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**Elimination of Viral Hepatitis in the Czech Republic,  
Slovakia, Hungary and Poland - Challenges,  
opportunities and the way forward**  
*29-30 of October 2024*  
*Prague, Czech Republic*

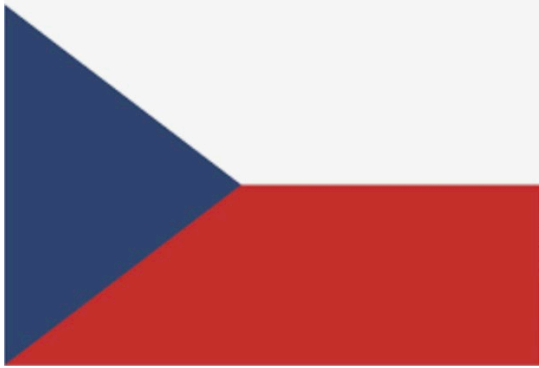
# Health care in Czechia

## Viral Hepatitis Management

Roman Prymula

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# Czech Republic



<b>Also Known As</b>	Czechia • Česká Republika
<b>Head Of Government</b>	Prime Minister: Petr Fiala
<b>Capital</b>	<a href="#">Prague</a>
<b>Population</b>	(2024 est.) 11,235,000
<b>Currency Exchange Rate</b>	1 USD equals 23.697 Czech koruna
<b>Head Of State</b>	President: Petr Pavel
<b>Form Of Government</b>	unitary multiparty republic with two legislative houses (Senate [81]; Chamber of Deputies [200])
<b>Official Language</b>	Czech
<b>Official Religion</b>	none
<b>Official Name</b>	Česká Republika (Czech Republic)
<b>Total Area (Sq Km)</b>	78,871
<b>Total Area (Sq Mi)</b>	30,452
<b>Monetary Unit</b>	koruna (Kč)
<b>Population Rank</b>	(2023) 88
<b>Population Projection 2030</b>	10,700,000
<b>Density: Persons Per Sq Mi</b>	(2023) 345.7

Basic indicators	Year 2022
Number of Hospitals	204 hospitals
Number of Pharmacies	2,496 pharmacies
Number of Physicians	44,602 physicians
Number of Nurses	82,853 nurses
Number of Outpatient Facilities	30,000 outpatient facilities
Health Insurance Funds	7 insurance funds
Number of Hospital Beds	48,105 acute hospital beds 28,336 long term beds
Life Expectancy	77 men 83 women
Physicians per 1,000 inhabitants	3.8 per 1,000 inhabitants
Nurses per 1,000 inhabitants	7.6 per 1,000 inhabitants
Hospital Beds per 1,000 inhabitants	5.1 per 1,000 inhabitants
Healthcare Expenditure as % of GDP	8-9% of GDP
General Practitioners	5,975 GPs
Dentists	7,833 dentists

# Health Care System in the Czech Republic

The Czech healthcare system is comprehensive and well-structured, with a strong emphasis on accessibility and quality of care.

## **Basic Figures of the Czech Healthcare System:**

### **1. Hospitals:**

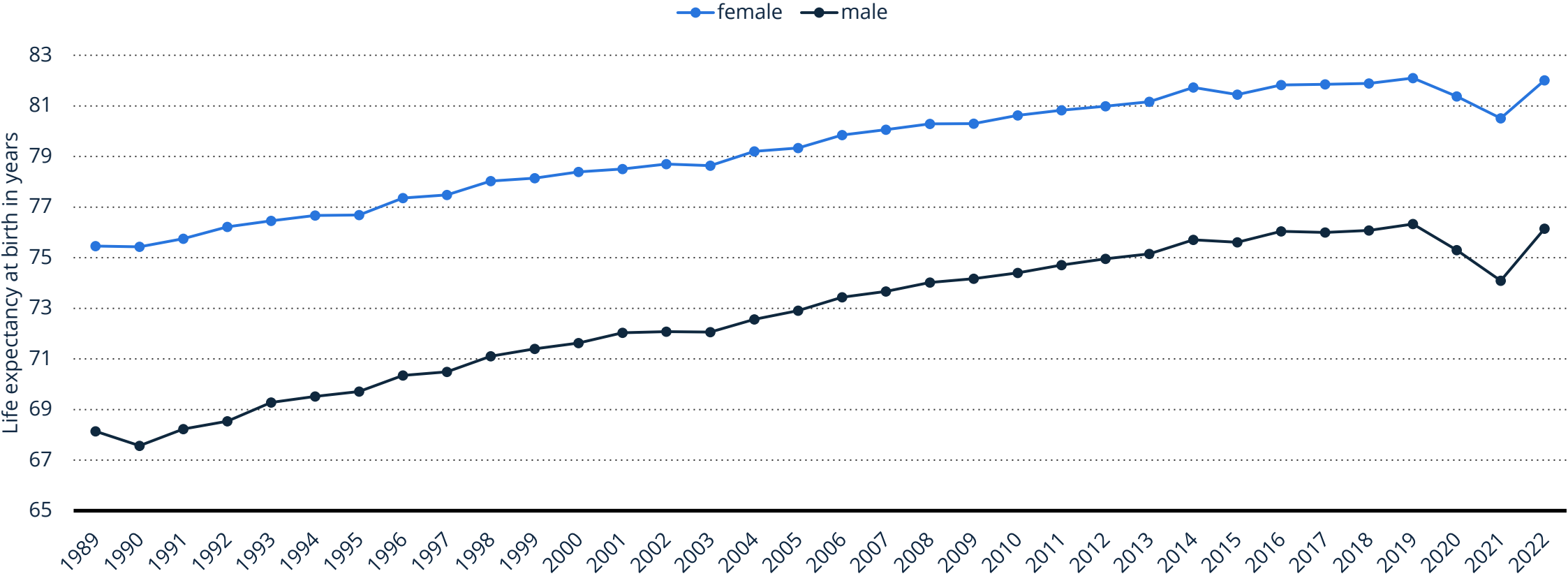
1. Of 204 hospitals, most are publicly owned and run by the state or regional governments, while some are private or church-operated hospitals.
2. Hospitals include large university hospitals, regional hospitals, and specialized health centers (e.g., psychiatric, rehabilitation, or specialized disease centers).

