

# COVID-19 for dummies

a knowledge base



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# What is COVID-19

COVID-19 is an acute respiratory infectious disease caused by infection with SARS-CoV-2 virus (commonly known as coronavirus). It was first recognized and described in November 2019, in central China (Wuhan city, Hubei province) during a series of cases that initiated a pandemic of the disease.

Infection is spread between people mainly by the droplet route, usually through coughing or sneezing. The incubation period of the disease usually ranges from 2 to 14 days, with an average of 5 days. Sick people can become infected 24-48 hours before the onset of symptoms.

[The World Health Organisation's](#) position puts the case fatality rate (CFR - the number of deaths per registered case of disease) at 3.4%. On 30 January 2020, WHO declared a public health emergency of international concern as a result of the spreading COVID-19 outbreak. On 11 March 2020, WHO declared the series of COVID-19 cases occurring since November 2019 as a pandemic.

# Statistics

**At the moment (on 16 April, 2021), the following statistics are recorded in Poland:**

- Total number of infected: 2,660,088 (+17,847 in 24 hours)
- Number of dead: 61 208 (+595)
- Number of people who recovered: 2 255 232 (+17 373)
- Number of active cases of infection: 343 648 (+656)
- Number of people hospitalised for coronavirus: 32 781 (-472)
- Number of patients using **ventilators**<sup>1</sup>: 3425 (-18)
- Total number of hospital beds for COVID-19 patients: 45,858 (13,077 beds free)
- Total number of ventilators for COVID-19 patients: 4557 (1132 ventilators free)
- Number of people in quarantine: 348,056 (-4895)
- Number of tests performed for coronavirus: 13 418 171 (+83 083)
- Number of COVID-19 vaccinations performed: 8,484,815 (daily number of vaccinations: 252,566)
- Number of people fully vaccinated: 2 248 126

On 16 April, 2021, the health ministry reported that laboratory tests had confirmed coronavirus infection in a further 17,847 people.

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<sup>1</sup>a machine that provides mechanical ventilation by moving breathable air into and out of the lungs, to deliver breaths to a patient who is physically unable to breathe, or breathing insufficiently.

# Symptoms of COVID-19

Each case of COVID-19 has an individual course. Most infected people develop symptoms of mild to moderate severity. Such individuals recover without the need for hospitalisation.

## The most common symptoms are:

- fever
- dry cough
- fatigue

## Less common symptoms are:

- muscle pain
- sore throat
- **diarrhoea**<sup>1</sup>
- **conjunctivitis**<sup>2</sup>
- headache
- loss of taste or smell
- skin rash or discoloration of the fingers and toes

## Symptoms indicative of severe disease:

- difficulty breathing or shortness of breath
- pain or pressure in the chest

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<sup>1</sup>passing looser or more frequent stools than is normal for you.

<sup>2</sup>also known as pinkeye, is an inflammation of the conjunctiva. The conjunctiva is the thin clear tissue that lies over the white part of the eye and lines the inside of the eyelid.

- loss of speech or motor skills

## Additional information

If you experience serious symptoms, contact your doctor immediately. Call and make an appointment before visiting your doctor or medical facility. People with mild symptoms and no other medical conditions should manage their symptoms at home.

However, remember that the incubation period of the virus (the time from infection to the first symptoms of illness) lasts up to 14 days (5 - 6 days on average). The carrier of the virus may not know that he or she is ill and may pose a danger to themselves and other people. There have also been cases in which fever does not occur at all or other symptoms such as diarrhoea appear.

Most patients (81%) may be asymptomatic or have mild symptoms. Unfortunately, in some patients coronavirus can lead to **pneumonia**<sup>1</sup>, multiple organ failure, acute respiratory distress syndrome, sepsis, septic shock and even death.

With the emergence of the 'British' variant of coronavirus, new symptoms of the disease have emerged. Taste and smell disorders are less frequent, while flu-like symptoms are more frequent: cough, fatigue, sore throat and muscles, fever, sinus problems. In addition, a very dangerous symptom of the disease is the absence of symptoms, which does not mean a mild course of COVID-19.

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<sup>1</sup>an infection that inflames the air sacs in one or both lungs.



# How not to get ill - safety rules

Protect yourself and people around you. Know the facts and take appropriate precautions. Follow the recommendations of your local health and epidemiological station.



