

COMPARISON OF ANTI-HIV AND ANTI-HCV THERAPY COSTS IN THE CZECH REPUBLIC

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OBJECTIVES

The Czech Republic has relatively low prevalence of bloodborne viral infections HIV and hepatitis C (HCV). Seroprevalence of HCV in the Czech Republic adult population was estimated at 1.67 % in 2015¹, prevalence of HIV in 2015 was 0.022 %.² However, since 2008, rates of HIV diagnoses have increased by over 50 %³ while the number of reported cases of chronic HCV infections in this period has been relatively constant oscillating between 700 and 1 000 per year.⁴

Historically, it has been very difficult to treat HCV. In 2011 the first direct-acting antiviral agents (DAA) were introduced and since then both the efficacy and tolerability of treatment have continued to improve. The cure rates with these extremely well-tolerated antiviral formulations reach 95 % to 99 %.⁵

Advances and innovations in antiretroviral therapy (ART) have transformed HIV from a fatal disease into a chronic and manageable condition with normal or nearly normal life expectancy.⁶ With those improvements, expenses of the health care systems have also increased.

The objective was to analyze and compare health care expenses and numbers of patients suffering from HIV and chronic HCV infections in the Czech Republic in years 2008 – 2018.

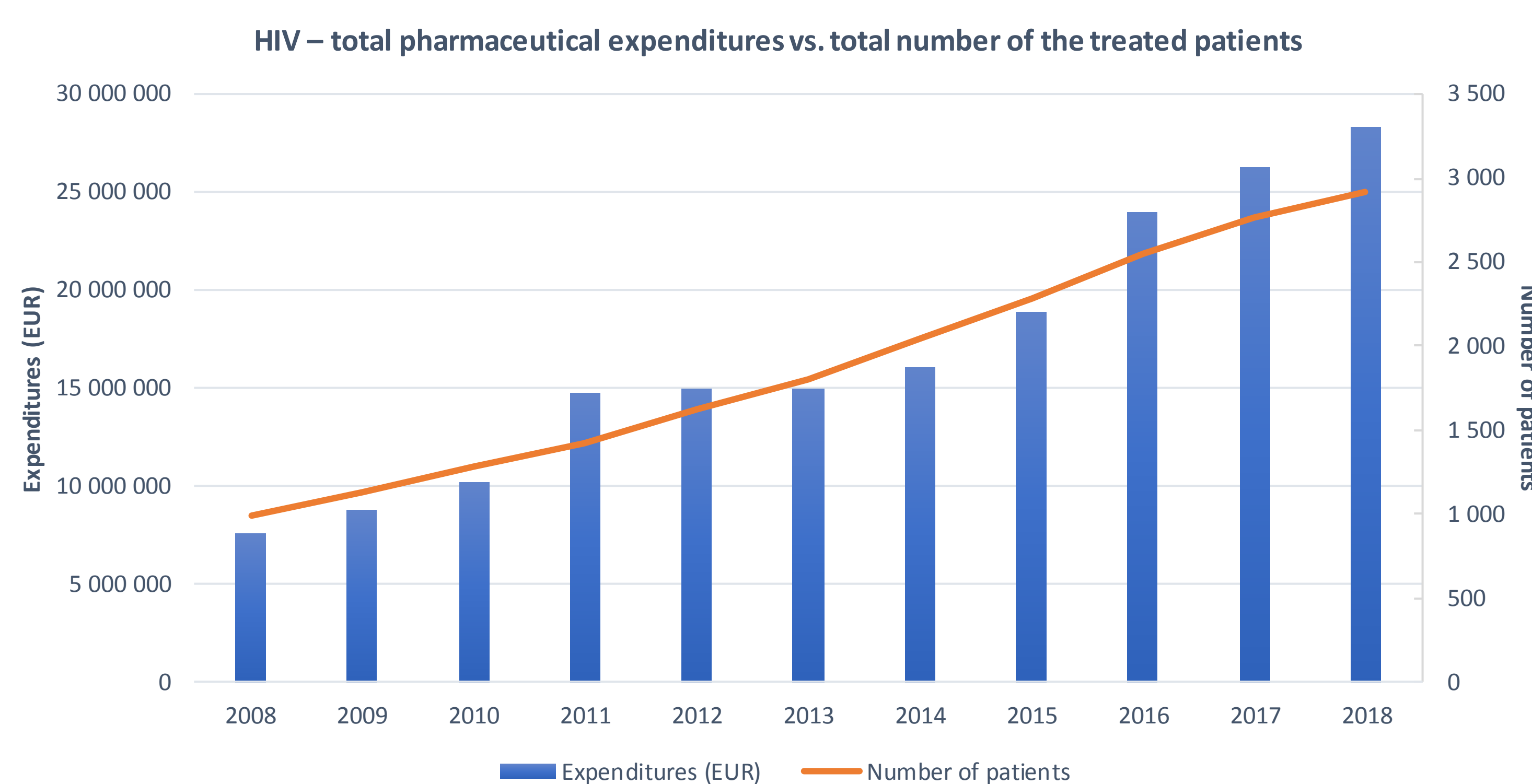


Fig. 1. HIV – comparison of annual pharmaceutical expenditures and number of treated patients