### **2. Pharmacies:**

1. Pharmacies are mostly private but operate within the framework of the public health insurance system, making medication accessible through reimbursement schemes.

# Life expectancy at birth in Czechia from 1989 to 2022, by gender

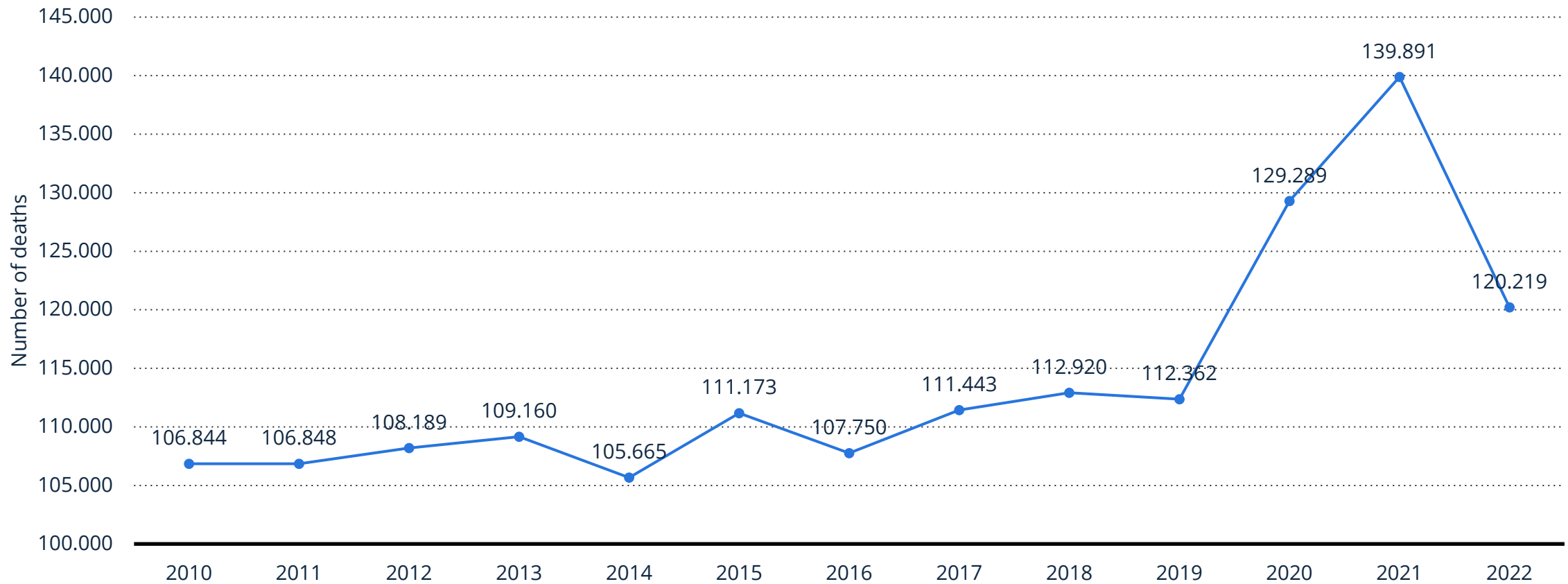
Life expectancy at birth in Czechia 1989-2022, by gender



6 **Description:** In 2022, life expectancy at birth for women in Czechia was about 82.01 years, while life expectancy at birth for men was about 76.15 years on average. [Read more](#)  
**Note(s):** Czechia; 1989 to 2022  
**Source(s):** Czech Statistical Office