# To prevent the spread of COVID-19

- Wash your hands frequently - at least several times a day and every time you come home from outdoors. Use soapy water and an alcohol-based disinfectant.
- Keep a safe distance (1,5 - 2 metres) from people coughing and sneezing.
- Wear a mask when distance is not possible.
- Do not touch your eyes, nose or mouth.
- When you cough or sneeze, cover your nose and mouth with the inside of your elbow or a tissue.
- If you feel unwell, stay at home.
- If you have a fever, cough and difficulty breathing, contact your doctor.
- For a quick referral to the right medical facility, call your nearest GP surgery in advance. This ensures you are protected and prevents the spread of viruses and other infectious agents.

# Masks

Masks can help prevent the transmission of viruses from the person wearing the mask to others. Masks alone do not protect against COVID-19 - you should also keep your distance from other people and take care with hand hygiene. Follow the recommendations of your local health and epidemiological station.

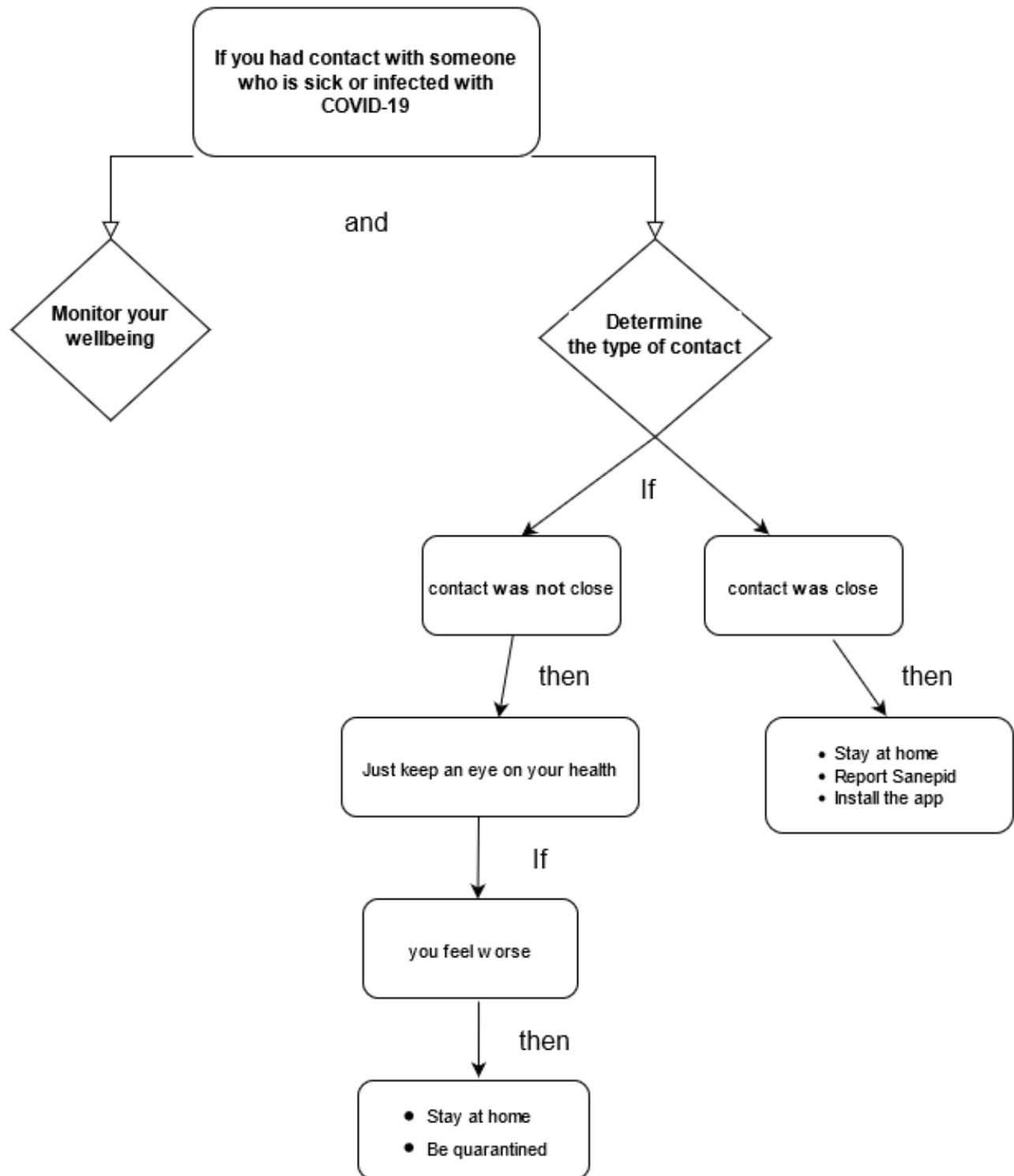
There are many types of masks you can use to protect yourself and others from getting and spreading COVID-19. When choosing a mask, choose one that fits snugly. Available types of masks:

