

ECONOMIC CONSEQUENCES OF ANTI-HCV ANTIVIRAL TREATMENT INVESTMENT FROM THE NHS PERSPECTIVE: a real world based analysis from PITER data

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ABSTRACT

Background: Direct-acting antiviral agents (DAA) revolutionized HCV therapy, however their wide use initially has been limited due to their high price. We aimed to estimate the Discounted Break-even Point in Time (DBPT) to recover the initial investment on DAAs treatment from the Italian National Health System (NHS) perspective.

Methods: A multistate Markov model of HCV liver disease progression was developed. Fibrosis stage distribution, treatment efficacy and direct costs according to each health state derived from PITER cohort data. PITER is an ongoing cohort of consecutively enrolled patients from 90 hospital centers across Italy linked to care for chronic HCV infection in the period May 2014 to September 2017, who are not on HCV treatment at time of enrolment. The DBPT was defined as the number of years required to recover the NHS investment on DAA treatment. A 20-year time horizon and three different enrolment periods which cover the full evolution of DAA access in Italy, since 2014, were considered. Disease costs management and DAAs drug costs were considered.

Results: Of 5282 patients enrolled for whom the follow up data were available during the study period, (coming from 30 clinical centers distributed all over Italy), 2657 (51%) had undergone a DAA therapy from January 2015 to December 2017. Mean age: 58 ± 12 years, 55% were male and genotype 1b was prevalent (62-67%). Standardising the real-life data of the three enrolment periods for 1000 patients, the investment on DAAs was considered equal to € 25 million, € 15 million, € 9 million in during 2014-2015, 2016 and 2017 respectively. For the first enrolment period (2014-2015), the complete return on investment will not be achieved within the 20 years time horizon due to the severity of the treated patients and the high costs of treatment. For 2016 and 2017 the DBPT were 6.6 and 6.2 years, respectively. The total cost saving after 20 years was 50.13 and 55.50 million euros for 1000 patients treated during 2016 and 2017 respectively. The DSA shows the robustness of the results.

Conclusions: This study may be considered as a useful tool for public decision-makers to understand how HCV epidemiological profiles influence the economic burden of HCV patients.