



# Quantifying the impact of achieving the World Health Organization global health sector strategy goals for hepatitis C in the EURO region

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## INTRODUCTION

- The EURO region has one of the highest reported prevalence rates of Hepatitis C virus (HCV), with an estimated prevalence of 1.5%, or approximately 14 million infections in 2015 [1].
- The development of direct acting anti-viral (DAA) therapy drastically shifted the current treatment paradigm for the Hepatitis C virus (HCV) from disease management to elimination. An understanding of disease burden is necessary to develop evidence-based public health strategies for elimination of HCV.

## AIM

- We forecast the current and future disease burden of HCV in the EURO region and developed a strategy to achieve the World Health Organization (WHO) Global Health Sector Strategy (GHSS) Goals for Hepatitis by 2030 [2].

## METHOD

- 53 EURO-country specific models were built and regional averages were applied to country populations when country-specific data was not available.
- Country estimates were then aggregated into a regional disease burden model. This disease progression model was used to quantify the size of the HCV-infected population by HCV-sequelae from 2015 through 2030.

EURO-Specific Parameters in Model (2016)	Value
Total Viremic Population	12,644,000
Viremic Prevalence	0.72%
Viremic Diagnosed	4,057,000
Annual Newly Diagnosed	171,000
Number Treated	271,000
Cured	214,000

## RESULTS

### Disease Burden – Base Case

- In 2016, there were an estimated 12.6 million viremic infections in the EURO region, equating to a 1% prevalence. Of these, 60% of all infections were found in those born between 1964 and 1989. Less than half of all infections have been diagnosed (32%), or approximately 4 million cases. 2% of the infected population is on treatment (271,000) and of these, 214,000, or 79%, have been cured.
- Given the current standard of care over the next fifteen years, the total HCV-infected population in the EURO region is expected to increase by an estimated 1% by 2030, from 12.6 million infections to 12.8 million. Liver related morbidity and mortality is forecasted to increase 40-45% over the next fifteen years.

### Disease Burden – WHO Targets

- To achieve the GHSS goals, a significant increase in total number of patients screened and linked to care is necessary. The number of individuals diagnosed annually would need to increase to 800,000 by 2022 and the number of patients treated annually to 900,000 by 2025.
- Under the WHO Targets scenario, significant decreases in HCV related disease burden are expected. Viremic infections are forecasted to decline by 75% by 2030 from 12.6 million to 2.9 million. Decompensated cirrhosis cases, hepatocellular carcinoma cases, and liver related deaths will decline by 70%-75% by the same year. By achieving the WHO goals, more than 300,000 lives can be saved.

Table 1a. Inputs of the Base Case Scenario

	2016	2017	2018	2019	2020	≥2025
Treated	271,000	237,000	203,000	169,000	135,000	135,000
Newly Diagnosed	171,000	111,000	111,000	111,000	111,000	111,000
Fibrosis Stage	≥F0	≥F0	≥F0	≥F0	≥F0	≥F0
Treated Age	20-69	20-69	20-69	20-74	20-74	20-74
SVR	79%	90%	90%	90%	90%	90%

Table 1b. Inputs of the WHO Targets Scenario

	2016	2019	2020	2021	2022	≥2025
Treated	271,000	300,000	500,000	700,000	850,000	900,000
Newly Diagnosed	171,000	250,000	500,000	700,000	800,000	800,000
Fibrosis Stage	≥F0	≥F0	≥F0	≥F0	≥F0	≥F0
Treated Age	20-69	20-85+	20-85+	20-85+	20-85+	20-85+
SVR	79%	95%	95%	95%	95%	95%

Figure 1. HCV Cascade of Care, 2016

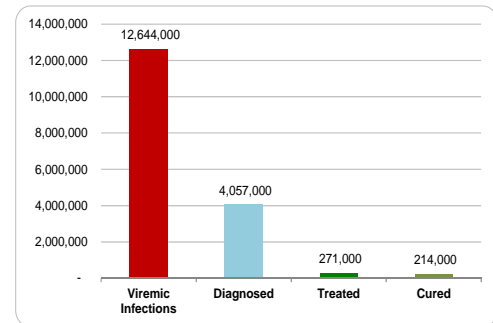
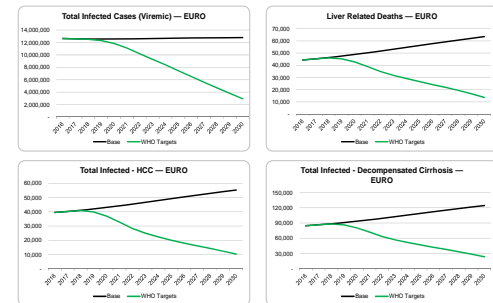


Figure 2. HCV-related Morbidity and Mortality, 2016-2030



## CONCLUSIONS

- Total viremic infections are expected to increase by 1% in the EURO region over the next two decades.
- The WHO Goals can be achieved if drastic increases in the number of diagnosed and linked-to-care patients are met. Targeted screening strategies coupled with increased access to DAA therapy are needed to achieve these goals.

## REFERENCES

- Global Hepatitis Report 2017; Geneva: World Health Organization; 2017.
- WHO. Global Health Sector Strategy on Viral Hepatitis, 2016–2021 Towards Ending Viral Hepatitis: World Health Organization, 2016.

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