Sexually Transmitted Infections

What's on the rise in Sexually Transmitted Infections?

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Several factors related to Sexually Transmitted Infections (STIs) transmission and detection are on the rise. As a result, there is an urgent need for a comprehensive understanding of the epidemiology, challenges, and emerging issues in bacterial STIs. Two of the four papers in *The Lancet Regional Health—Europe* Series on Sexually Transmitted Infections help understand what exactly is on the rise in STIs, by delving into the epidemiology of STIs and the management of asymptomatic STIs in Europe.

Notifications of bacterial STIs are on the rise. In one of the Series articles, Oriol Mitjà et al.[1] performed a non-systematic review of notification data from 49 countries in the WHO European Region, covering 24 European Economic Area countries, 17 Eastern European/Central Asian countries, Switzerland, the UK, and Israel. They provide a comprehensive overview for newly diagnosed syphilis, gonorrhoea, and *Chlamydia trachomatis* infections spanning a 10-year period from 2012 to 2021.

One major finding is high regional variability in bacterial STI notifications. For instance, Northern and Western European countries exhibit higher notification rates per 100,000 population compared to other regions. These differences can be attributed to variations in surveillance performance, STI testing policies (including chlamydia screening programmes targeting young women), and testing accessibility. Therefore, notification data do not provide convincing evidence for major differences regarding infection prevalence and transmission. This view is supported by e.g., Doran et al. who examined STI screening performance specific to MSM over time and across locations and observed an increase in MSM-targeted diagnostic services, a substantial rise in screening for genital and rectal bacterial STIs, with PrEP-using MSM showing 8-times higher odds for syphilis testing and anal swabbing compared to other multi-partner MSM, but also a widening disparity between cities.[2] In Switzerland, STI data triangulation indicated that the increase in gonorrhoea notifications, as shown by Mitjà et al. to be concentrated in MSM, was primarily due to both increase (more people, higher frequency) and expansion of testing (more swabbing sites including pooled swabbing).[3]

There is a growing demand for STI testing at sexual health clinics and community-based voluntary counselling and testing (CBVCT) centres. Some European countries have established national home-sampling programmes to address that demand.[4] Mitjà et al. highlight that CBVCT decreased significantly (>50%) during lockdown closures. In Germany, COVID-related restrictions on public life also resulted in a substantial decline in CBVCT visits, with 42% fewer encounters in the first half of 2020 compared to the second half of 2019.[4] Mitjà et al. list emerging sexually transmissible pathogens in Europe and distinguish between sexually transmitted and transmissible infections. Some of these emerging STIs already have effective vaccines available, such as hepatitis A and mpox. However, access to effective vaccines is often hindered by inadequate public health policies. Mitjà et al. point out that vaccination strategies have been inconsistently implemented, resulting in multi-country hepatitis A outbreaks in Europe in 2016–2017 and subsequently in Hungary, Croatia, and Romania in 2022–2023. During the European mpox outbreak among MSM in 2022–2023, there was an unequal distribution of vaccines, not matching the actual requirements of individuals within and across countries. Some countries acquired an excess of vaccines, while others experienced significant shortages.

What's most on the rise in STIs is screening for asymptomatic infections. Consequently, many experts in the field advocate for a re-evaluation of STI screening as a control strategy.[5] In their Series article on management of asymptomatic STIs in Europe, Kenyon et al.[6] review the evidence regarding the harms and benefits of screening and argue for a pathogen-specific approach to screening. They suggest limiting frequent STI screening to HIV and syphilis, even in high STI prevalence populations like PrEP-using MSM. They highlight the growing evidence that screening for asymptomatic gonorrhoea/chlamydia, while being implemented because we have the tools to do so, has largely unproven

