic or speaking about STIs face to face. Others may have difficulty fitting an in-person appointment into their schedules or may have issues with mobility or the time and cost of transportation. Remote testing breaks down these substantial barriers.^{1,2}

Second, by providing remote testing services to large numbers of people who do not need to be seen in clinic, healthcare provider capacity is freed up, enabling them to attend to those with more complex needs, those for whom remote testing is not an option, and those who prefer face-to-face care. This increases efficacy of the wider healthcare system and significantly reduces the cost of STI interventions.

Data-driven triage can improve health resource utilization

In the Preventx platform, an effective triage methodology closely replicates a medical consultation and directs the user to the most appropriate tests based on symptoms and risk factors. It also enables personalization, safeguarding, and effective connection to care. This, in turn, contributes to a high test kit return rate and user satisfaction, while saving the payer money by avoiding unnecessary tests.

The "digital front door" identifies whether a service user is appropriate for online testing or needs a referral to a clinic. This approach has been shown to contribute significantly to reducing the burden on primary care and sexual health clinics. This is especially pertinent in the public health sphere due to budgetary and resource pressures.

Decision-makers can use timely, robust data sets to refine the referral and triaging criteria on an ongoing basis, allowing for incremental improvements as more is learned or situations change. These updates can drive tailored communication campaigns and targeted outreach.

It is calculated that remote testing is **57% cheaper** than in-clinic testing in a public health setting.⁴

Internet-based testing accounted for **98% of the HIV testing increase** between 2020 and 2021.⁵

—UK Health Security Agency

In the UK, Preventx manages the National Hepatitis C Testing Program and Sexual Health London (SHL), the world's largest publicly funded sexual health testing program.³

Between 2018 and 2023, SHL dispatched 2 million testing kits, of which 78% were returned. Service users were:

- 56% female, 43% male, and 1% trans/nonbinary or other gender minorities
- 82% heterosexual, 17% gay/bisexual
- 75% aged between 20-34yrs
- 42% from racially minoritized groups/communities
- >70% of orders from returning service users
- 6% kit orders from individuals taking PrEP

Increased testing can decrease spread

Testing, identification, and treatment are important steps in limiting the spread of infection. Upon positive test results, users are able to notify previous sexual partners who may also choose to get tested and are more likely to use protection when engaging in sexual activity, curbing onward transmission. Even communication of testing initiatives can serve as a prevention initiative, alerting people about STIs and their impact.^{1,6-8}

Studies in the UK and US have shown that the availability of remote and online testing can increase the STI testing rate. For example, the sizable rise in internet-based testing (32% increase from 2020 to 2021) accounted for almost all (98%) of the HIV testing increase.⁵ The interoperability of the Preventx digital platform allows for rapid dissemination of infection status along with counseling, safeguarding, education about treatment options, and connection to care.

Robust data sets can power targeted approaches

Population-level data sets can help public health professionals spot trends in conditions and enable effective interventions that immediately impact public health outcomes. Analysis of testing data also helps identify which populations and groups are most at risk of infection, allowing the development of targeted approaches that immediately impact local public health outcomes.⁹

Health economic value—at the system and clinic level

This integrated digital and in-clinic service offers the potential to reduce overall testing costs and generate savings for clinics and health systems.⁴

Direct cost savings

Through the ability to triage patients effectively, the integrated platform ensures that only appropriate tests are conducted, optimizing resource allocation and minimizing unnecessary testing. That eliminates inefficiencies and reduces healthcare burdens. The digital model allows systems to be tailored to local needs and budgets, which can allow local authorities to control their costs while increasing overall coverage. By having a dedicated lab as part of the holistic service offer, costs can be further controlled as well as ensuring optimal quality and accountability.

Online STI screening services for asymptomatic patients have proven to be around 50% more cost-effective than attending physical clinics.³ Since the introduction of the online service in London in 2018, nearly 40% of clinic attendees shifted to online testing.³

These cost savings and resource efficiencies can contribute to the sustainability and resilience of local healthcare systems, ensuring that resources are allocated appropriately to deliver effective STI testing and prevention services where appropriate.