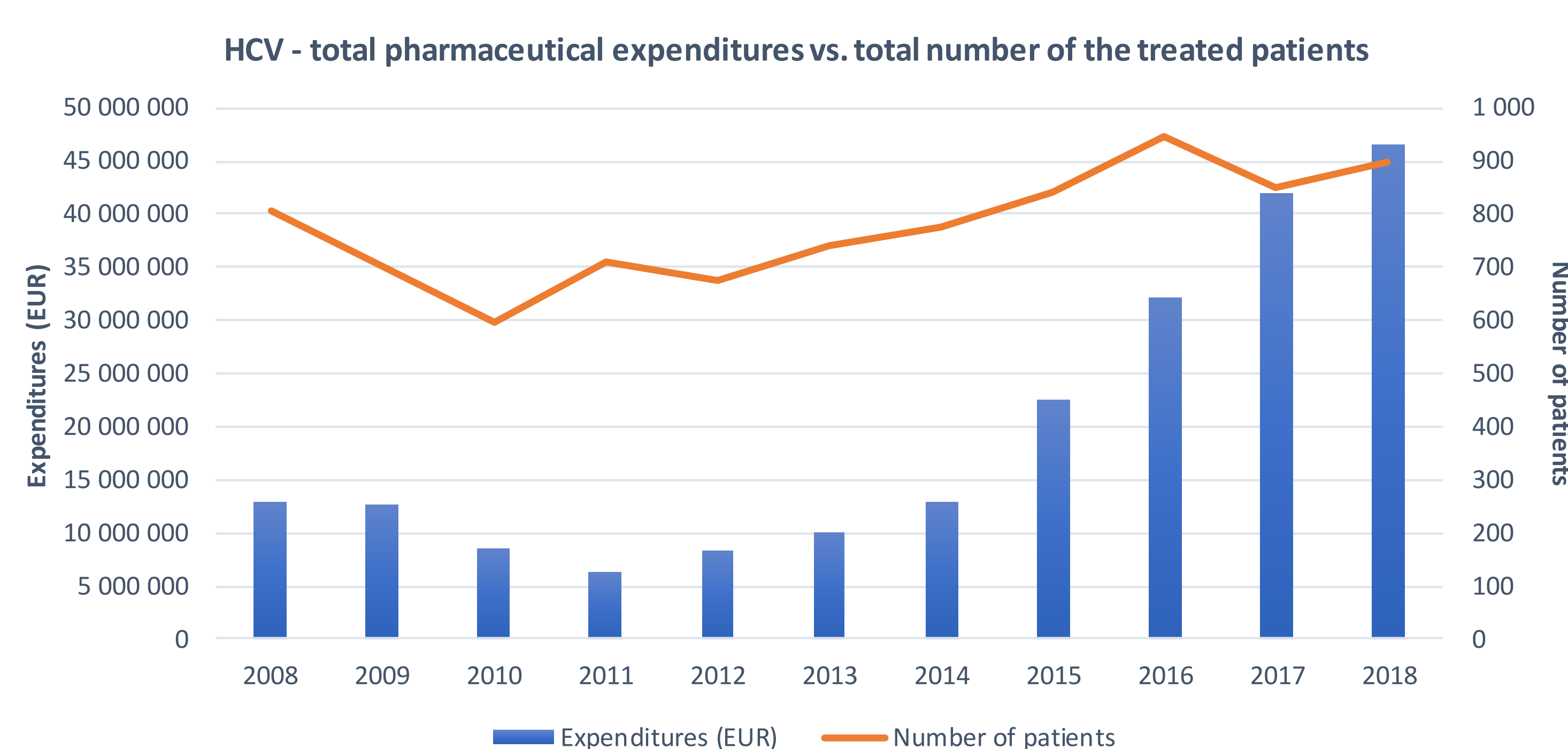


Fig. 2. HCV – comparison of annual pharmaceutical expenditures and number of treated patients

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METHODS

Numbers of reported HIV and HCV infections were extracted from ISIN and EPIDAT databases curated by the National Institute of Public Health of the Czech Republic.⁷

Due to the lifelong nature of HIV treatment, overall numbers of HIV-positive persons were considered. Since the therapy of chronic HCV infection is short-term, the numbers of newly reported chronic HCV infections were calculated.

Health care system direct pharmaceutical expenses (antiretroviral drugs for HIV and pegylated interferon α -2a, ribavirin and DAA for HCV) were estimated based on the Supplies of medicinal products registry of the State Institute for Drug Control (SUKL).⁸ For conversion CZK/EUR we used the average 2018 exchange rate of 25.643 CZK/EUR.

RESULTS

Health care system direct pharmaceutical expenses in the last 11 years have more than tripled for both chronic HCV and HIV.

