Update 67 (28th of April 2021)

Information about infection disease
COVID-19 (novel coronavirus)

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28th of April 2021
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In December 2019, a novel coronavirus emerged in Wuhan City, China. Since then the virus spread to 65 countries including Europe and America. Since then the virus showed evidence for human-to-human transmission as well as evidence of asymptomatic transmission. At 30th January 2020 WHO declared a Public Health Emergency of International Concern. The disease was formally named COVID-19 on 11th of February. The virus itself has been named SARS-CoV-2. On 11th of March 2020 WHO characterized the disease as a pandemic.

HIGHLIGHTS/NEWS

- This week is **World Immunization Week** the theme of this years campaign is 'Vaccines bring us closer'. **The European Immunization Week** aims to raise awareness of the importance of immunisation for people's health and well-being.
- **WHO, UNICEF, Gavi, the Vaccine Alliance**: warned that due to the COVID-19 disruption millions of children remain vulnerable to deadly diseases even as immunization slowly recovers. A WHO survey has found that, despite progress when compared to the situation in 2020, more than one third of respondent countries (37%) still report experiencing disruptions to their routine immunization services.
- **WHO**: Announced the Immunization Agenda 2030, an ambitious new global strategy to maximize the lifesaving impact of vaccines over the next decade. If fully implemented, the Immunization Agenda 2030 could avert over 50 million deaths over the next decade.
- **EMA/ECDC**: Started a new initiative that is aimed at strengthening post-marketing monitoring of the safety, effectiveness and impact of COVID-19 vaccines in the EU/EEA. They will jointly coordinate and oversee a number of observational studies which will be funded from the EU budget and conducted in several European countries.
- **CDC**: Updated their information on SARS-CoV-2 Variant Classification and Definitions, their COVID-19 Travel Recommendations by Destination scheme and the Interim Public Health Recommendations for Fully Vaccinated People.
- **WHO**: Plans to support India in the fight against the massive second corona wave with 4000 oxygen concentrators for COVID-19 patients. Meanwhile, the first international aid has arrived in the capital.

GLOBALLY ↗ 148 392 485 confirmed cases 132 900 000 recovered 3 132 333 deaths
EU/EEA and the UK ↘ 49 021 026 confirmed cases 44 640 000 recovered 1 045 526 deaths
USA ↘ **(7-days incidence 115,5)** 32 033 340 confirmed cases 30 520 000 recovered 570 925 deaths
India ↗ **(7-days incidence 170,1)** **17 636 307** confirmed cases **13 330 000** recovered **197 894** deaths
Brazil ↘ **(7-days incidence 187,2)** **14 441 563** confirmed cases **13 020 000** recovered **395 022** deaths
France ↘ **(7-days incidence 290,7)** **5 534 313** confirmed cases **4 945 000** recovered **103 603** deaths
Russia → **(7-days incidence 40,7)** **4 725 252** confirmed cases **4 483 000** recovered 107 167 deaths

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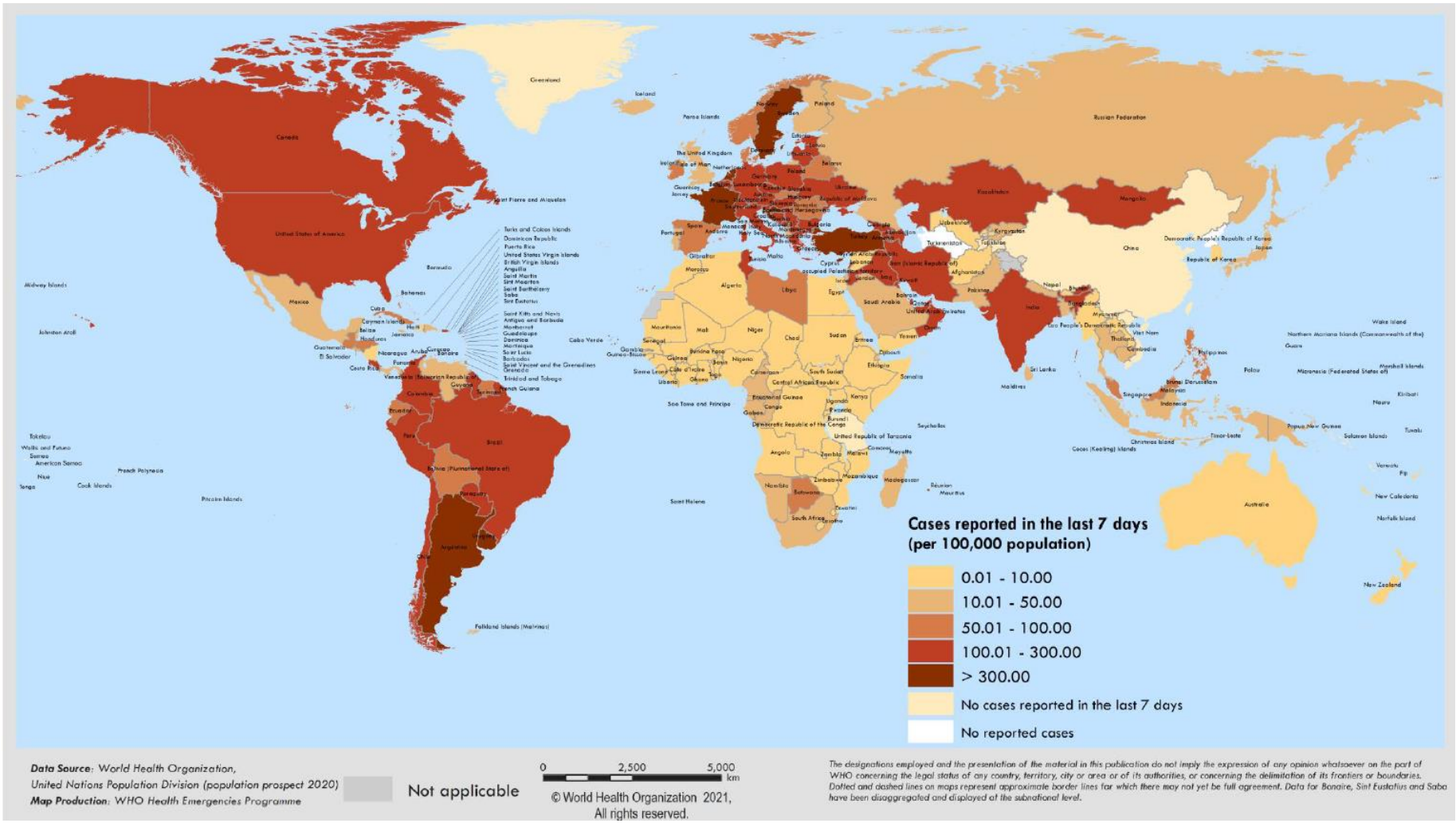
Map of countries with reported COVID-19 cases (last 7 days), as of 19 to 25 April 2021



Worldwide Situation

Global Situation

Statement WHO on B.1.617

Although the Indian double-mutant B.1.617 is under surveillance by WHO, it has not yet been classified as a cause for concern. It is still unclear to what extent the mutant has contributed to the rapid increase in the number of infections in India, a WHO spokesman said. Several factors may have contributed to this, such as the fact that festivals and events with many participants were recently held in India. The high death toll could also be related to the fact that the clinics in India have reached their capacity.