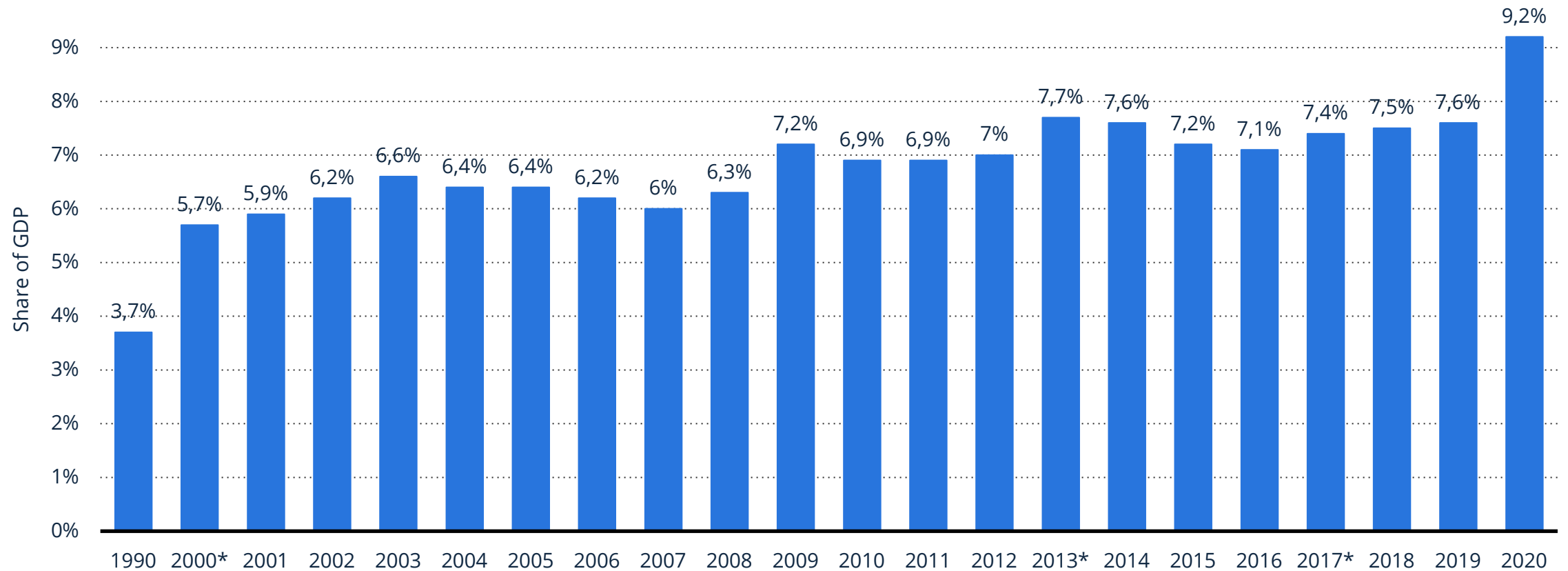
# Number of deaths in Czechia from 2010 to 2022

Deaths in Czechia 2010-2022



# Total expenditure on health as a share of the gross domestic product (GDP) in Czechia from 1990 to 2020

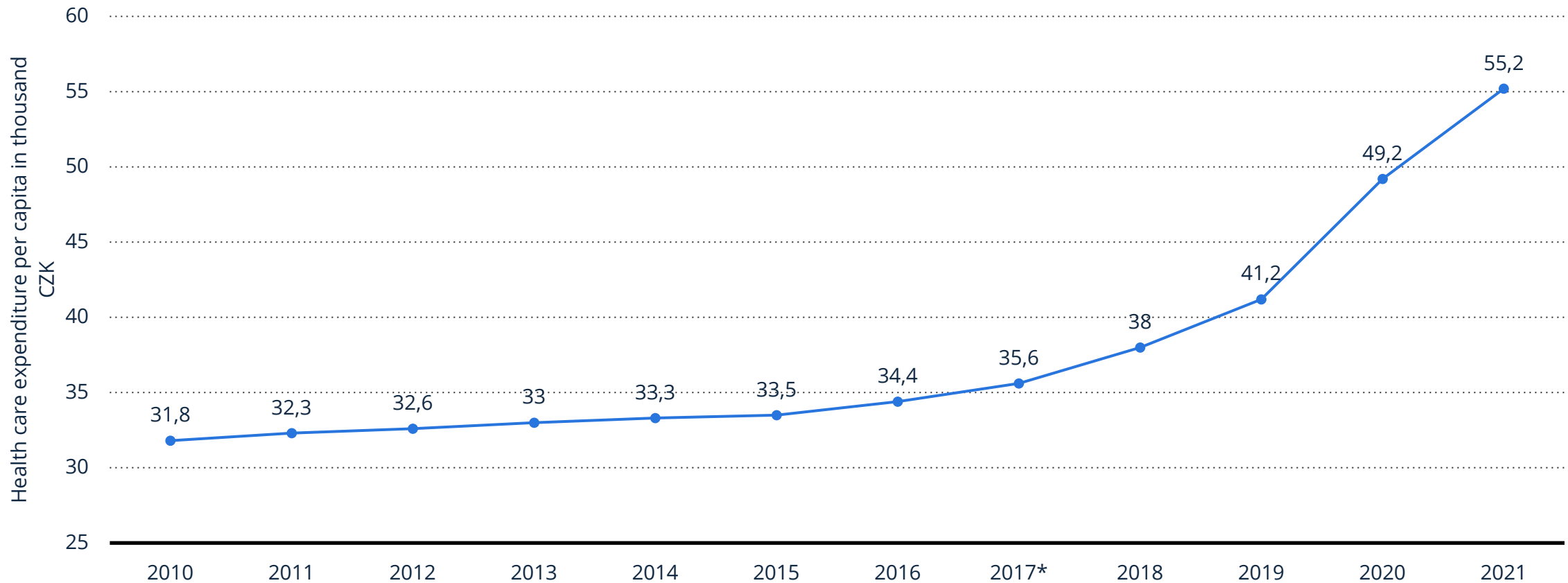
Healthcare expenditure as a share of GDP in Czechia 1990-2020





