# COVID-19: An overview of the epidemiological situation in the Czech Republic

# Summary of January 2021

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| **Overall Summary**  |
| **Confirmed cases** | **984 774** | **14-day case notification rate per 100 000 inhabitants** |
| **Active cases** | **96 549** | **Czechia: 981.71****EU/EEA: 421.13** |
| **Healed** | **871 917** | **14-day death notification rate per 1 000 000 inhabitants** |
| **Death** | **16 308** | **Czechia: 204.79****EU/EEA: 103.17** |
| **Anti-epidemic score** |
| **70/100****Risk Level: 5 (Critical)** |
| **Vaccination** |
| **Total vaccines applied** | **268 617** |
| **Total vaccinations completed** | **37 185** |
| **Testing** |
| **RT-PCR tests (total/ 7 day average)** | **4 591 229/ 164 470** |
| **Rapid antigen tests (total/ 7 day average)** | **1 561 016/ 169 055** |
| **7 day average of ratio of the newly positive inhabitants tested for COVID-19 to the number of RT-PCR tests** |
| **28,97%** |
| **Hospitalization** |
| **Proportion of hospitalized in the total number of confirmed cases** |
| **5,58 % (declining)** |
| **Currently hospitalized** | **5 391** | **Proportion of hospitalized patients in severe condition** |
| **Patients in intensive care unit (ALV, ECMO)** | **951** | **17,6 %** |

# Highlights

* The Czech Republic still reports **community transmission**.
	+ The impact particularly on vulnerable population groups and the burden on the healthcare system is still high.
	+ The Czech Republic is **among the worst affected countries in the EU** in terms of 14-day notification rate of newly reported COVID-19 cases per 100,000 inhabitants and has one of the highest per capita death rate in the world.
	+ The spread of a more contagious mutation of the SARS-CoV-2 virus in the Czech territory was reported.
* The monitored values show only **a stagnation in the spread** of the epidemic
	+ The current dynamics of spread and predictive scenarios do not expect a significant improvement in the coming days and weeks.
* **The state of emergency** (first declared at the beginning of October) was extended until 14 February.
* According to the Czech anti-epidemic system, **the summarised risk index for the Czech Republic is at 70** (which in weekly comparison corresponds to stagnation).
	+ This value corresponds to alert level four of the Anti-Epidemic System. However, some values, such as the rate of hospitalization (and the proportion of hospitalized with severe conditions) signal the need to **remain in the fifth – highest - level of the Anti-Epidemic system.**
* **Free and voluntary vaccination has been launched in the Czech Republic**
	+ The first broader phase was launched in mid-January, focusing on the highest risk groups (i.e. the seniors over the age of 80 and selected medical staff).
	+ **The implementation of the vaccination strategy is affected by the lack of vaccines**.
* During January, several extensions of the measures were introduced
	+ **Preventive testing with Rapid antigen tests is fully covered by health insurance** once every five days (from 28 January interval reduced to three days).
	+ The restrictive measures are still in place.
* The government further supported closed premises
	+ Businessmen who have had to close their premises since October as a result of the government decree will receive additional financial assistance from the state to the value of CZK 400 per employee.
	+ Operators of ski resorts will also receive compensation for the period of time they could not operate their lifts as a result of government decrees.

# Measures adopted

* **The state of emergency in the Czech Republic is extended until 12 February 2021.**
* **On December 27, the country moved to the fifth - highest - level of the Anti-Epidemic System containing the strictest measures.**

The Czech Republic has several times extended the state of emergency, which allows the most restrictive measures to be applied in accordance with the Anti-Epidemic System. The last extension was decided on 22 January with a decision to keep the state of emergency until February 14. The government also extended the valid crisis measures meant to suppress the spread of COVID-19 up until the same date.