Source: https://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-update-fda-revokes-emergency-use-authorization-monoclonal-antibody-bamlanivimab

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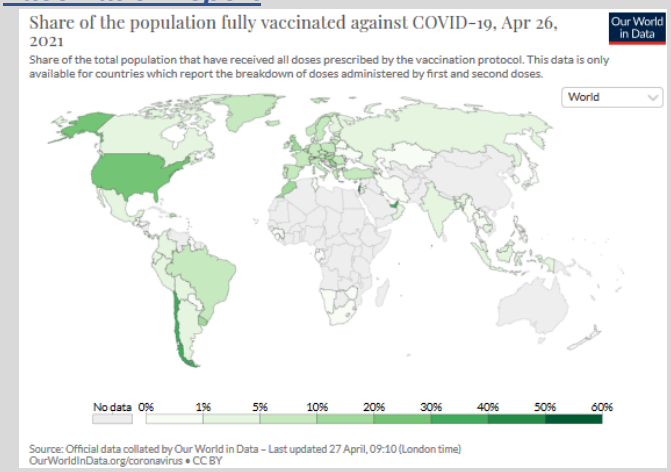
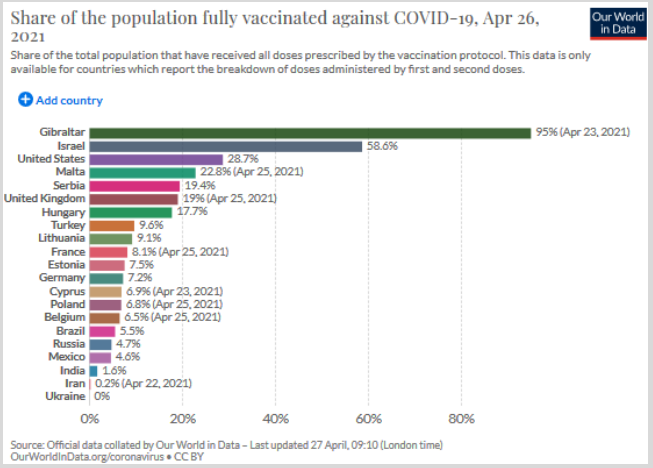
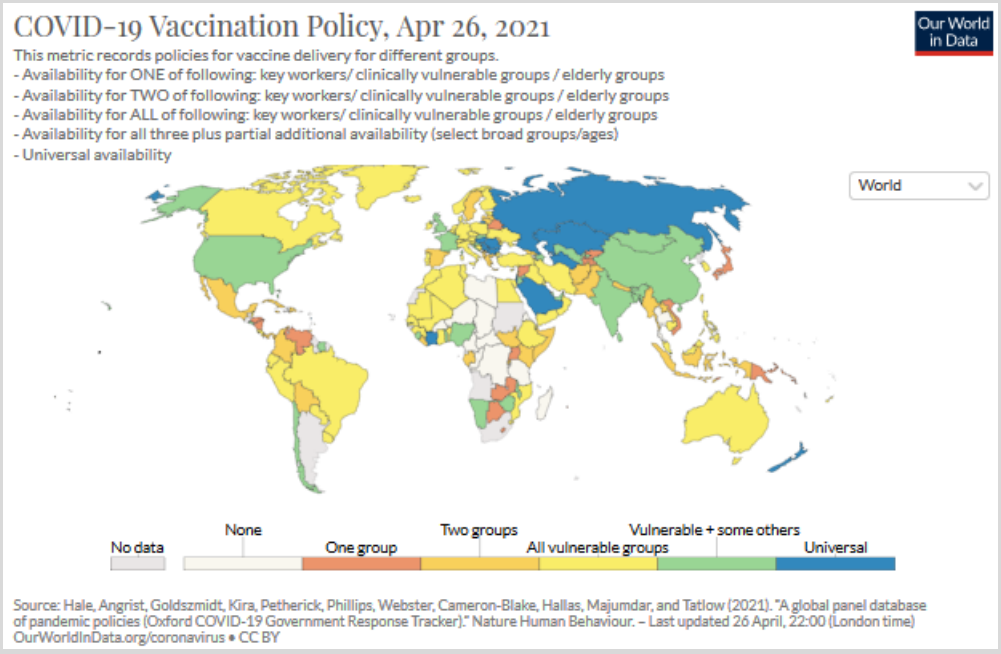
Vaccination report







This data on vaccination policies is sourced from the Oxford Coronavirus Government Response Tracker (OxCGRT).

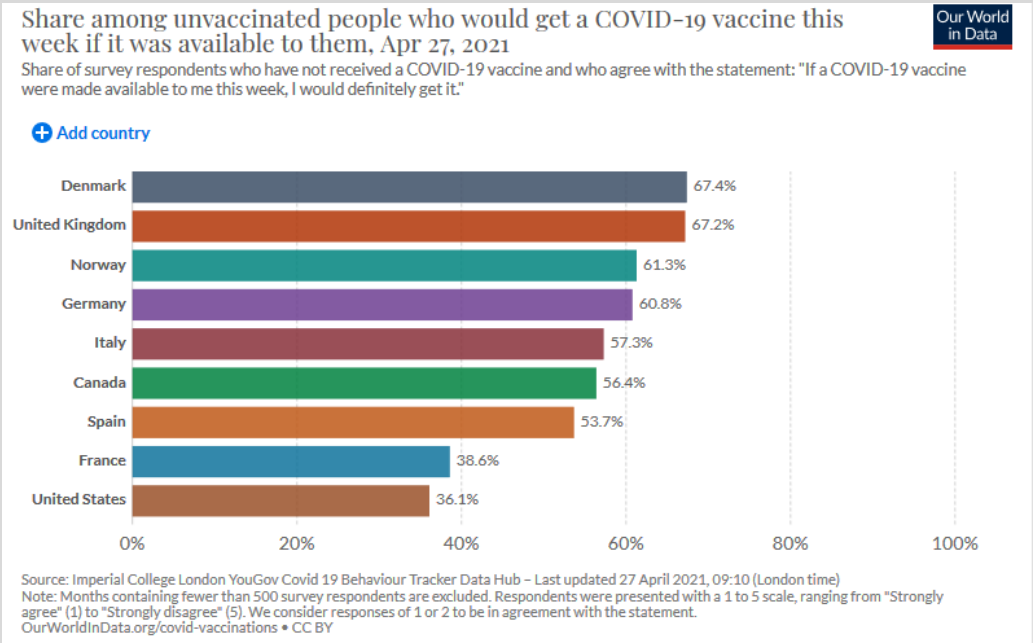
Attitudes to COVID-19 vaccinations

The Imperial College London YouGov COVID-19 Behaviour Tracker Data Hub gathers global insights on people's behaviors in response to COVID-19. This survey covers public behaviors and attitudes ranging from mask-wearing to self-isolation, social distancing, symptoms and testing.

The following chart shows monthly data on the willingness of unvaccinated individuals to receive the COVID-19 vaccine.

Data represents the share of respondents who have not received a COVID-19 vaccine and who agree with the following statement: "If a COVID-19 vaccine were made available to me this week, I would

definitely get it." Respondents were presented with a 1 to 5 scale, ranging from "Strongly agree" (1) to "Strongly disagree" (5). We consider responses of 1 or 2 to be in agreement with the statement.