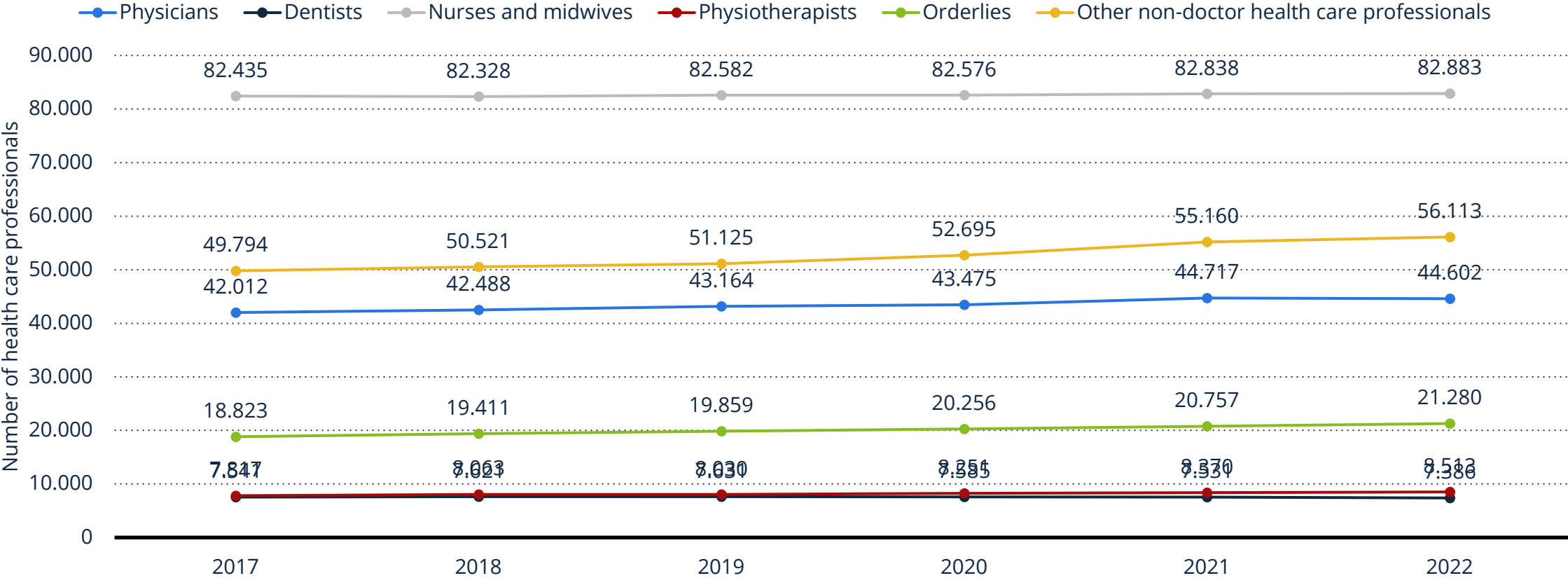
# Health care expenditure per capita in Czechia from 2010 to 2021 (in thousand Czech koruna)

Health care expenditure per capita in Czechia 2010-2021



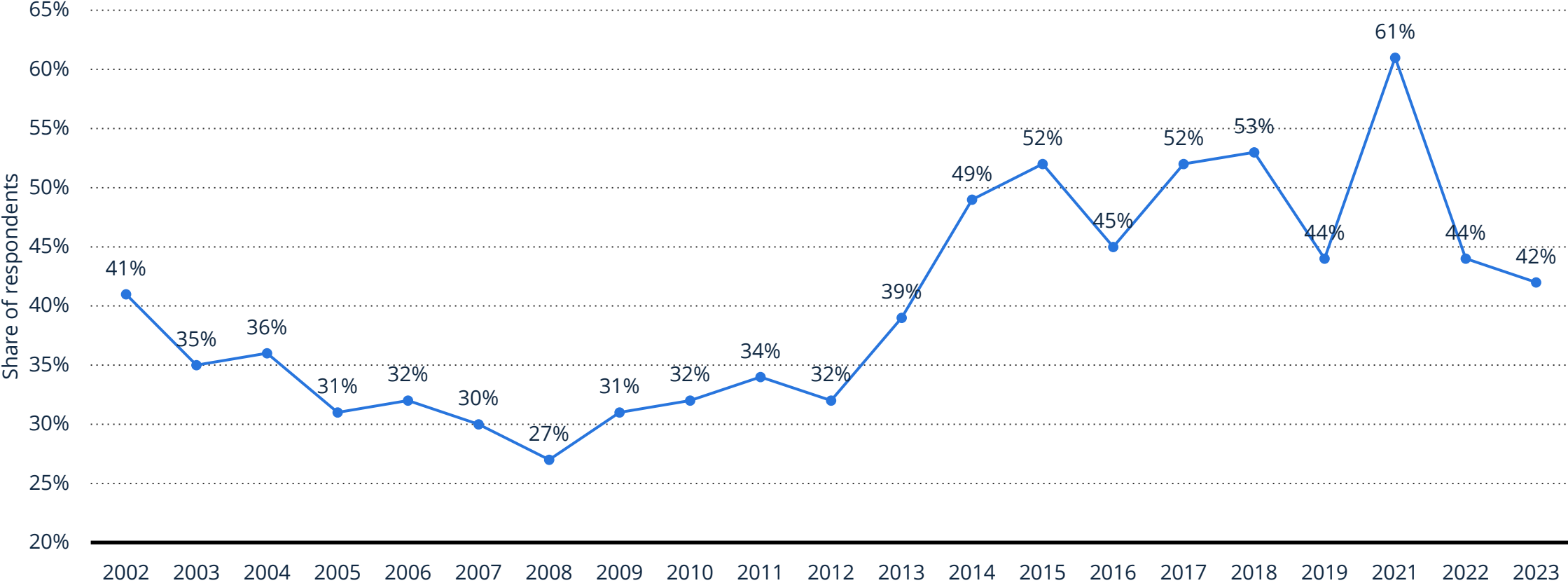
# Number of health care professionals in Czechia from 2017 to 2022, by occupation

