

Microelimination of chronic hepatitis C in Switzerland: modelling the Swiss Hepatitis Strategy goals in eastern, western and northern regions

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BACKGROUND AND AIMS

Direct-acting antiviral agents have revolutionised hepatitis C treatment. In 2014, the Swiss Hepatitis Strategy was developed to eliminate hepatitis C virus (HCV) infection and the associated liver-related morbidity and mortality by 2030. Though numerous national studies and assessments have identified a relatively low prevalence rate of 0.7% in the country, little has been done to identify the epidemiology of HCV on the regional, or micro, level. This study aimed to identify scenarios to achieve the objectives of Swiss Hepatitis Strategy by 2030 in eastern, western and northern regions in Switzerland.

METHODS

Three Excel-based Markov disease burden models, based on hospital- and region-specific data, were developed to forecast the current and future prevalence of HCV infection by fibrosis stage and liver disease stage to 2030. Two scenarios were developed to evaluate the disease burden in St Gallen, Geneva and Zurich: a Base 2016 scenario, representing the current standard of care in each canton, and a second, potential scenario to achieve the Swiss Hepatitis Strategy goals.

RESULTS

In 2015, the estimated viraemic prevalence in St Gallen was 0.5% (0.5–0.6%) corresponding to 2800 (2600–3100) cases. In Geneva and Zurich, the estimated prevalence was slightly higher, with an estimated 0.7% (0.6–0.7%) viraemic prevalence, or 3300 (3000–3600) cases in Geneva and 0.7% (0.7–0.8%) viraemic prevalence, or 10,800 (9900–11,900) infections in Zurich. In order to achieve the Swiss Hepatitis Strategy goals of a 30% reduction in new infections, total viraemic infections, liver transplants, and hepatocellular carcinoma cases by 2020 and a 90% reduction by 2030, all regions will need to increase the annual number of treated and diagnosed patients up to 2030. In St Gallen, an up-front investment to treat 430 patients annually by 2020 would be necessary, to achieve the 2020 goals. After 2020, treatment could be reduced to ~150 patients annually until 2030. The number of patients diagnosed, however, would need to be sustained at 130 annually after 2020. In

Geneva, 235 patients need to be treated, with 140 diagnosed annually between 2019 and 2030 to achieve both 2020 and 2030 goals. In Zurich, 850 patients will need to be treated annually in 2019 and 2020 and the number of diagnosed will need to expand to 350 individuals annually by 2022.

CONCLUSIONS

Intensified screening for chronic hepatitis C and increased access to direct-acting antivirals are necessary to meet the Swiss hepatitis strategy elimination goals over the next 12 years.

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