Israel examining heart inflammation cases in people who received Pfizer COVID shot

The **Israeli Ministry of Health** is investigating cases of heart muscle inflammation associated with the BioNTech/Pfizer COVID-19 vaccine. A preliminary study has shown "dozens of cases" of myocarditis in more than five million vaccinated, mainly after the second dose, said the Israeli pandemic control coordinator. It is unclear whether the number of people with inflammation of the heart muscle tissue is unusually high and whether this is related to the vaccine.

Proving the link between disease and vaccine is difficult because myocarditis often proceeds without complications and can be caused by a variety of viruses. A similar number of cases have also been reported in recent years. When asked by the Reuters news agency, **Pfizer** said it was "aware of Israeli observations of the disease, which has mainly occurred in young men who received the Pfizer/BioNTech vaccine." Unwanted side effects are regularly and thoroughly reviewed and the company has not observed a higher myocarditis rate than would be expected in the general population. "There is currently no evidence that myocarditis poses a risk associated with the use of Pfizer/BioNTech's COVID-19 vaccine."

The **CDC** has no evidence of a link between corona vaccinations and heart muscle inflammation. According to the authorities, more than 200 million vaccinations have now been searched for signs of this, but no evidence has been found. Evidence suggests that the coronavirus itself can trigger myocarditis in infected people.

Source: https://www.pharmaceutical-technology.com/news/israel-myocarditis-pfizer-vaccine/
https://www.haaretz.com/israel-news/pfizer-vaccine-effective-for-people-with-autoimmune-diseases-israeli-study-shows-1.9749056
https://www.pfizer.com/news/press-release/press-release-detail/real-world-evidence-confirms-high-effectiveness-pfizer
https://www.newsobserver.com/news/coronavirus/article250965424.html

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Country reports on vaccination

WHO: According to its own data, an emergency approval for the two most important vaccines from China is to be decided in the few days. By the end of this week we expect a vote on **Sinopharm** and next week on **Sinovac Biotech**. Both substances have been used millions of times in China and exported to Latin America, Africa and Asia.

USA: The US state of West Virginia offers citizens between the ages of 16 and 35 100 US dollars (83 Euros) as a reward for a Corona vaccination. The reward is financed with funds from the stimulus program recently adopted by the US Congress.

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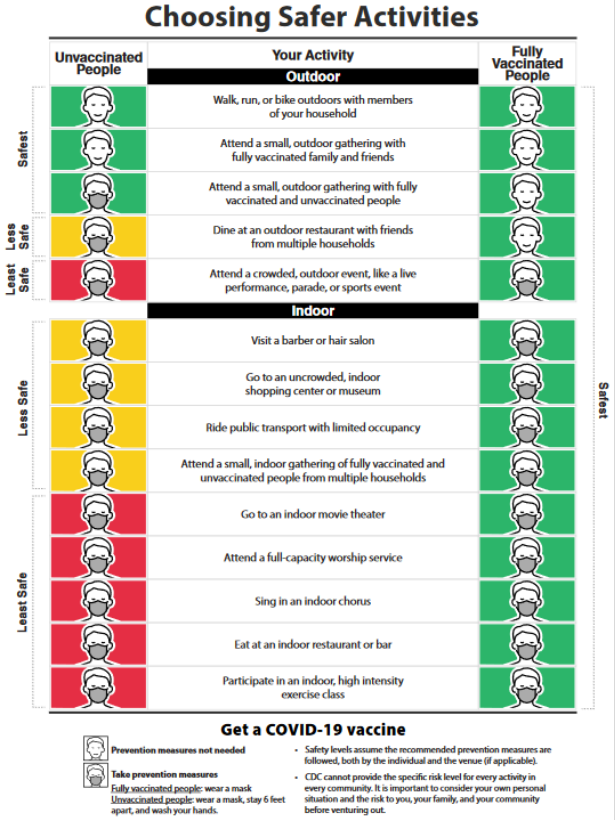
	Up to 60 million doses of AstraZeneca's Corona vaccine are to be released for export as they will not be needed in the US in the coming months. There are currently three vaccines approved in the US, and AstraZeneca is not one of them. Last month, the U.S. government passed on about four million doses of the vaccine to Mexico and Canada. --- **KAZ**: Vaccinations with the self-developed Corona vaccine QazCovid-in have been launched. There are 50,000 doses of the vaccine available across the country. The QazCovid-in vaccine, also known as QazVac, was developed by the Kazakh Research Institute for Biological Safety Problems. The final clinical trial is still ongoing. --- **IRN**: The vaccination campaign continues to be very slow. The country is in an economic crisis, mainly because of US sanctions, and has so far been able to import just over two million doses of vaccines. A daily high of 496 COVID deaths was recorded on Monday. --- **AUS**: Australian athletes and staff preparing for the Tokyo Olympics will be given priority for Corona vaccinations. The Australian government has announced that the Olympians will be placed in the group with health workers, Indigenous people over 55 and the over-70s. The vaccination program for athletes and staff will include about 2,000 people, including an estimated 450 to 480 Olympic athletes. --- **BRA:** Brazil's regulator Anvisa has refused to import the Russian vaccine Sputnik V due to a lack of safety and efficacy data. Previously, several states had already signed contracts to purchase more than 30 million doses of vaccine. The Federal Government had ordered another ten million vials. So far, 27.3 million of the 212 million Brazilians have been vaccinated once and 11.6 million have been vaccinated twice. --- **GBR**: The advanced British Corona vaccination campaign has now reached younger age groups. Over the course of the week, 40- to 43-year-olds in England will receive an offer of vaccination from the health service. --- **IND**: In the Indian capital New Delhi, all adults are to be vaccinated against the coronavirus free of charge. At the same time, there was also a nationally uniform price for the vaccination of 150 rupees (about 1.66 euros) per dose. --- **Country Reports:** **USA**: With the rapidly growing number of vaccinated people in the US, corona requirements for public life are being further relaxed. The CDC released new recommendations that fully vaccinated people no longer necessarily have to wear a mask during many outdoor activities. For larger outdoor crowds, wearing a mask is still recommended for vaccinated people.



IND: With the large increase in Corona numbers nationally, the southern Indian state of Karnataka is imposing a lockdown from Thursday. It will be valid for 14 days, the regional government announced. It follows similar restrictions that already exist in many parts of the country. The metropolis of Bangalore, with its 12 million inhabitants, reported more than 20,000 new infections on Sunday. This is the highest number in a day to date and the second highest after the capital New Delhi.
On Wednesday, 3,293 deaths were recorded for the first time in 24 hours, according to the Health Ministry. Experts, however, assume a high level of under-reporting. On Wednesday, some 360,000 new infections were also registered - a new global high.