Number of health care workers in Czechia 2017-2022, by occupation



# Satisfaction with the health care system in Czechia from 2002 to 2023

Health care system satisfaction in Czechia 2002-2023

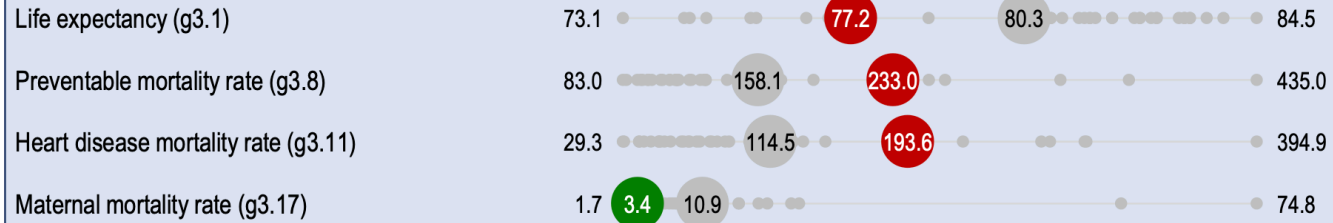


# On which indicators does the Czech Republic perform well or badly?

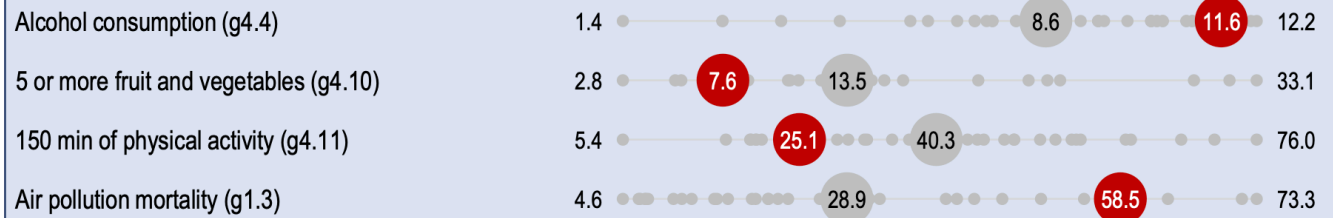
The graphs below show selected indicators from Health at a Glance 2023 where the performance of the Czech Republic deviates markedly from the OECD on average. For more details on the data presented, please refer to the full report, using the graph references provided (e.g. g5.1).