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| **Current epidemiological measures** (list of all adopted measures can be found [here](https://www.vlada.cz/en/media-centrum/aktualne/measures-adopted-by-the-czech-government-against-coronavirus-180545/)) |
| * The free movement of persons is prohibited from 9:00 p.m. until 04:59 a.m. (with exceptions).
* Public gatherings are limited to two people. A maximum of fifteen people is able to attend weddings, funerals and entry into a registered partnership.
* Only defined basic types of retail goods and services are allowed.
* Restaurants and other catering establishments must be closed from 9:00 p.m. until 04:59 a.m. and may only run take-out windows.
* The ban also applies to ski lifts and public cable cars used to access ski slopes.
* Cultural institutions such as galleries and museums are closed.
* For church and religious gatherings, the permitted capacity in churches and prayer rooms has been reduced to a maximum of ten percent of the seating capacity.
* Only professional sports without spectators are allowed, amateur competitions are prohibited. Indoor sports facilities for individual sports are closed. It is only possible to play sports outdoors for up to two people.
* Only kindergartens and the first and second years of elementary schools can operate. Exceptions remain in place for special schools, practical teaching and practice, for examinations and for individual consultations.
* As of 30 January, there is a change concerning rules on the free movement of persons. people must limit contacts with non-household members to what is strictly inevitable.
* The use of respirators of FFP2 or KN95 class without exhalation valve in contact with other persons is strongly recommended. As of 30 January, it is possible to provide accommodation only to persons who can prove it with a document about the purpose of the business trip from the employer or the customer of the services.
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| **Measures concerning foreigners and border crossing****(more detailed information is available** [**here**](https://www.mvcr.cz/mvcren/docDetail.aspx?docid=22239932&doctype=ART#2)**)** |
| **From 30 January, the entry of foreigners into the territory is prohibited, with the exception of only essential travels (work, family, doctor), according to the following measures:** |
| **Low risk of infection** | **Countries** | Australia, Korean Republic, New Zealand, Singapore, Thailand, Vatican |
| **Measures** | Entrance without restrictionsThird-country nationals not on the list of countries with a low risk of COVID-19 are prohibited from entering the country |
| **Medium risk of infection** | **Countries** | Finland, Greece, Iceland, Norway |
| **Measures** | Before entering the Czech Republic individuals who spent longer than 12 hours in the last 14 days in the territory of the countries above must complete the form at [www.prijezdovyformular.cz](http://www.prijezdovyformular.cz) and have a negative antigen or RT-PCR test not older than 48 hours.Individuals must wear a respirator or facemask 10 days after returning to the Czech Republic. |
| **High risk of infection** | **Countries** | Belgium, Bulgaria, Croatia, Denmark, France, Italia, Cyprus, Luxemburg, Hungary, Malta, Netherland, Poland, Austria, Romania, Germany, Sweden, Switzerland, Azores, Madeira, Canary Islands. |
| **Measures** | Before entering the Czech Republic individuals who spent longer than 12 hours in the last 14 days in the territory of the countries above must complete the form at [www.prijezdovyformular.cz](http://www.prijezdovyformular.cz) and have a negative antigen or RT-PCR test not older than 48 hours.After entering the territory of the Czech Republic, the individual must undergo an RT-PCR test at his own expense within 5 days after arrival. Free movement is prohibited until the test result.Individuals must wear a respirator or facemask 10 days after returning to the Czech Republic. |
| **Very high risk of infection** | **Countries** | All other countries not mentioned in the previous categories |
| **Measures** | Same as high risk country, but the individual must undergo an RT-PCR test at his own expense no earlier than 5 days after arrival. |

# Current epidemiological situation

* **At the end of January, the epidemiological situation in the Czech Republic stagnated,** **however, it remained unfavourable and the Government decided to remain in Critical level of the Anti-Epidemic system.**

As rest of the EU, the Czech Republic has been facing rise in numbers of newly detected cases since beginning of summer as a reaction to easing of the restrictions. However, since the beginning of September a steep increase of new cases was registered. Also, due to increase of testing, the Czech Republic has registered a record number of daily increase of cases in November. As a result of greater mobility during the Christmas holidays, there was a significant new increase in early 2021.

In the weekly comparison, there is a slight decrease in active cases at the end of January. However, according to the ECDC, the Czech Republic is the third worst EU / EEA in terms of 14-day notification rate of newly reported COVID-19 cases per 100,000 inhabitants, when the Czech Republic is at 981.71 value, while the EU/EEA average is 421.13.

Source: ECDC

The current state of stagnation has not yet turned into a declining trend. However, if we take into account the development of the whole of January, the decline in the dynamics of spread is obvious. The highest daily increase inhabitants with newly diagnosed COVID ‑ 19 was at the beginning of January (with new maximum - 17 757 cases per day, the 7-day average was about 11K new cases). In the last weeks of January, the maximum cases were 9 186 cases with 7-day average of 6,7K new cases.

Community spread in all regions has not yet been significantly reduced. The Czech Republic still has a very high number of epidemiologically significant contacts indicated for testing, in which there is a high probability of a positive result, as most of them are close or within the workplace, where the risk of transmission is always much higher due to the duration of contact.