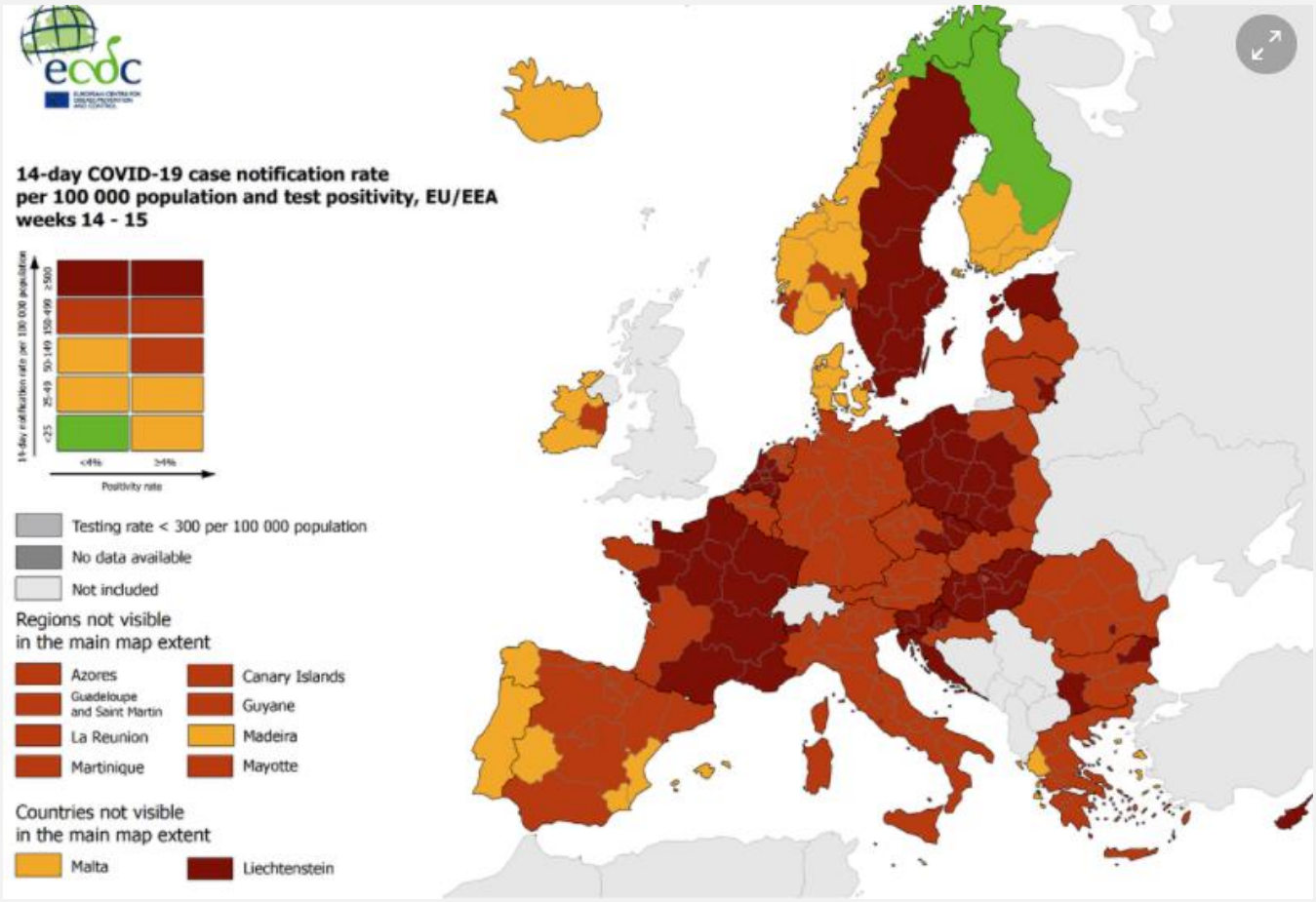
THA: Corona measures have been tightened due to a sharp increase in the number of infections. In the capital Bangkok and 49 other provinces, there has been a requirement for masks in public places since Monday. Bangkok also closed cinemas, swimming pools, sports halls and other public facilities.

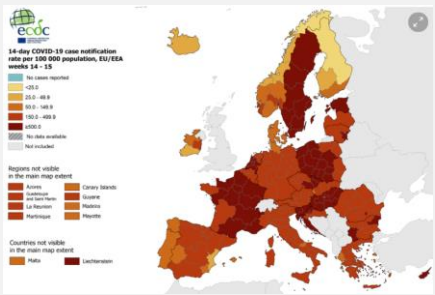
AUS: In order to prevent the spread of the new variant, direct flights from India may no longer land in Australia until at least 15 May. Thousands of Australians, including professional cricketers, are stranded in India for the time being and must now be brought back. A lockdown in the Western Australian city of Perth came to an end on Monday after a man with Corona attacked other people at a quarantine hotel after returning home from his wedding in India.

BRA: The Senate Investigative Committee has begun an investigation into the government's handling of the coronavirus pandemic.

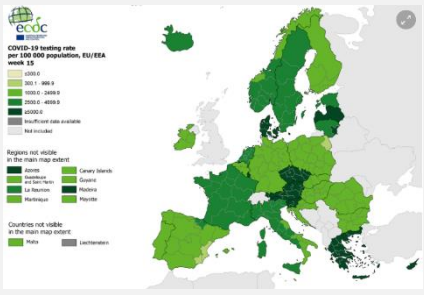
Situation in Europe

[Maps in support of the Council Recommendation on a coordinated approach to the restriction of free movement in response to the COVID-19 pandemic in the EU](), as of 22 April 2021

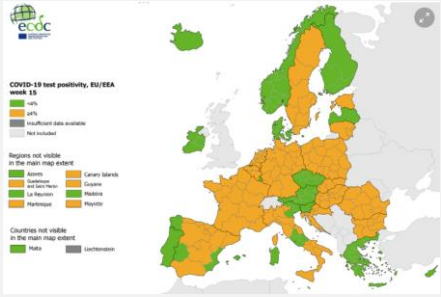




14-day case notification rate per 100 000 inhabitants



Testing rates per 100 000 inhabitants



Positivity rates

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ECDC COVID-19 surveillance report Week 15, as of 22 April 2021

Weekly surveillance summary

Overall situation

By the end of week 15 (week ending Sunday 18 April 2021), 10 countries in the European Union/European Economic Area (EU/EEA) had reported increasing case notification rates and/or test positivity. Case rates in older age groups had increased in two countries, six countries reported increasing hospital or intensive care unit (ICU) admissions and/or occupancy due to COVID-19, and nine countries reported increasing death rates. The absolute values of the indicators remain high, suggesting that transmission is still widespread. It is possible that further increases in admissions to hospital, ICU and mortality will follow in the coming weeks in those countries that are currently observing increasing case notification rates.

New this week

Country level figures showing age-specific vaccine uptake aligned with key epidemiological indicators (age-specific case and death rates, hospital/ICU occupancy and admissions due to COVID-19).