**Czech Republic:** ● Better ● Worse ● Higher ● Lower ● OECD average ● Other OECD countries

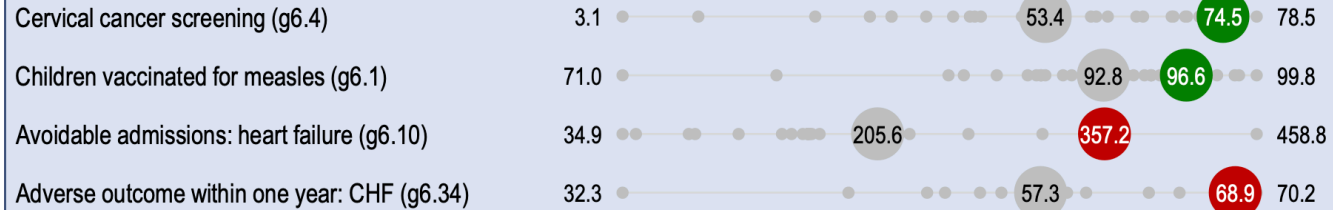
## Health status



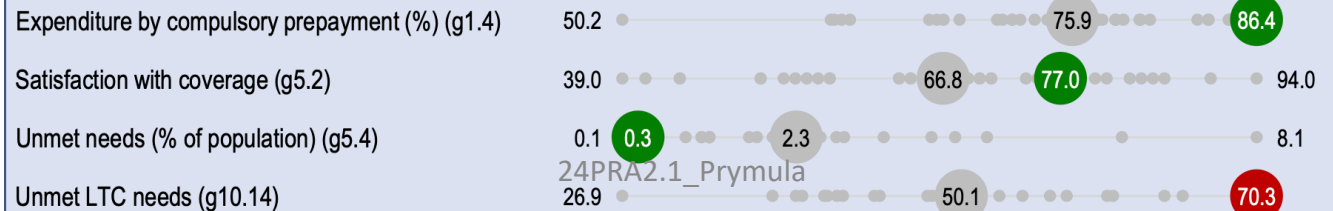
## Risk factors



## Quality of care



## Access to care



# Management of Viral Hepatitis in the Czech Republic

## Viral hepatitis, particularly hepatitis B (HBV) and hepatitis C (HCV),

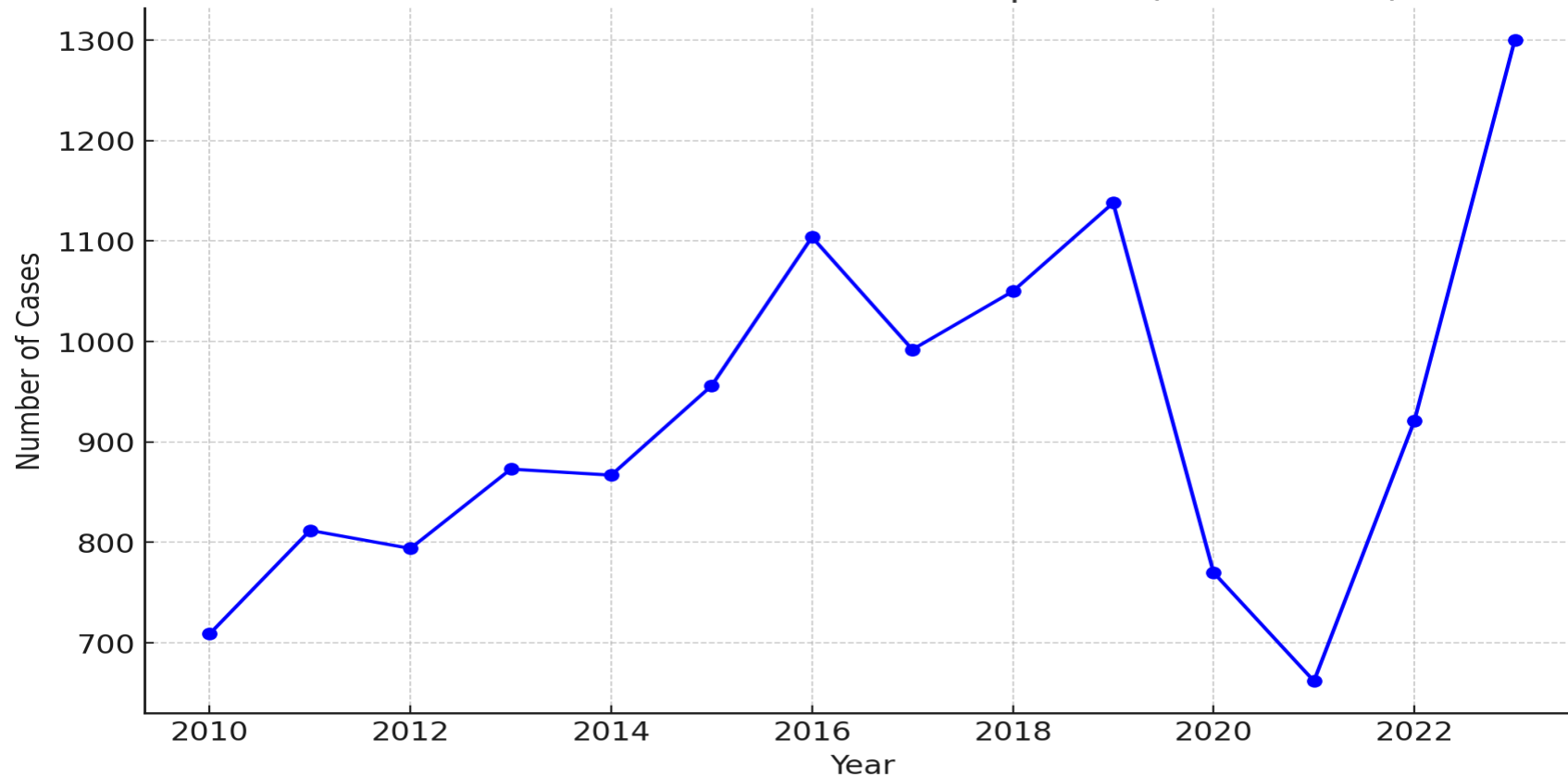
- A public health concern due to its potential for chronic infection and severe liver-related complications, including cirrhosis and liver cancer.
- The Czech healthcare system has implemented a comprehensive approach to manage, prevent, and treat viral hepatitis.

## **Public Health and Hepatitis Elimination Efforts:**

- **Vaccination as a Key Prevention Strategy (hepB):** The high vaccination rate, especially among newborns and children, plays a critical role in reducing the burden of new infections.
- **Long-term Goals:** While hepatitis C has a clear elimination strategy due to curative treatments, the elimination of hepatitis B is more focused on preventing new infections through vaccination and managing chronic cases to reduce morbidity and mortality.

# Viral Hepatitis C

Number of Cases in the Czech Republic (2010-2023)



Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Cases	709	812	794	873	867	956	1104	992	1050	1138	770	662	921	1300

In the Czech Republic, hepatitis C treatment is primarily managed in specialized hepatology centers across the country. There are nine main centers that provide treatment for chronic hepatitis C, particularly using direct-acting antivirals (DAAs), which are the standard treatment for the disease. These centers are equipped to handle hepatitis C patients, offering comprehensive care from diagnosis through advanced antiviral therapies, with a focus on achieving a high cure rate using DAAs.



1. **CKTCH Brno** (Center for Cardiovascular and Transplantation Surgery, Brno)
2. **FN Brno** (University Hospital Brno)
3. **FN Motol** (University Hospital Motol, Prague)
4. **FN Olomouc** (University Hospital Olomouc)
5. **FN Plzeň** (University Hospital Plzeň)
6. **IKEM Praha** (Institute for Clinical and Experimental Medicine, Prague)
7. **Slezská nemocnice Opava** (Silesian Hospital, Opava)
8. **ÚVN Praha** (Central Military Hospital, Prague)
9. **VFN Praha** (General University Hospital, Prague)



In the **Czech Republic**, the treatment of **hepatitis C (HCV)** follows modern standards, largely focusing on the use of **direct-acting antivirals (DAAs)**. These medications have revolutionized the treatment of hepatitis C due to their high efficacy, minimal side effects, and shorter treatment durations. Below is an overview of how viral hepatitis C is treated in the Czech Republic:

## 1. Screening and Diagnosis:

- **Routine Screening:** High-risk groups, such as intravenous drug users, people with multiple sexual partners, and those who received blood transfusions before screening was common, are often encouraged to undergo HCV testing.
- **Diagnosis:** Diagnosis is typically made through blood tests that detect **HCV antibodies** (anti-HCV), followed by **HCV RNA testing** to confirm an active infection. Further genotyping of the virus may be performed, although treatment is now largely independent of the viral genotype.
- **Liver Assessment:** Before initiating treatment, patients often undergo **liver function tests**, ultrasound, or **transient elastography** (FibroScan) to assess the extent of liver damage, especially for detecting cirrhosis.

