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## The magic bullet hits many targets: Salvarsans impact on UK health systems, 1909–1943

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The development of Salvarsan had a profound impact on venereal disease (VD) care in the UK. Administratively distinct from the general health system, the new system of VD care created by the Royal Commission provided diagnosis and treatment to all regardless of means. The government supplied three-quarters of the centres' costs and provided Salvarsan free to general practitioners.<sup>1</sup>

Beyond shaping health systems, the growing importance of Salvarsan also prompted the creation of a new medical subspecialty: venereology, which emerged with its own specialist training track focused on diagnosing, treating and eventually preventing syphilis infection. By the end of 1917, 118 new VD clinics had opened and 204 000 patients were evaluated.<sup>2</sup> Syphilis screening increased after the development of Salvarsan.<sup>3</sup> As the rapidly expanding VD system surpassed the number of skilled doctors, army physicians more skilled with VD control were hired by some non-military hospitals; elsewhere more junior and inexperienced physicians assumed greater responsibility. In 1922, the founding of a new national medical society for venereology heralded the specialty's official recognition.<sup>4</sup>

For the Royal Commission, curing syphilis through medical means, such as administering Salvarsan, took precedence over behavioural interventions, such as promoting condom use.<sup>2</sup> This attitude extended into the start of the war days. At the start of World War I, the Minister of War Lord Kitchener urged caution to soldiers: "In this new experience you may find temptations both in wine and women. You must entirely resist both temptations, and, while treating all women with perfect courtesy, you should avoid any intimacy."<sup>5</sup>

Expressing similar attitude, one of the Royal commissioners noted, "sex instruction based on moral principles ... stood as the core of its preventive strategy." Moreover, "the

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government-subsidized treatment centres were to be set up to treat, rather than medically prevent VD cases.”<sup>6</sup> Prevention required tackling behaviour, which the Commission avoided.

Despite its reputation as a ‘magic bullet’, the impact of Salvarsan on health systems was greater than its clinical utility as an antisyphilitic drug, which was marginal at best. Salvarsan did not effectively cure neurosyphilis and was associated with a number of side effects.<sup>2</sup> By 1914, 109 deaths had been attributed to Salvarsan.<sup>7</sup> Ongoing problems with administration and dosing increased the need for specialist venereologists.<sup>2</sup> The standard 2-year course of mercury continued to be used for decades.

Yet, despite Salvarsan’s toxicity, incomplete effectiveness and inability to fully displace other forms of treatment, the drug proved pivotal in the development of new public health structures, specialty medical training and changing attitudes among authorities.

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