Trends in reported cases and testing

- By the end of week 15, the 14-day case notification rate for the EU/EEA, based on data collected by ECDC from official national sources in 30 countries, was 426 (country range: 29-962) per 100 000 population. The rate has been decreasing for two weeks.
- Among the 29 countries with high case notification rates (at least 60 per 100 000 population), increases were observed in nine countries (Croatia, Cyprus, Germany, Latvia, Liechtenstein, Lithuania, the Netherlands, Spain and Sweden). Stable or decreasing trends in case rates of one to six weeks' duration were observed in 20 countries (Austria, Belgium, Bulgaria, Czechia, Denmark, Estonia, Finland, France, Greece, Hungary, Ireland, Italy, Luxembourg, Malta, Norway, Poland, Portugal, Romania, Slovakia and Slovenia).
- Based on data reported to The European Surveillance System (TESSy) from 23 countries for people over 65 years of age, high levels (at least 60 per 100 000 population) or increases in the 14-day COVID-19 case notification rates compared with last week were observed in 17 countries (Austria, Belgium, Cyprus, Czechia, Estonia, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Romania, Slovenia and Spain).
- Notification rates are dependent on several factors, one of which is the testing rate. Weekly testing rates for week 15, available for 28 countries, varied from 1 073 to 47 173 tests per 100 000 population. Denmark had the highest testing rate for week 15, followed by Cyprus, Austria, Czechia and Luxembourg.
- Among 17 countries in which weekly test positivity was high (at least 3%), two countries (Croatia and Germany) had observed an increase in test positivity compared with the previous week. Test positivity remained stable or had decreased in 15 countries (Belgium, Bulgaria, Estonia, France, Hungary, Italy, Latvia, Lithuania, Malta, the Netherlands, Poland, Romania, Slovakia, Spain and Sweden).

Hospitalisation and ICU

- Pooled data from 24 countries for week 15 show that there were 13.4 patients per 100 000 population in hospital due to COVID-19. According to weekly hospital admissions data pooled from 18 countries, new admissions were 9.7 per 100 000 population.
- Pooled data from 18 countries for week 15 show that there were 2.4 patients per 100 000 population in ICU due to COVID-19. Pooled weekly ICU admissions based on data from 15 countries show that there were 3.3 new admissions per 100 000 population.
- Hospital and/or ICU occupancy and/or new admissions due to COVID-19 were high (at least 25% of the peak level during the pandemic) or had increased compared with the previous week in 26 countries (Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Romania, Slovakia, Slovenia and Sweden). No other increases have been observed, although data availability varies.

Mortality

- The 14-day COVID-19 death rate for the EU/EEA, based on data collected by ECDC from official national sources for 30 countries, was 77.6 (country range: 0.0-353.4) per million population. The rate has been stable for seven weeks.
- Among 24 countries with high 14-day COVID-19 death rates (at least 10 per million), increases were observed in eight countries (Austria, Croatia, Cyprus, Germany, Latvia, Lithuania, Luxembourg and Poland). Stable or decreasing trends in death rates of 1–4 weeks' duration were observed in 16 countries (Belgium, Bulgaria, Czechia, Estonia, France, Greece, Hungary, Ireland, Italy, Malta, the Netherlands, Romania, Slovakia, Slovenia, Spain and Sweden).

Variants of concern

- Sequencing capacity varies greatly across the EU/EEA; 10 EU/EEA countries (Belgium, Denmark, France, Germany, Hungary, Iceland, Lithuania, Luxembourg, Norway and Poland) met the recommended level of 10% or 500 sequences of SARS-CoV-2-positive cases sequenced and reported to the GISAID EpiCoV database by 20 April 2021 or to TESSy by 18 April 2021 (data referring to the period from 29 March to 11 April 2021). During the same period, 10 countries sequenced and reported between 60 and 499 samples, while 10 countries sequenced and reported <60 samples or did not report data.
- Among the 10 countries with the recommended level of 10% or 500 sequences reported per week in the period from 29 March to 11 April 2021, the median (range) of the variant in all samples sequenced in the period was 83.1% (17.9–96.8%) for B.1.1.7, 0.8% (0.0–14.4%) for B.1.351 and 0.0% (0.0–0.9%) for P.1

Notes

- ECDC produces two weekly COVID-19 surveillance outputs (the COVID-19 country overview and the COVID-19 surveillance report) using data from a range of sources. The data behind most of the figures in the COVID-19 country overview are available for download in open data formats on ECDC's website.
- The joint ECDC-WHO Europe COVID-19 surveillance bulletin is published every Friday, comprising an overview report of data reported to TESSy by countries in the WHO European region and an interactive web application presenting country-level data.
- Additional weekly surveillance bulletins relevant to the COVID-19 pandemic in Europe include EuroMOMO (estimates of all-cause mortality) and Flu News Europe (including primary care sentinel and hospital-based surveillance for respiratory disease), which are published every Thursday and Friday, respectively.

COVID-19 Vaccine roll-out overview EU, as of 18 April 2021

Key figures on the vaccine rollout in the EU/EEA as of week 15, 2021 (18 April 2021)

Total doses distributed and administered

Total number of vaccine doses distributed by manufacturers to EU/EEA countries: 133 832 150 (29 countries reporting)

Median number of vaccine doses distributed by manufacturers to EU/EEA countries per hundred inhabitants : 35.9 (range: 16.9–64.6) (29 countries reporting)

Total number of vaccine doses administered: 115 837 012 (30 countries reporting)

Cumulative vaccine uptake in adults

Cumulative uptake of at least one vaccine dose among adults aged 18 years and above: median of 23.3% (range: 8.8–40.4%) (30 countries reporting)

Cumulative uptake of full vaccination among adults aged 18 years and above: median of 8.4% (range: 1.7–20%) (30 countries reporting)

Cumulative vaccine uptake in target groups

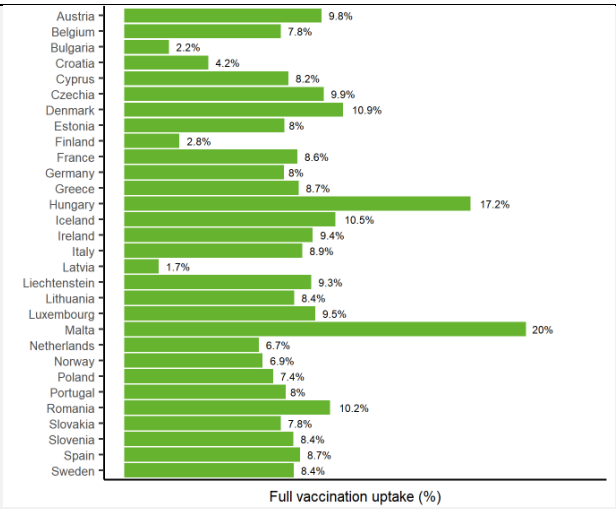
Cumulative uptake of at least one vaccine dose among persons aged 80 years and above: median of 75.6% (range: 8.3–99.8%) (25 countries reporting)

Cumulative uptake of full vaccination among persons aged 80 years and above: median of 50.3% (range: 1.1–97.6%) (25 countries reporting)

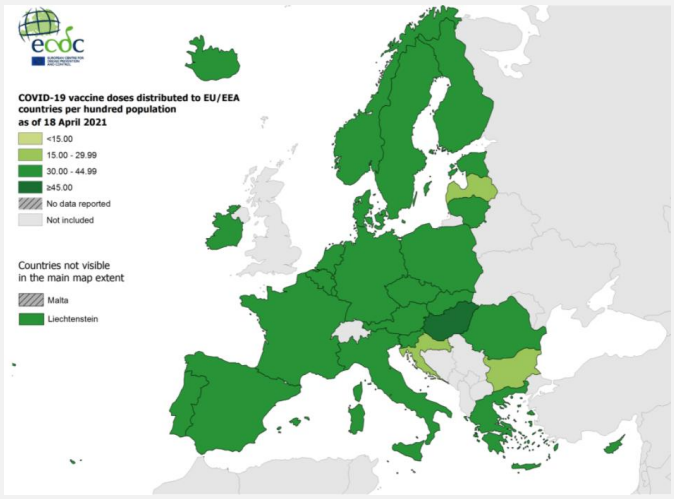
Cumulative uptake of at least one vaccine dose among healthcare workers: median of 70.9% (range: 19.7–100%) (15 countries reporting)

Cumulative uptake of full vaccination among healthcare workers: median of 51.3% (range: 15.4–100%) (15 countries reporting)

For the list of countries reporting data for each indicator, see section 5



Full vaccination uptake among adults in



Vaccine doses distributed per hundred inhabitants

Other sources: https://vaccinetracker.ecdc.europa.eu/public/extensions/COVID-19/vaccine-tracker.html#uptake-tab

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Country Reports:

FRA: The number of Corona patients in intensive care units exceeded the 6,000 mark for the first time in more than a year, according to official figures.

