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TECHNICAL REPORT

Hepatitis C

A projection of the healthcare and
economic burden in the UK

Bhanu Patruni, Ellen Nolte

Prepared for the Hepatitis C Trust

The research described in this document was prepared for the Hepatitis C Trust.

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Published 2013 by the RAND Corporation
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Summary

Hepatitis C is a leading cause of chronic liver disease, end-stage cirrhosis and liver cancer. Because of the slow progression and asymptomatic character of the infection, many people are unaware of having it. The UK has been found to lag behind a number of European countries with respect to disease detection and treatment. At the same time, relatively little is known about the healthcare and economic burden associated with hepatitis C in the UK.

This study sought to contribute to better understanding of the burden associated with HCV infection in the UK through estimating the prevalence and the number of deaths that can be attributed to HCV-infection and through assessing the healthcare and societal costs that are associated with HCV infection under different scenarios of diagnosis and treatment rates.

Using a cohort simulation model, we projected that, under current treatment patterns, the overall prevalence of HCV infection would increase from 0.44 per cent in 2010 to 0.61 per cent in 2035. This equates to an increase in the number of persons living with HCV infection from around 265,000 in 2010 to 370,000 in 2035. We estimated that this rise in prevalence would be associated with an increase in healthcare costs, from £82.7m in 2012 to £115m in 2035. Productivity losses were estimated to rise from £184–367m in 2010 to £210–427m in 2035, depending on whether we assumed minimum wage (lower estimate) or median income (upper estimate) for the productive population.

We explored different scenarios projecting the impact of providing antiviral treatment to a larger proportion of persons with HCV infection from 2012 onwards. Quadrupling treatment rates would halt the rise in projected prevalence, with the estimated number of chronically infected individuals falling from 265,000 in 2010 to 262,000 by 2035. While much of this reversal of trend would be among those with mild to moderate HCV infection, increasing treatment rates would also reduce the number of those with decompensated cirrhosis and hepatocellular carcinoma, from an estimated 17,000 under the current treatment assumption to 12,000 in the increased treatment assumption (2035).

Increasing antiviral treatment is associated with an increase in healthcare costs overall, with the projected total increase amounting to four per centage points (or £4.8m) by 2035 compared to the baseline scenario. Much of the increase in healthcare cost was estimated to be attributable to the costs associated with antiviral treatment, which we found to be part compensated for by a fall in the costs of treatment of the long-term sequelae of (untreated) HCV at the early stages of disease progression. The average additional cost of antiviral treatment per annum between 2012 and 2035 is estimated at £43.8m.

Productivity losses associated with HCV infection were estimated to range from £184–380m in 2012, set to increase to £209.7–427m in 2035, based on our median incidence assumption. Increasing the proportion of antiviral treatment would lead to a reduction in HCV-related productivity losses of £59–122m (28 per cent), quadrupling the proportion of those receiving antiviral treatment.

Cumulatively, using the median wage assumption, the average gain in productivity per annum is estimated at £73.3m per annum. This estimated gain would outweigh the additional investment required to cover the additional cost of antiviral treatment if treatment rates are quadrupled, at £43.8 million.

In conclusion, our findings suggests that increasing treatment rates of those with HCV infection is associated with a gain in productivity because of a decline in the overall number of persons carrying the infection and, as a consequence, the number of those progressing to advanced disease stages. However, the impacts will be long-term and immediate impacts in terms of benefits to society as measured by productivity are likely to be counterweighted by additional investments required to make antiviral treatment more widely available. At the same time, our estimates illustrate that the current pattern of treating only a very small proportion of persons infected with HCV will have little impact on the future burden associated with HCV-related disease.