A significant threat is the still high incidence of the disease in the risk (mainly senior) group. In the senior group (65+) a total of 7,833 cases of the disease were reported in the last 7 days, in terms of population it is 370.0 cases per 100 thousand inhabitants. This results in a higher number of hospitalized people, including hospitalizations in intensive care units, i.e. patients in severe condition, as well as in a higher pressure on the capacity of health professionals.

A high threat is also the presence of the British strain of the coronavirus, which spreads up to 40 percent faster. At the end of January, it was confirmed in six regions. The development of this mutation is very closely monitored.

The longer-term trend of the spread of the epidemic in the Czech Republic is illustrated by the graphs below.

Source: IHIS

The picture above shows the individual peaks of the epidemiological crisis. The highest daily increase from November (15727 of new cases on November 4) was overcome with the new dynamics of the spread of the virus after Christmas with the mentioned new maximum of 17757 of new cases per day on January 6.

The unfavorable trend of the epidemiological situation and its two peaks at the turn of October and November and the beginning of January can be illustrated by the number of active cases. Although the peak of the epidemic in January recorded a maximum in the number of confirmed cases per day, most active cases were at the peak of the epidemic in October and November. Specifically, on October 30, 122 thousand COVID-19 active positive persons were recorded, while in the first half of January this value was at the highest level of 118 thousand patients.

Source: IHIS

The high number of confirmed cases was also reflected in increased mortality. Although the effects of the coronavirus can be quantified over time, above-average mortality compared to previous years is already evident. The total number of deaths reached 16,392 at the end of January. The highest daily number of deaths was recorded at the beginning of November (262 deaths on 3 November). The average daily mortality is still high in January, averaging 145 deaths per day. However, as the figure below shows, the trend of daily mortality is declining.

Source: IHIS

**Case fatality rate in the Czech Republic during the whole pandemic is currently at 1,6 %.** According to Johns Hopkins University statistics, the global death rate from infection is 2.2%. An international comparison of mortality among European countries shows a high mortality per million population in the Czech Republic.

Source: Worldometers

# Anti-Epidemic System

* **The risk index stagnates at level 70.**
* **The Anti-Epidemic System is at Critical level.**

New alert system was introduced on November 13 (and it was updated from January to so called v. 2.0). The main goal of the Anti-Epidemic System (AES) is to increase the readability and predictability of the current epidemiological situation. AES works with a Risk Index (RI) – a number between 0-100, which is assigned to both for the whole Czech Republic and for individual regions based on epidemic situation. The AES is classified into five alert levels, which are linked to their respective anti-epidemic measures concerning, for example, the wearing of masks, congregations of people, shops, culture and education, as well as their easing. **Current risk level is 5 – Critical.**

The RI is calculated by the Institute of Health Information and Statistics (IHIS) and adds up points for the evaluation of four risk indicators related to the status and course of the covid-19 epidemic. The AES v. 2.0 is calculated as follows:

* + - How many people have been infected recently? Rating: 0-20 points
			* 14-day numbers positive for covid-19 (per 100,000 inhabitants).
		- How many seniors have been infected recently? Rating: 0-20 points
			* 14-day numbers of seniors positive for covid-19 (per 100,000 population aged 65+).
		- The number of infected people is growing - is the virus spreading in the population? Rating: 0-30 points. Simplified calculation of the reproduction number- finer scaling used.
		- Can we catch infected effectively and quickly? Rating: 0-30 points. Proportion of hospitalised unrecorded in the community in the last 14 days.

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| **RISK INDEX** | **RISK LEVEL** | **CHARACTERISTICS** |
| ≤ 20 | 1 | **CARE:** The epidemy is under control, low number of cases and incidence, testing and tracing is effective, and the risk of community spread is low |
| 21-40 | 2 | **CAUTION:** Local clusters with need of immediate intervention are discovered, strong emphasis on effective testing and tracing |
| 41-60 | 3 | **URGENCY:** Epidemy is getting stronger, increasing demands on the health system, intensive monitoring of incidence and hospitalisation, strong emphasis on effective testing and tracing, high risk of community spread |
| 61-75 | 4 | **SEVERE:** High number of cases, risk of further worsening of the situation, tracing is limited, community spread |
| ≥ 76 | 5 | **CRITICAL:** Capacity of the health system is nearing its limits, high number of cases including risk groups, tracing is highly limited, community spread |

RI is calculated on daily basis. The calculated index values are not automatically transferred to the readiness levels, they are always evaluated by experts. Current RI is 70, which corresponds to level 4. However, as the impact particularly on vulnerable population groups is high and the situation at hospitals is still at the brink of maximum capacity, especially because of the infection of medical staff, it has been decided to stay at risk level 5.