PRT: On Monday, for the first time in nearly nine months, not a single Corona death was recorded in 24 hours. This was last the case on 2 August 2020. The highest levels since the outbreak of the pandemic were recorded on 28 and 31 January, with 303 deaths each. With infections falling, the highest corona warning level will no longer apply as of Friday. The new warning level still allows the government to impose some restrictions. However, they are now limited and must be justified.

CYP: From May 10, citizens of 65 countries fully vaccinated against the coronavirus will be able to enter without preconditions. As early as March, Cyprus had made it easier for individuals from Israel and the United Kingdom to enter the country.

BEL: Belgium has now banned entry from India, Brazil and South Africa to curb the spread of coronavirus variants. In doing so, Belgium has withdrawn some of the recommendations for entry from third countries agreed by the EU states at the beginning of February. It is therefore actually envisaged that blanket entry bans should also be avoided with regard to virus variants. Instead, stricter testing and quarantine rules should apply.

SVK: In view of the declining number of new corona infections, the Slovak health authorities have further relaxed the existing initial restrictions. The start of a nightly curfew has been moved from 8 p.m. to 9 p.m. Spectators are also allowed at professional sporting events. However, they must comply with strict hygiene and distance rules. Since Monday, catering establishments have been allowed to serve food and drinks again, but only outdoors. Shops have been reopened under conditions for a week. However, the national emergency was extended until 1 October. The state of emergency allows, among other things, the forced transfer of health workers from one hospital to another, but also the prohibition of protest rallies.

AUT: From 19 May, all sectors such as gastronomy, hotel industry, sports and culture will be able to offer their services throughout Austria, accompanied by a protection concept based on accessing tests. On Tuesday, Vienna became the last state to end the lockdown, which has been in force since 1 April.

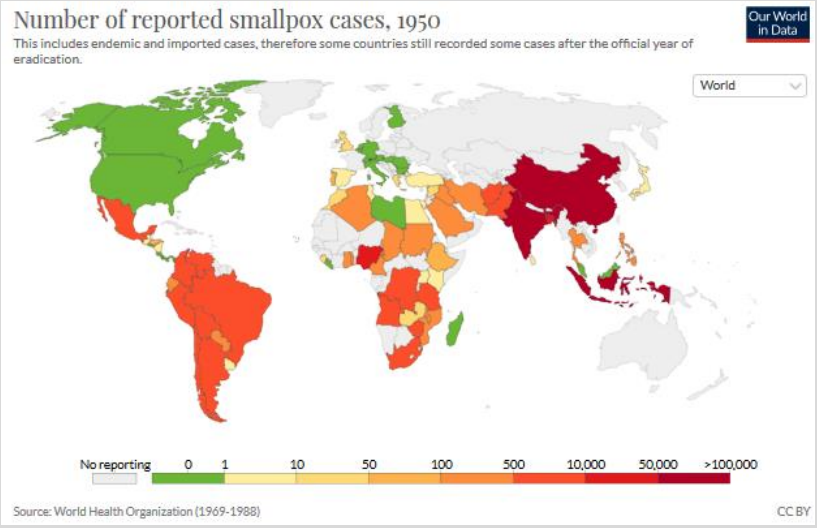
TUR: The lockdown is further tightened. From 29 April to 17 May, all establishments which do not have an exemption must close. The exceptions are yet to be announced by the Ministry of the Interior. Travel between cities is only possible with permission.

Subject in Focus

Vaccination History and Innovation and the most common side effects of FDA or EMA approved COVID-19 vaccines

Introduction

The speed at which the first COVID-19 vaccines were developed was extraordinary. The measles vaccine was found relatively rapidly: it took only 10 years from the discovery of the pathogen to the development of the first vaccine. But for typhoid it took more than a century, and for some diseases for which we've known the pathogens for more than a century (like malaria) we still haven't found an effective vaccine.



Smallpox is the only human disease that has been successfully eradicated. Smallpox, was a major cause of mortality in the past, with historic records of outbreaks across the world. Its historic death tolls were so large that it is often likened to the Black Plague. The eradication of smallpox is therefore a major success story for global health for several reasons: it was a disease that was endemic (and caused high mortality rates) across all continents; but was also crucial to advances in the field of immunology. The smallpox vaccine was the first successful vaccine to be developed. In total there are now at least 28 human diseases against which we have effective vaccines. Since the invention of the smallpox vaccine, vaccines have greatly reduced the prevalence of diseases everywhere in the world. The World Health Organisation (WHO) suggests that vaccination prevents 2-3 million deaths each year.

Eradication of a disease

The ultimate goal in the fight against diseases is their eradication. In theory, many diseases could be eradicated, in practice, only a handful of diseases meet the criteria that make them eradicable with current knowledge, institutions, and technology. Diseases that are considered eradicable today are: polio, Guinea worm disease, lymphatic filariasis, cysticercosis, measles, mumps and rubella.

Eradicable diseases usually need to meet the following criteria:

- it's an infectious disease,
- humans are the major host of for the disease,
- effective vaccines or treatments are available for the disease, and
- there is political and financial support for the eradication efforts.

Efforts to eradicate or eliminate additional diseases from parts of the world such as malaria, trachoma, river blindness and yaws are underway, mostly driven by the WHO.

We need to differ eradication, the permanent and global reduction of the incidence of infection caused by a specific agent to zero, from elimination of a disease. This refers to the deliberate effort that leads to the reduction to zero of the incidences of infection caused by a specific agent in a defined geographic area. A disease can be eliminated from a specific region without being eradicated globally. Actions to prevent the disease from transmitting or re-emerging are still required once a disease is eliminated versus with eradication intervention measures are no longer required, because the agent, which previously caused the disease is no longer present.

Until today the world was successful in eradicating two diseases: **Smallpox** and **Rinderpest**.
But there is a list of eradicable diseases provided by The International Task Force for Disease Eradication (ITFDE). ITFDE was formed in 1988 at the The Carter Center; it is supported by the Bill & Melinda Gates Foundation and advises bodies such as the World Health Organisation on various aspects of disease eradication.