## 2. Treatment Guidelines:

- **Direct-Acting Antivirals (DAAs):** DAAs are the cornerstone of hepatitis C treatment. In the Czech Republic, these therapies are widely available and have replaced older treatments like interferon and ribavirin.
- **DAA Regimens:** The most commonly used drugs include combinations such as:
  - **Sofosbuvir** (NS5B polymerase inhibitor)
  - **Ledipasvir, Velpatasvir, Daclatasvir** (NS5A inhibitors)
  - **Glecaprevir/Pibrentasvir**
  - These regimens are taken orally, usually once a day, for 8-12 weeks.
- **Pan-genotypic Regimens:** With the development of pan-genotypic DAAs (e.g., **Sofosbuvir/Velpatasvir**), treatment can be used across all HCV genotypes, simplifying the process and making it more accessible for patients, regardless of the virus type.
- **Effectiveness:** DAAs achieve a **sustained virological response (SVR)** in over 95% of cases, meaning the virus is no longer detectable in the patient's blood after treatment.

### 3. Access to Treatment:

- **Public Health Insurance Coverage:** In the Czech Republic, the cost of DAAs is largely covered by the **public health insurance system**. Treatment is provided at no cost to eligible patients through specialized hepatology centers.
- **Specialized Centers:** There are nine main hepatology centers throughout the country (Prague, Brno, Olomouc, Plzeň, Opava, etc.), where patients receive specialized care for hepatitis C. These centers handle diagnosis, treatment initiation, and follow-up care.

### 4. Treatment for Advanced Liver Disease:

- For patients with advanced liver disease, such as cirrhosis or those awaiting **liver transplantation**, treatment with DAAs is still recommended to prevent further complications and improve the chances of successful outcomes post-transplant.
- Regular monitoring and management of liver function are critical for these patients.

## 5. Public Health Strategy and Elimination Efforts:

- **Hepatitis C Elimination Goal:** In alignment with global efforts, the Czech Republic has been actively working towards eliminating hepatitis C as a public health threat by 2030. The focus is on increasing access to screening and treatment.
- **Harm Reduction Programs:** Special efforts are made to target high-risk groups such as intravenous drug users through harm reduction strategies, including **needle exchange programs** and **opioid substitution therapy**. These initiatives aim to prevent further transmission of HCV while providing access to treatment for those already infected.

## 6. Treatment Outcomes:

- The outcomes of hepatitis C treatment in the Czech Republic are highly positive due to the effectiveness of DAAs. More than 95% of treated patients achieve a **cure** (SVR), meaning the virus is eradicated from their system.
- The safety profile of DAAs is excellent, with fewer side effects compared to older therapies.

## **7. Challenges in Hepatitis C Management:**

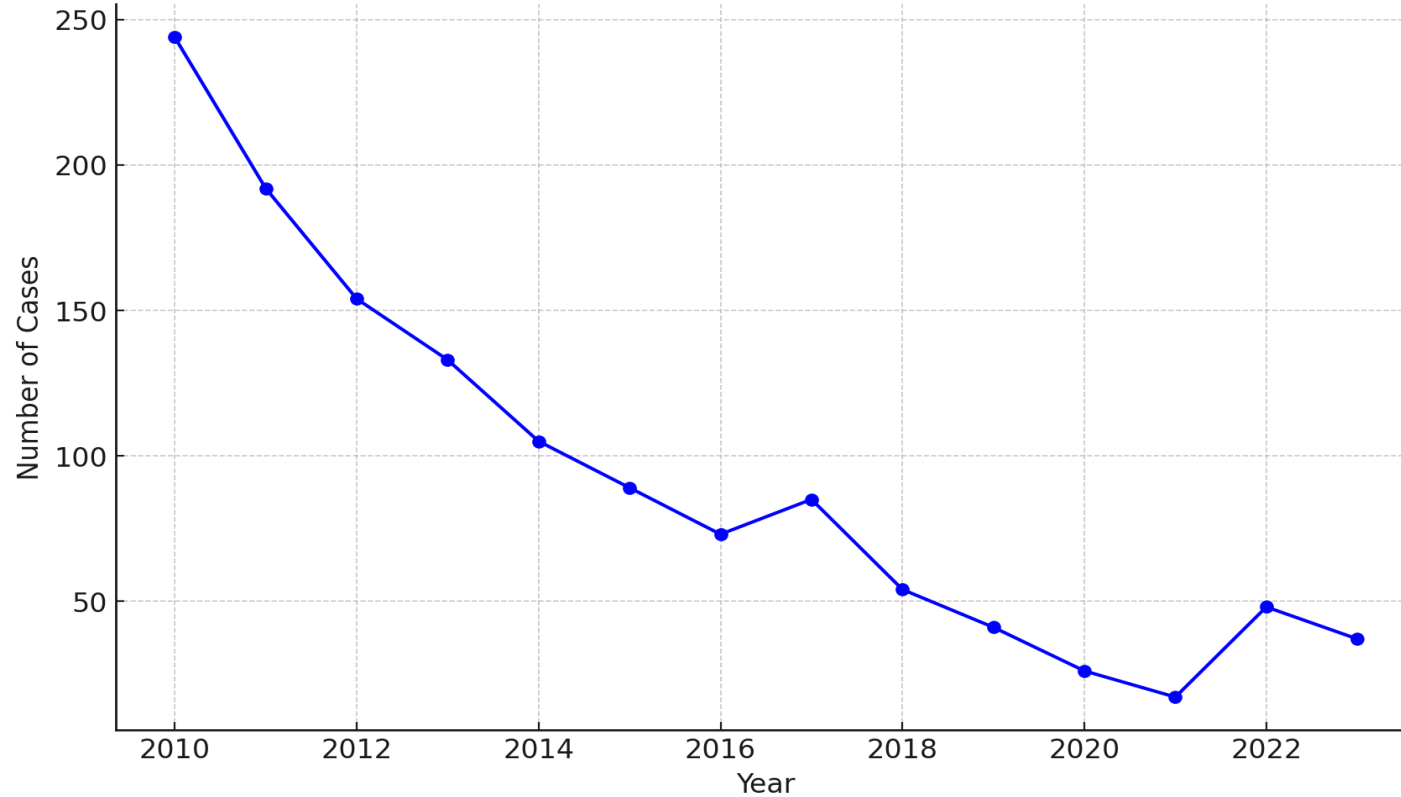
- **Undiagnosed Cases:** Like in many other countries, a challenge remains in identifying undiagnosed cases, particularly among marginalized populations and older adults who may have been infected decades ago.
- **Awareness and Screening:** Public awareness campaigns and proactive screening initiatives are important to bring undiagnosed patients into care, especially as many individuals with HCV are asymptomatic until they develop serious liver damage.

