

decreasing barriers to testing and opening doors for more extensive screening and control measures (figure 1). Routine serological screening was instituted for blood donors, hospital inpatients, health insurance applicants and prisoners.<sup>6 7</sup>

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## A cure at last? Penicillin's unintended consequences on syphilis control, 1944–1964

In 1928, Alexander Fleming discovered the mould *Penicillium notatum*,<sup>1</sup> setting the stage for the development of an entirely new syphilis cure. Initial problems with cultivation and isolation waylaid the research until it was taken on by the Oxford team of Howard Florey and Ernst Boris Chain.<sup>2</sup> The first patient was treated in 1943 and within 12 months over 10 000 early syphilis patients had been treated.<sup>3</sup>

Several features of penicillin made its development significant. Unlike Salvarsan's, penicillin's organic effects were clear-cut and dramatic. As Salvarsan had shaped venereal disease control in the UK, the rollout of penicillin also transformed healthcare systems.

The widespread use of penicillin was a major force behind historic decreases in reported syphilis cases. There was a 95% reduction in new UK syphilis cases between 1946 and 1955.<sup>4</sup> Physicians ascribed this decrease to the direct effect of penicillin's curative powers. In addition, the wide scale use of penicillin for many infections likely meant that some individuals with undiagnosed syphilis were treated anyway.<sup>5</sup> Unlike Salvarsan, penicillin proved effective against neurosyphilis. In addition, it lacked the toxic side effects of malariotherapy and required a shorter course of treatment relative to other standard syphilis cures.

Penicillin shifted thinking about the extent to which syphilis was curable,