Infectious diseases that have been eradicated and could be eradicated in the future[7]

Disease	Burden of disease	Cause	Ways to eradicate	Fatality
Smallpox	Declared eradicated in 1980	Variola virus	Eradicated using vaccination	30%
Rinderpest	Declared eradicated in 2011	Rinderpest virus	Sanitary measures and vaccination	100%
Poliomielitis	116 cases in 2017	Poliovirus	Vaccination	For paralytic polio 2-5% in children and increases to 15-30% in adults
Guinea worm disease	30 cases in 2017	Parasitic worm Dracunculus medinensis	Hygiene, water decontamination and health education	Not fatal but debilitating
Measles	173,457 reported cases to WHO in 2017	Measles morbillivirus	Vaccination	15%
Mumps	560,622 reported cases to WHO in 2017	Mumps orthorubulavirus	Vaccination	0.01% for mumps-caused encephalitis
Rubella	6,789 reported cases to WHO in 2017	Rubella virus	Vaccination	Not reported
Lymphatic filariasis	No estimate available. In 2014, 68 million people were infected and 790 million people where at risk of infection	Roundworms: W. bancrofti, B. malayi, B. timori	Preventive chemotherapy	Not fatal but highly debilitating
Cysticercosis	2.56–8.30 million cases estimated by the WHO	Tapeworms: T. solium, T. saginata, T. asiatica	Sanitation and health education. Vaccination of pigs	Varies between countries <1-30%

While ITFDE has placed seven diseases on its eradicable diseases list, the WHO currently suggests that polio and Guinea worm disease are eradicable while lymphatic filariasis, cysticercosis, measles, mumps and rubella could be eliminated from some parts of the world.

Even for diseases where possibility of eradication has been agreed upon, the date when it will happen remains a moving target. The timeline for Guinea worm disease eradication was first set for 1991, then moved to 2009, then to 2015, then to 2020 and is currently set for 2030.

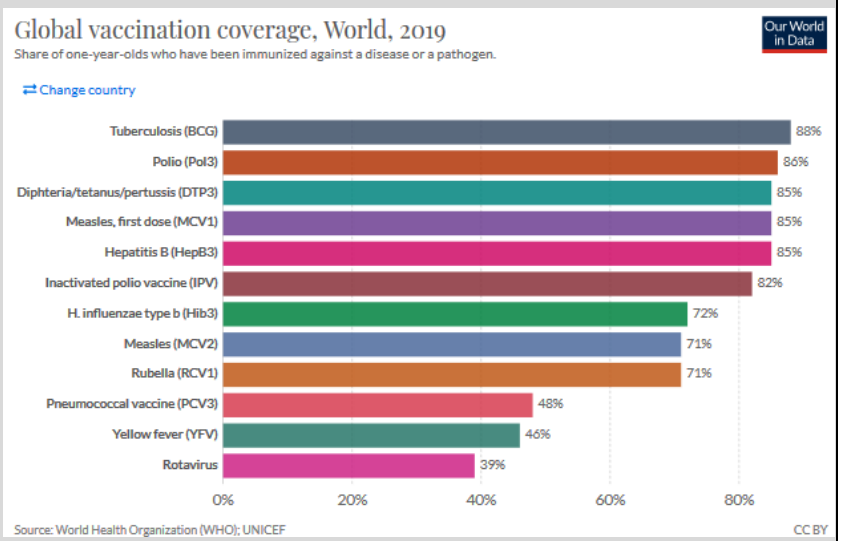
Global Malaria Eradication Program was established in 1955 to eradicate malaria, but it was abandoned in 1969. Today, however, a renewed focus on malaria eradication has emerged, with the Bill & Melinda Gates foundation proposing a plan to end malaria by 2040.

All these examples illustrate that disease eradication is an ongoing process. As science discovers new facts about diseases and researchers invent new ways to tackle them the world has to change its perspective on which goals are feasible now and which ones are not yet.

Global vaccine coverage

This chart shows the global vaccination coverage of one-year-olds with some of the most important vaccines recommended by the WHO. For many essential vaccines coverage is now much higher than 80%. However, the rates of vaccination are still not sufficient.

The vaccine against diphtheria, tetanus and pertussis, is often used as the key metric for global vaccination coverage because it is a good indicator for access to routine immunization services. In 2018, coverage of the third dose of DTP was 86%. This means that out of 135 million under-one-year-olds more than 19 million did not receive full immunization. The coverage of the first dose of DTP was 90% indicating that 13.5 million children were not vaccinated in 2018.



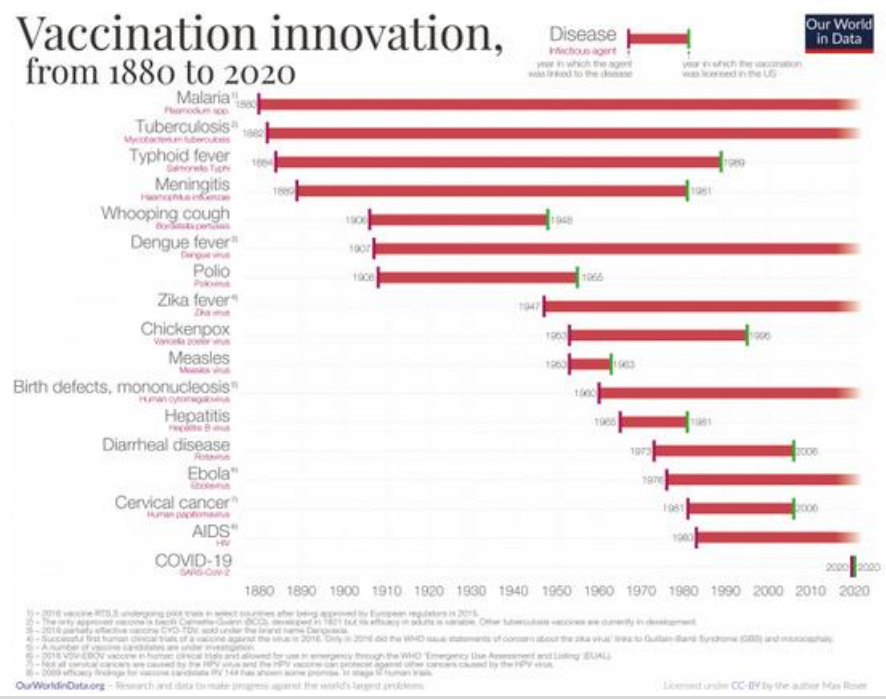
In poor countries where vaccination coverage is low. The vaccine coverage against diphtheria, pertussis (whooping cough), and tetanus is a good marker of the strength of a country's immunization programs since several administrations are required. All rich countries have vaccination coverage rates of more than 90%. It is in low- and middle-income countries where coverage is low – in some countries below 50%.

There is a collective social benefit in a high vaccination coverage. For most diseases, the greater the proportion of people who are immunized, the better protected is everyone in the population as the disease transmission can be reduced or stopped. Herd immunity is a community protection that is created when a high percentage of the population is vaccinated, such that it less likely that the infectious disease spreads. Herd immunity provides a protective barrier, especially also for those who cannot be vaccinated. These include vulnerable groups such as babies too young to be vaccinated or immune-compromised children who are the first potential victims of low vaccination rates.