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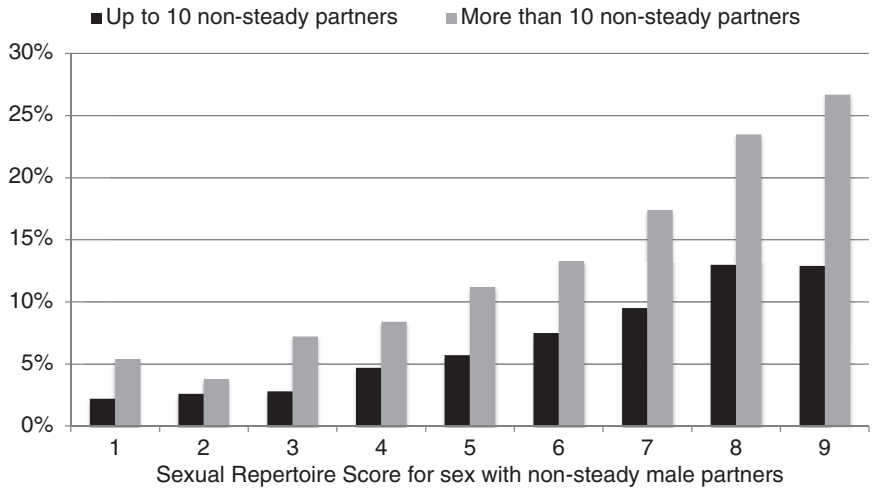

Fig. 1: Percentage of European MSM reporting STIs* diagnosed in the previous 12 months (y-axis), by sexual repertoire diversity (x-axis), stratified by partner numbers. Source: EMIS-2010**.

Legend: Sexual Repertoire Score (SRS), an additive score ranging from 1 to 9, based on previous-12-months engagement in insertive or receptive penile-oral, insertive or receptive penile-anal, insertive or receptive oral-anal sex, insertive or receptive brachio-anal sex ('fisting'), or mutual masturbation. *Syphilis, gonorrhoea, or Chlamydia, including LGV, or 1st episode of ano-genital warts or herpes. **European MSM Internet Survey 2010. Analytic sample size: N = 120,254; 38 countries across Europe; www.emis-project.eu.

benefits at both individual and public health levels. Additionally, screening can introduce harm, such as increased antimicrobial consumption, leading to impaired specific immunity and a disrupted microbiome that may offer less protection against STIs and other pathogens. Importantly, even though screening may temporarily reduce gonorrhoea prevalence in highly dense sexual networks, it can exert selection pressure for *Neisseria gonorrhoeae* to develop antimicrobial resistance and might fail as a control strategy on the long run.

Kenyon et al. argue that any testing recommendation for asymptomatic individuals must be justified with high-quality randomized controlled trials, which are currently lacking for STI screening. Treating asymptomatic individuals may render them more susceptible to new infections, while spontaneous clearance may result in reduced susceptibility.[7] Model calculations that consider immunity effects yield a more cautious assessment of the potential public health benefits of gonorrhoea/chlamydia screening.[8] In accordance with the bioethical principle of "*primum non nocere*", even in times of increasing STI risk in highly sexualised societies, it is essential to carefully re-evaluate the harms of screening for bacterial STIs like *Mycoplasma genitalium*, *C. trachomatis*, and even gonorrhoea before implementing or expanding STI screening.

As European citizens living in a techno-capitalist era characterized by pharmaco-pornographic consumption,[9] we are witnessing a rising use of smartphone apps to establish new sexual encounters that has expanded beyond the gay community. International party networks are broadening their focus beyond cis-gender MSM. There is increasing awareness of STIs, with sexual education incorporated into streaming series like Netflix's "Sex Education", reaching tens of millions of viewers. We are part of increasing pornography production and/or consumption,[10] possibly shaping the diversity of sexual practices. Although it's widely known that partner numbers and concurrency influence STI transmission, other factors like dense network connectivity and diversity of sexual practices remain underexplored. There is increasing evidence that e.g., anal intercourse combined with drug use is becoming common among young heterosexuals,[11] and the diversity of heterosexual practices has been on the rise for many years.[12] Data from the European MSM Internet Survey (2010) illustrate how sexual repertoire diversity impacts STIs in MSM, independent of partner numbers (Fig. 1). Unfortunately, much research neglects these specific factors and persists in employing ambiguous terms like "high-risk behaviour" or "risk compensation", which are poorly defined and often stigmatizing.

Contributors

AJS conceptualised the commentary and wrote the first draft, UM reviewed and edited the manuscript.

Declaration of interests

AJS; UM: none.

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