Source: IHIS

For the observed period, the RI decreased to third Risk level (Urgency) only for a short period at the beginning of December. The average value since the introduction of the AES is 71 points.

# Vaccination

* **Main phase of vaccination was started on 15 January. By the end of January, 37,185 people from the priority groups had been vaccinated by second dose.**
* **A rapid increase is expected in the spring and summer months, when the largest deliveries of vaccines arrive in the country.**

Vaccination in the Czech Republic is voluntary and free and it is planned for over 5.5 million people, or 60-70% of the total Czech population of 10.7 million.

Vaccination will take place in two main phases, preceded by a preparatory phase that already began in December of last year. In the first phase - IA, which has been launched on January 15, the highest risk groups are being vaccinated, i.e. the oldest seniors and (from January 26) medical staff. This will be followed up by phase IB starting during February, in which priority groups of the population should be vaccinated, which are seniors over 65, people with selected chronic diseases and employees in professions important for the state. Starting in May the final phase II should be launched, in which interested persons from the rest of the population are to be vaccinated.

The Czech Republic, like all other EU Member States, has joined an initiative led by the European Commission, which aims to provide a timely vaccination against COVID-19.

A total of 268,617 vaccinations were reported at the end of January. In 37,185 inhabitants, vaccination was completed with the second dose. Vaccination follows established priority groups. Healthcare workers (51.0% of the total), workers and clients of social services (18.1%), seniors 80+ (21.9%) are vaccinated. The remaining approx. 9.0% of middle-aged to very young people (18,513 under 29 years of age) are mostly medics, students or volunteers working at sampling points and in health care of COVID positive patients or in social services. Almost half of all 80+ seniors in the country are registered in the Central reservation system (almost a fifth of this age group was vaccinated with at least the first dose).

The vaccination system is significantly influenced by the reduction in vaccine supplies, which affected the country in late January and are also expected during February. As a result, the vaccination of the first doses has been reduced and the interval between the first and second dose is shifted from 21 to 28 days.

The government expects that the number of vaccines will stabilize in about April due to a wider number of distributors and a larger capacity of the manufacturer. The result will be mass vaccinations, which should allow more than 100K vaccinations per day. Due to the reduced number of vaccines, the Czech Republic is slightly below the European Union average, as shown in the following figure.

Source: Bloomberg

# Testing

* **The number of tests (RT-PCR and RAT test) in 7 days is approximately 330K tests.**
* **A worrying aspect is the high proportion of positive tests (28,97%) indicating a high virus load in the population.**

Number of tests being carried out in the Czech Republic is closely connected to the course of the epidemics. Testing is being carried out throughout the country with the average amount of tests about 50K a day (but fluctuates significantly, especially on weekends).

The significant increase in the number of tests per day was due both to the increase in the capacity of laboratories for RT-PCR testing and to the launch (from 16 December) of free Rapid antigen tests. Preventive testing with Rapid antigen tests is fully covered by health insurance once every five days (from 28 January interval reduced to three days). In case of a positive RAT test confirmation RT-PCR test is carried out. The rate of COVID-19 positive patients to number of tests is very high - Almost a third of all tests are COVID positive.

Source: IHIS

# Hospitalization

* **Proportion of hospitalized in the total number of confirmed cases is declining.**
* **Hospitals are still under immense pressure. The desired reduction in the number of hospitalisations can be expected at the earliest in 2 or 3 weeks.**

The number of people hospitalized in Covid-19 hospitals is slightly declining at the end of January. A smaller number of hospitalizations were last at the end of December before the peak of the second - January - wave of the epidemic. However, the number of hospitalized patients is still high (5391 patients), with almost a fifth (17.6%) being in severe condition. Especially in smaller regions, where the current capacities are more significantly limited and there is a higher pressure on the capacities of inpatient and intensive care, the health system is under enormous pressure. Therefore, interregional transports of patients from regions where capacities are at a maximum (especially the Karlovy Vary region) are carried out.

Total of 5,58% of active cases are hospitalized and 0,98 % of all active cases are patients in ICUs. The trend of hospitalizations for intensive care is stagnating. The vast majority of hospitalized with a severe course of the patient are elderly people, the average age of newly admitted patients is 70 years. Due to the current development of the epidemic in the senior population, we expect a decline in the coming 2-3 weeks. The high number of hospitalized is the main reason for the persistence in the fifth - highest risk level of AES.

Source: IHIS