- Cloth masks (made from a variety of fabrics)
- Disposable face masks
- KN95 masks (type of filtering facepiece respirator)

Masks are a critical step to help prevent people from getting and spreading COVID-19. A cloth mask offers some protection to you as well as protecting those around you. Wear a mask and take every day preventive actions in public settings and mass transportation, at events and gatherings, and anywhere you will be around other people.

# Contact with a sick or infected person

If you suspect you have been in contact with someone infected with coronavirus, determine the type of contact and monitor your wellbeing. What else should you do? Determine whether the contact was close or not. For more details see the diagram below and read the further instructions.



## What if the contact was not close?

Try to remember the situation in which you came into contact with a sick person. If the contact was brief, from a distance of more than 2 metres, the risk of infection is low. In this case, keep an eye on your health, take care of yourself and behave in a safe manner. You do not have to go into **quarantine**<sup>1</sup>.

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<sup>1</sup>a restriction on the movement of people, animals and goods which is intended to prevent the spread of disease or pests. It is often used in connection to disease and illness, preventing the movement of those who may have been exposed to a communicable disease, yet do not have a confirmed medical diagnosis.

# What if the contact was close?

First of all - don't panic.

- If the contact with the infected person was closer than 2 metres and longer than 15 minutes (being in the same room, direct conversation),
- if there was physical contact (e.g. shaking hands, touching a used tissue, exposure to coughing),

...there is a greater likelihood of infection.

In this situation:

- Report to the sanitary-epidemiological station.
- Stay at home until you receive the decision to impose **quarantine**<sup>1</sup>. The sanitary-epidemiological station communicates it to you by telephone or via an automatic quarantine notification.
- Install the mandatory [Home Quarantine](#) application when you receive the notification.

**Important!** Your household members are not quarantined in this situation.

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<sup>1</sup>a restriction on the movement of people, animals and goods which is intended to prevent the spread of disease or pests. It is often used in connection to disease and illness, preventing the movement of those who may have been exposed to a communicable disease, yet do not have a confirmed medical diagnosis.

# What to do after contact with a person infected with COVID-19?

Inform **The Social Insurance Institution**<sup>1</sup> by telephone about the **quarantine**<sup>2</sup>, and they should do the rest. You do not need an electronic sick note or a certificate from the health authorities. However, it is worth notifying your boss by e-mail or telephone of the reason for your absence from work.

If, however, there is no information for your employer in the system - make a statement about being in quarantine. You have 3 days from the end of the quarantine to do this.

The statement should include some essential information:

- Your personal details (name, **PESEL**<sup>3</sup> number, ID card or passport series and number),
- The day the compulsory quarantine started and the day it ended,
- Your signature.

If you have no symptoms, you will end the quarantine after 10 days.

Remember to monitor how you feel. If you feel worse and have symptoms of COVID-19 - call your GP. They will assess your health and make a referral for testing if necessary.

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<sup>1</sup>Polish state organization responsible for social insurance matters. ZUS is supervised by the Ministry of Labour and Social Policy. ZUS carries out the following tasks: establishing entitlement to social insurance benefits, paying out social insurance benefits, assessing and collecting social insurance and health insurance contributions and contributions to the Labour Fund and the Fund of Guaranteed Employee Benefits, maintaining individual accounts for those insured and the accounts of contribution payers.

<sup>2</sup>a restriction on the movement of people, animals and goods which is intended to prevent the spread of disease or pests. It is often used in connection to disease and illness, preventing the movement of those who may have been exposed to a communicable disease, yet do not have a confirmed medical diagnosis.

<sup>3</sup>personal identity number in Poland



## If you get request for a COVID-19 test

Referring for a test by your GP changes your situation. A negative result automatically ends the **quarantine**<sup>1</sup>. A positive result means infection and isolation. In this situation your housemates have to be quarantined.

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<sup>1</sup>a restriction on the movement of people, animals and goods which is intended to prevent the spread of disease or pests. It is often used in connection to disease and illness, preventing the movement of those who may have been exposed to a communicable disease, yet do not have a confirmed medical diagnosis.