In case of HCV, they increased from 13 million EUR in 2008 to 47 million EUR in 2018 while the number of newly reported chronic hepatitis C infections, that approximately equals the number of treated patients, remained constant (between 600 and 900, on average 776).

HIV therapy costs increased from nearly 8 million EUR in 2008 to 28 million EUR in 2018, while the number of HIV positive ($\approx$ treated) persons increased from 1 to 3 thousand and yearly per-patient pharmaceutical costs were more or less constant (7 to 11 thousand EUR).

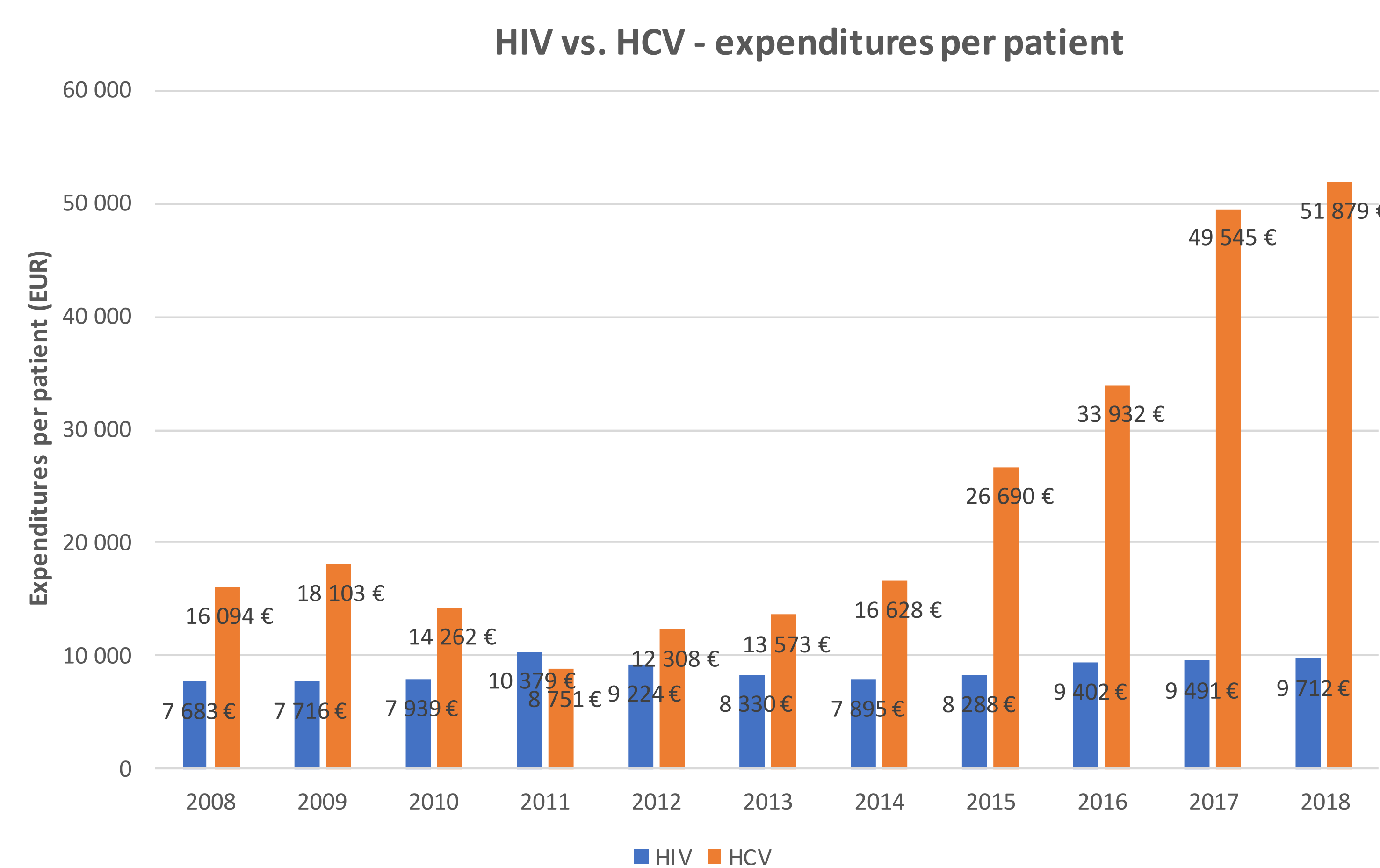


Fig. 3. HIV and HCV – comparison of the average per-patient pharmaceutical expenditures

CONCLUSIONS

Our analysis shows marked increase in health care expenses for treating HCV and HIV infections in the Czech Republic in 2008 – 2018.

In case of HIV the increase in total expenses paralleled the increase in the number of patients and the average treatment expenses per patient increased minimally.

In case of chronic HCV, the number of annually treated patients was relatively stable and the remarkable increase in total expenses was caused by expensive new drugs (direct antiviral agents DAA) entering the market and dramatically increasing the average per-patient treatment costs.