EDITORIAL

Infectious syphilis in young heterosexuals: responding to an evolving epidemic

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Infectious syphilis has re-established itself within the UK, Republic of Ireland and other industrialized countries over the past decade.[1–4] Rates of diagnosis in the UK are now at their highest since the early 1950s. The recent epidemic has been dominated by a rapid increase in diagnoses made in white men who have sex with men aged 25–34 years, many of whom were co-infected with HIV, and public health control has rightly focused on this group. However, until now, the characteristics of the small but increasing number of cases in heterosexuals have been less well described. In this edition of *International Journal of STD & AIDS*, there are several reports of syphilis outbreaks among young heterosexuals, typically aged less than 19 years, from across the UK. Some of these cases were socially vulnerable and raised issues of child protection. Taken together, these outbreaks reveal the diverse, complex nature of the evolving syphilis epidemic and highlight the public health challenges it brings.

Criteria for declaring a sexually transmitted infection (STI) outbreak vary, but most outbreak investigations were instigated because local sexual health services observed unexpected increases in diagnoses within recognized sexual networks. Local and national surveillance data were used to confirm and better describe the outbreaks, to develop and implement strategies aimed at interrupting onward transmission and preventing further cases, and also to evaluate the effectiveness of the interventions. The evidence base available to inform the management of STI outbreaks is sparse.[5] Outbreak control teams (OCTs) used guidelines formulated by the Health Protection Agency and British Association for Sexual Health and HIV, which have been based on published and unpublished investigations.[6] However, since each outbreak presented problems unique to the local context, an effective response also relied on the experience and local knowledge of the OCT members.

STI outbreaks can take months to develop as transmission is heavily influenced by the density and structure of local sexual networks. The performance of partner notification (PN) is thus crucial to effective outbreak management.[7] In the recent heterosexual outbreaks, PN success rates were often poor and most OCTs found the size of the outbreaks difficult to judge. This raised concerns about a significant undiagnosed pool of infection and the potential for ongoing transmission within the wider sexually active population. Furthermore, service access by vulnerable groups was identified by a number of OCTs early in their investigations as a key problem. Infected patients were often not registered with health services and did not attend services when they had initial symptoms of infection or for antenatal care.[8]

Consequently the principal aims of the control phase response were to raise public and professional awareness of syphilis and to improve service access. A comprehensive communication plan tailored to the local at-risk populations was central to the control strategies at all the sites.[9–13] General health campaigns that targeted young sexually active people were used by youth services to promote increased condom use and reduce numbers of sexual partners. Early diagnosis and treatment were promoted by raising awareness among general practitioners and the public to disease presentation, offering syphilis testing within youth services and expanding PN resources. Third trimester antenatal screening was also considered by some OCTs but was not implemented at any of the sites because it was not considered cost-effective. However, the effectiveness of these interventions varied considerably. Hampshire OCT reported that awareness-raising strategies had little impact on testing rates[12] and despite high national coverage of antenatal screening, two cases of congenital syphilis were seen by the Teesside OCT.[11,14] The effectiveness of PN was also suboptimal for both these outbreaks.[11,12] In contrast, effective PN almost certainly contributed to containment of the outbreaks in Forth Valley and Greater Manchester.[9,10]

It is likely that additional clusters and outbreaks occurred during the period covered by the investigations described here. A high proportion of anonymous sexual partners and/or attendance at a variety of health-care services may restrict the identification and thus control of emerging local epidemics. This is a particular problem in urban areas and may account for ongoing epidemics among heterosexuals within London.[15,16] For the recent outbreaks described here, the reason why some were controlled whereas others persisted is probably related to the phase of the epidemic and underlying sexual network structures.[17] Where infection has recently entered a sexual network and the first phase is identified and managed effectively, infection can be controlled and potentially eliminated. However, where the epidemic has matured and infiltrated local sexual networks, an epidemic characterized by an underlying low number of cases punctuated by occasional increases can result.[18] Some peaks in diagnoses may be the subject of investigation, but control is likely to be challenging as diagnoses are more dispersed and appear disconnected.

A prompt, multifaceted public health response coordinated by an OCT at the first indications of an emerging STI outbreak is crucial if control efforts are to be successful. Collating and reporting information from investigations can also inform the development of intervention strategies used in the management of future outbreaks. Many of the outbreak investigations highlighted the importance of effective PN and of sustaining health promotion

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and public and professional awareness as part of the outbreak response. As part of long-term STI intervention strategies all young people should be able to access comprehensive sexual health services for testing, treatment and management supported by improved laboratory turnaround times for the diagnosis of syphilis.[19] It is easier to manage an emerging problem than an endemic disease: to this end increased vigilance by sexual health services and the development of timely surveillance resources to identify outbreaks will improve outbreak detection and promote early case management.

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