# If you become ill

- Inform **the sanitary-epidemiological station**<sup>1</sup>.
- Get tested:
  - You can sign up for the test online. Just fill in the form available here. Answer a few questions. Based on the data you have provided, the system determines whether you are eligible for the test.
  - If you have symptoms indicating SARS-CoV-2 infection, your primary care doctor will issue an electronic referral for a free test. You receive information about mobile collection points, known as drive thru centres, where you can take the test. There, without getting out of the car, a nurse takes a **nasopharyngeal swab**.<sup>2</sup>
  - If the patient is not fully self-sufficient, the doctor informs the sanitary-epidemiological station by telephone. The station issues a test order and sends an ambulance. The paramedics in the ambulance test the patient.
- Isolate yourself - stay at home.
- Call **112 or 999**<sup>3</sup> if your condition gets worse.

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<sup>1</sup>Polish institution that carries out public health tasks by controlling and supervising hygiene conditions in various areas of life.

<sup>2</sup>a method for collecting a clinical test sample of nasal secretions from the back of the nose and throat.

<sup>3</sup>emergency telephone numbers in Poland. 999 number is used for calling an ambulance.

## What if someone you share a household with falls ill?

- Ideally, a COVID-19 patient should have their own separate room with a bathroom and toilet.
- ["Masks" on page 11](#) should be worn by all family members including the patient.
- Frequent washing or disinfection of hands and disinfection of objects and shared surfaces is very important.
- Ventilate your home as often as possible, but avoid the use of fans, air conditioners and air purifiers.

# What can happen after the illness?

Most patients recover from COVID-19 and return to normal activities, but for some, especially those with a severe infection, symptoms may persist for weeks or even months.

Older people and those with co-morbidities are most at risk of persistent COVID-19 symptoms. Occasionally, even young people who have not been hospitalised for COVID-19 infection because they had a mild course of the disease may experience persistent or late symptoms - these may appear even after initial recovery.

COVID-19 symptoms can sometimes persist for up to several months. The virus can damage the lungs, heart and brain, increasing the risk of long-term health problems. Therefore, the topic of caring for so-called post-COVID-19 patients (so-called recovering patients) who have survived the infection at home or in hospital is increasingly being addressed. There is now a growing awareness of the distant consequences of SARS-CoV-2 infection.

## **What should you do if you are still feeling the effects of the infection?**

According to experts, in the care of the post-covid patient, the role of the pulmonologist is very important, to assess the presence of pulmonary complications and the continuation of cardiac treatment.

It is important to note that post-COVID patients are not only those who need time to recover from their stay in the intensive care unit, but also young people, including those who were physically fit before SARS-CoV-2 infection, who have passed the disease mildly but report late symptoms of the disease.

So far there are no guidelines, neither in Poland nor in the world, on how to treat this group of patients. Only materials or expert recommendations concerning rehabilitation of patients hospitalised due to COVID-19 have appeared.

# COVID-19 vaccine - characteristics and types

Developing a new vaccine is a long and complex process. Each vaccine formulation must successfully pass through successive stages of laboratory testing, preclinical animal studies and human clinical trials.

Research on the COVID-19 vaccine began as soon as the genetic sequence of the SARS-CoV-2 coronavirus was published (11 January, 2020). The humanitarian and economic impact of the COVID-19 pandemic was a great motivation for the researchers to work, so that the first vaccine prototypes were ready to start human clinical trials already in mid-March 2020.

There are **3 types of vaccine**: mRNA, vector and subunit vaccines.

Until now (April 2021), two mRNA vaccines (from BioNTech/Pfizer and Moderna) and one vector vaccine (from AstraZeneca) have been licensed in EU countries. These vaccines protect against COVID-19 caused by the coronavirus SARS-CoV-2. The vaccination involves the administration of 2 doses intramuscularly. On 11 March, 2021, **The European Medicines Agency**<sup>1</sup> (EMA) also issued a positive opinion on the vaccine from Janssen Pharmaceutica, part of Johnson & Johnson. The product has been approved for use in European Union countries.

Protection appears between 7 and 14 days after the second dose of the vaccine. The vaccine's high efficacy in protecting against COVID-19 has been confirmed in large clinical trials, which also included people with concomitant diseases.

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<sup>1</sup>an agency of the European Union (EU) in charge of the evaluation and supervision of medicinal products.

# Adverse reactions

Following administration of the vaccines (mRNA, vector and subunit), adverse reactions may occur in the form of injection site pain, fatigue, headache, muscle pain and chills, joint pain, fever and swelling at the injection site.