### **Conclusion:**

Hepatitis C treatment in the Czech Republic is highly effective, with modern DAAs available through public healthcare, ensuring that most patients have access to curative therapy. With ongoing public health efforts to increase awareness, testing, and treatment, the country is making progress towards eliminating hepatitis C as a significant public health issue by 2030.

# Viral Hepatitis B

Incidence of Acute Viral Hepatitis B in the Czech Republic (2010-2023)



Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Cases	244	192	154	133	105	89	73	85	54	41	26	17	48	37

## 1. Screening and Diagnosis:

- **Routine Testing:** Testing for hepatitis B is recommended for high-risk individuals, including pregnant women (to prevent mother-to-child transmission), people with elevated liver enzymes, and individuals from regions with high HBV prevalence.
- **Diagnostic Testing:** Hepatitis B infection is diagnosed through blood tests that detect:
  - **HBsAg** (hepatitis B surface antigen), which indicates an active infection.
  - **HBeAg** (hepatitis B e antigen), a marker of active viral replication.
  - **HBV DNA**, which measures the level of virus in the blood and helps guide treatment decisions.
- **Chronic Hepatitis B:** If HBsAg is present for more than six months, the infection is considered chronic, and further evaluation is required to determine liver damage and the need for antiviral treatment.

### 3. Treatment of Chronic Hepatitis B:

Not all patients with chronic hepatitis B require immediate treatment. Decisions are based on viral load (HBV DNA levels), liver function, and the presence of liver damage.

• **Antiviral Therapy:** The main goal of treatment is to suppress the virus and reduce the risk of complications, such as cirrhosis and liver cancer. The most common treatments for chronic hepatitis B include:

- **Nucleos(t)ide Analogues:** These oral medications help reduce viral replication and include:
  - **Tenofovir** (TDF or TAF)
  - **Entecavir**
  - **Lamivudine** (less commonly used due to resistance)
- These medications are usually taken long-term, often for life, as they suppress the virus but do not eradicate it.

• **Monitoring:** Patients on antiviral therapy are regularly monitored for viral load (HBV DNA), liver enzyme levels (ALT), and the development of liver complications. Therapy is adjusted as needed, and long-term management is aimed at preventing liver damage.



#### 4. Special Considerations:

- Liver Disease and Cirrhosis:** Patients with advanced liver disease (such as cirrhosis) are treated more aggressively with antiviral therapy to prevent further progression. Regular monitoring for liver cancer (hepatocellular carcinoma) is conducted using imaging techniques such as ultrasound and blood markers (e.g., AFP - alpha-fetoprotein).
- Pregnancy and Perinatal Transmission:** To prevent transmission from mother to child, pregnant women with high viral loads are treated with **tenofovir** during the third trimester, and newborns receive hepatitis B immunoglobulin (HBIG) and vaccination at birth.

#### 5. Treatment Guidelines and Access to Care:

- Public Healthcare System:** The Czech Republic's universal healthcare system ensures that treatment for chronic hepatitis B, including antiviral therapy and regular monitoring, is covered by public health insurance. Specialized hepatology centers throughout the country manage hepatitis B treatment and follow-up care.
- Treatment Centers:** Just like hepatitis C, hepatitis B treatment is provided in major hepatology and liver disease centers.

## 6. Monitoring and Follow-up:

- **Regular Monitoring:** Chronic hepatitis B patients are closely monitored for liver function, viral load, and the development of liver complications, such as fibrosis or cirrhosis. Regular check-ups, liver ultrasounds, and blood tests are common.
- **Treatment Adjustment:** If antiviral therapy is needed, the patient's response to treatment is continuously evaluated. If resistance to medications develops (e.g., resistance to lamivudine), alternative therapies such as tenofovir or entecavir are used.
- **Liver Cancer Screening:** Patients with chronic hepatitis B, especially those with cirrhosis, are screened regularly for hepatocellular carcinoma (HCC) as part of their follow-up care.

## 7. Challenges in Hepatitis B Management:

- **Undiagnosed Cases:** Similar to hepatitis C, many patients with chronic hepatitis B may be unaware of their infection, as the disease can remain asymptomatic for years. Therefore, awareness and screening efforts are critical.
- **Lifelong Treatment:** Unlike hepatitis C, hepatitis B cannot be cured, so lifelong antiviral treatment is often required to suppress the virus and prevent complications.



Thank You for Your  
attention

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