Indirect cost savings

Clinics and health systems that use this platform experience significant cost savings by focusing their resources on patients who genuinely require face-to-face care,⁴ while those who can be served through digital channels can be directed towards remote testing.

That shift reduces the burden on physical clinics and enables a more efficient use of healthcare resources. Clinics can focus on providing comprehensive care to symptomatic patients, emergency cases, complex cases, and vulnerable groups, while asymptomatic and mildly symptomatic individuals can conveniently test remotely.



Test kit return rate³:

78%

Service user satisfaction rate³:

98.9%

Social value—at the personal level

As well as financial impacts discussed, remote testing provides wider social benefits, such as the ability to engage and support underserved communities who may be reluctant to access traditional healthcare settings due to cost, stigma, and/or potential confidentiality concerns.^{1,6-8} The triage process can be customized to empower public health officials to identify societal concerns beyond sexual health, such as abuse, exploitation, and domestic violence.

For example, during the COVID-19 pandemic, health authorities in London used the digital triage process to include 3 additional questions on domestic violence to enable them to counter the marked increase across the capital at that time.^{8,10}

Conclusion

An integrated approach to sexual health testing and treatment can save public health significant costs, while improving efficiency and engagement with a wider population. In a world of ever-reducing budgets, it is an opportunity to do more with less and ensure that the STI epidemic is tackled in an effective, ethical, and holistic manner.

References: 1. White J. Why tech interoperability is key to recovery of sexual health services. *Med-Tech Innovation News*. December 21, 2022. <https://www.med-technews.com/medtech-insights/digital-in-healthcare-insights/why-tech-interoperability-is-key-to-recovery-of-hiv-testing/> 2. Goward C, Apea V, White J, Clune M, Day S. P54 Symptom status and postal kit return rates of individuals accessing an online sexually transmitted infection (STI) testing service. *Sexually Transmitted Infections*. 2022;98(Suppl 1):A49. 3. Day S, Kelly A, Goward C, Ostridge E, Jones S. Five year experience of Sexual Health London (SHL): a large, regional, online postal sexually transmitted infection (STI) testing service. Sexual Health London. 2023. 4. Data on file. Preventx Limited. 5. HIV testing, PrEP, new HIV diagnoses, and care outcomes for people accessing HIV services: 2022 report. GOV.UK. Updated December 1, 2022. Accessed July 13, 2023. <https://www.gov.uk/government/statistics/hiv-annual-data-tables/hiv-testing-prep-new-hiv-diagnoses-and-care-outcomes-for-people-accessing-hiv-services-2022-report>. 6. Melendez JH, Hamill MW, Armington G, Gaydos CA, Manabe YC. Home-based testing for sexually transmitted infections: leveraging online resources during the COVID-19 pandemic. *Sexually Transmitted Diseases*. 2021;48(1):e8-e10. 7. Ferreira A, Young T, Mathews C, Zunza M, Low N. Strategies for partner notification for sexually transmitted infections, including HIV (review). *Chocrane Database of Systematic Reviews*. 2013;10. 8. Friedman AL, Kachur RE, Noar SM, McFarlane M. Health communication and social marketing campaigns for sexually transmitted disease prevention and control: what is the evidence of their effectiveness? *Sexually Transmitted Diseases*. 2016;43(Suppl 1):S83-S101. 9. Sexually transmitted disease surveillance 2021. Centers for Disease Control and Prevention. Last reviewed April 11, 2023. Accessed July 13, 2023. <https://www.cdc.gov/std/statistics/2021/default.htm>. 10. Dickinson M, Kellett C, Day S. P36 Domestic abuse and/or violence (DA/V) reporting by service users (SUs) of a regional online sexually transmitted infection (STI) testing service (e-service), during the COVID-19 pandemic. *Sexually Transmitted Infections*. 2022;98(Suppl 1).

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