See below for information on adverse reactions to the vaccine.

## **Astra-Zeneca vaccine (Vaxzevria)**

The most commonly reported adverse reactions were:

- tenderness at the injection site (63.7%),
- pain at the injection site (54.2%),
- headache (52.6%),
- fatigue (53.1%),
- muscle pain (44.0%),
- malaise (44.2%),
- fever (including feeling feverish (33.6%) and fever >38oC (7.9%))
- chills (31.9%),
- joint pain (26.4%),
- nausea (21.9%).

Most of these adverse reactions were mild to moderate in severity and usually passed within a few days of receiving the vaccine. Compared with the first dose, adverse reactions reported after the second dose were milder and reported with lower frequency.

## Moderna vaccine

The most commonly reported adverse reactions were:

- pain at the injection site (92%),
- fatigue (70%),
- headache (64.7%),
- muscle pain (61.5%),
- joint pain (46.4%),
- chills (45.4%),
- nausea/vomiting (23%),
- swelling/ tenderness in the armpit (19.8%),
- fever (15.5%),
- swelling at injection site (14.7%),
- redness (10%).

Most of these local and systemic adverse events were mild to moderate in severity and resolved within a few days after vaccination. A slightly lower incidence of reactogenicity events was associated with older age of participants.

Overall, some adverse reactions were more common in younger age groups: the incidence of armpit swelling/tenderness, fatigue, headache, myalgia, arthralgia, chills, nausea/vomiting and fever was higher in adults aged 18 to 65 years than in those aged 65 years and older. Local and systemic adverse reactions were reported more frequently with Dose 2 than with Dose 1.

## **COMIRNATY vaccine (from BioNTech and Pfizer)**

The most common adverse reactions in participants aged 16 years or older were:

- injection site pain (>80%),
- fatigue (>60%),
- headache (>50%),
- muscle pain and chills (>30%),
- joint pain (>20%),
- fever and swelling at the injection site (>10%).

These events were usually mild to moderate in severity and resolved within a few days of vaccine administration. A slightly lower incidence of reactogenicity events was associated with more advanced age.

## **Johnson & Johnson vaccine**

The most common systemic adverse reactions were:

- headache (38.9%)
- fatigue (38.2%)
- muscle pain (33.2%)
- nausea (14.2%).

Most adverse reactions occurred within 1-2 days after vaccination and were mild to moderate in intensity and of short duration (1-2 days).



# References

In writing this knowledge base, I used information from the following websites:

- [The Polish government site](#)
- [Private university in Minnesota site](#)
- [SAGE](#), a global academic publisher of books, journals, and a growing suite of library products and services
- [World Health Organization site](#)
- [Centers for Disease Control and Prevention](#)

# Glossary

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### 112, 999

emergency telephone numbers in Poland. 999 number is used for calling an ambulance.

## C

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### Conjunctivis

also known as pinkeye, is an inflammation of the conjunctiva. The conjunctiva is the thin clear tissue that lies over the white part of the eye and lines the inside of the eyelid.

## D

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### Diarrhoea

passing looser or more frequent stools than is normal for you.

## N

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### Nasopharyngeal swab

a method for collecting a clinical test sample of nasal secretions from the back of the nose and throat.

## P

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### PESEL

personal identity number in Poland

## **Pneumonia**

an infection that inflames the air sacs in one or both lungs.

Q

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## **Quarantine**

a restriction on the movement of people, animals and goods which is intended to prevent the spread of disease or pests. It is often used in connection to disease and illness, preventing the movement of those who may have been exposed to a communicable disease, yet do not have a confirmed medical diagnosis.

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## **The European Medicines Agency**

an agency of the European Union (EU) in charge of the evaluation and supervision of medicinal products.

## **The sanitary-epidemiological station (Sanepid)**

Polish institution that carries out public health tasks by controlling and supervising hygiene conditions in various areas of life.

## **The Social Insurance Institution**

Polish state organization responsible for social insurance matters. ZUS is supervised by the Ministry of Labour and Social Policy. ZUS carries out the following tasks: establishing entitlement to social insurance benefits, paying out social insurance benefits, assessing and collecting social insurance and health insurance contributions and contributions to the Labour Fund and the Fund of Guaranteed Employee Benefits, maintaining individual accounts for those insured and the accounts of contribution payers.

V

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## **Ventilator**

a machine that provides mechanical ventilation by moving breathable air into and out of the lungs, to deliver breaths to a patient who is physically unable to breathe, or breathing insufficiently.