Herd Immunity Thresholds of vaccine-preventable diseases[6]

Disease	Transmission	Basic reproduction number	Herd Immunity Threshold
Measles	Airborne	12–18	92–95%
Pertussis	Airborne droplet	12–17	92–94%
Diphtheria	Saliva	6–7	83–86%
Rubella	Airborne droplet	6–7	83–86%
Smallpox	Airborne droplet	5–7	80–86%
Polio	Fecal-oral route	5–7	80–86%
Mumps	Airborne droplet	4–7	75–86%
SARS	Airborne droplet	2–5	50–80%
Ebola	Bodily fluids	1.5–2.5	33–60%
Influenza	Airborne droplet	1.5–1.8	33–44%

Vaccine innovation



The chart here shows a timeline of innovation in the development of vaccines. Each bar begins in the year in which the pathogenic agent was first linked to the disease and the bar ends in the year in which a vaccination against that pathogen was licensed in the US.

For some diseases there has been a relatively short timespan between when the infectious agent was linked to the disease and when a vaccine was developed. Before 2020 the quickest development was that for measles. The agent was linked to the disease in 1953 and the vaccine was licensed in the U.S. in 1963. In 2020 this record was broken when several vaccines were developed within just one year to fight the coronavirus pandemic.

Vaccine innovation has followed both scientific and political-economic developments:

- Bacterial culture techniques which allowed the development of bacterial vaccines for diphtheria, tetanus, and pertussis in the early 1900s.
- The first and second world wars prompted combined efforts by universities, governments, and private companies.
- By the 1950s viral tissue culture techniques allowed the development of vaccines against polio, measles, mumps, rubella, and varicella (chickenpox).
- New technologies in molecular biology and advanced chemistry techniques have most recently led to vaccines against hepatitis B, influenza, and pneumococcus, which causes pneumonia and meningococcus, which causes meningitis and septicaemia.

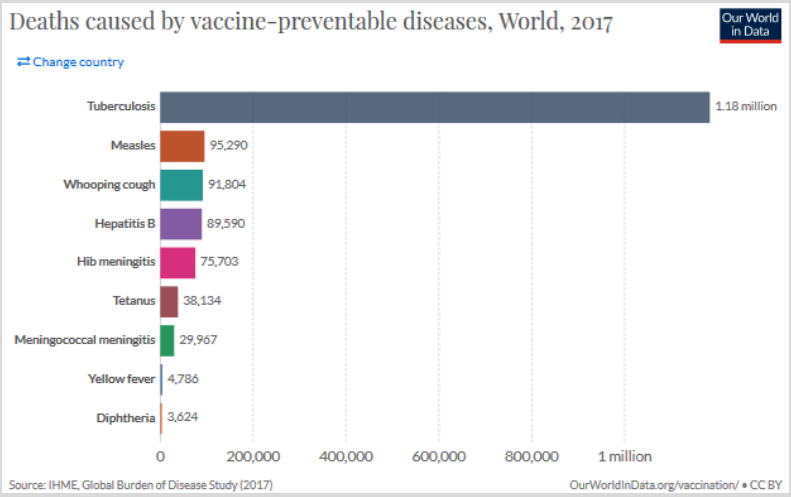
The way ahead

The WHO estimates that 2 to 3 million deaths are prevented every year through immunization against diphtheria, tetanus, whooping cough, and measles.

Nonetheless, the WHO also estimates that VPDs are still responsible for 1.5 million deaths each year. The gains in global vaccination coverage have slowed down slightly in the last few years. The WHO estimates that 19.5 million infants worldwide are still at risk of VPDs because they miss out on basic vaccines.

In addition, all the recommended doses of a vaccine need to be received for it to be most effective. In the case of measles three vaccine doses are recommended. Even though an estimated 85% of children receive their first dose of the vaccine, this drops to 64% for the second dose. Therefore, it is not only lack of vaccination that is a problem, but it is under-vaccination that leads to deaths from VPDs.

Vaccines must be affordable and usable for all people in need globally.



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Side effects of COVID-19 vaccines

The side effects of the vaccine are paradoxically good news. If you get a fever or redness at the injection site, your immune system is working. Although each vaccine may cause similar reactions in the body, some differences depending on the type of inoculation taken have been observed so far.

Vaccinated patients participating in studies of vaccines protecting against COVID-19 indicated that side effects started on the day of taking the shot and disappeared after a few days.

Although coronavirus vaccines have similar side effects, the response of the human body differs slightly depending on which vaccine you get vaccinated with.

It is not unusual to feel worse after receiving the vaccine. As soon as it is introduced into the body, the blood flow is increased, and immune cells immediately appear at the site of administration. The body's reaction can be painful at the injection site - this is the most common consequence of vaccines distributed in the US and European Union.

Pain at the vaccination site is reported more frequently by people vaccinated with the Pfizer and Moderna preparations than with the Johnson & Johnson vaccine. Less than 50 percent. this symptom was reported by participants in single dose vaccine (J&J) clinical trials. As for the research by Pfizer and Moderna, this percentage among the volunteers was 84 and 92 percent, respectively. Vaccination with AstraZeneca caused swelling at the vaccination site in 64% of respondents. participants in clinical trials of the vaccine. 54 percent people in this vaccine tests felt pain at the injection site.

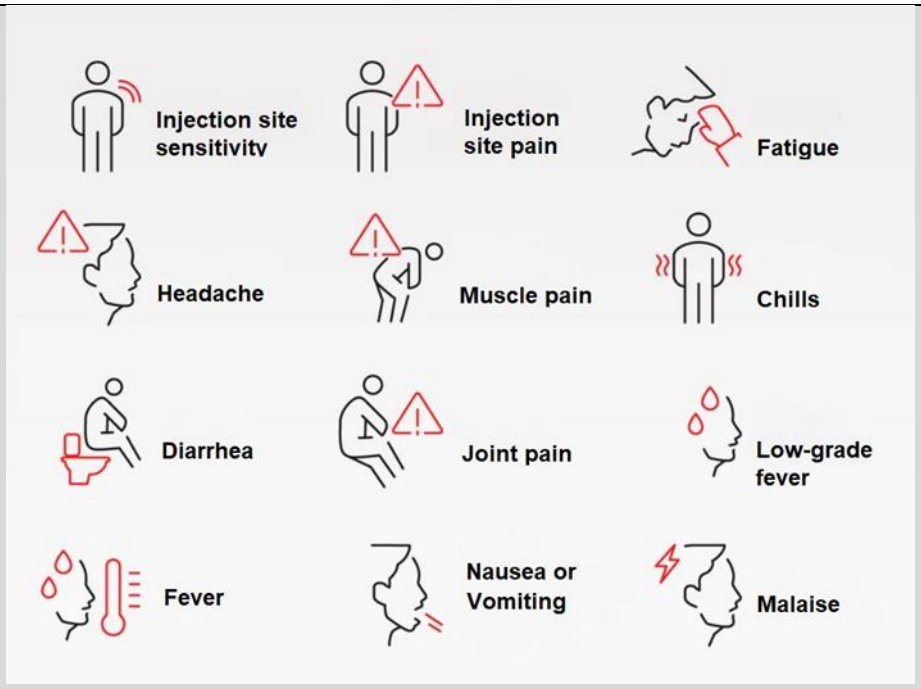
When the human body detects the vaccine components, it releases substances that cause inflammation as part of the body's 'defence' response against the disease. For this reason, some people who are vaccinated may experience fever, muscle pain, headache, and fatigue.

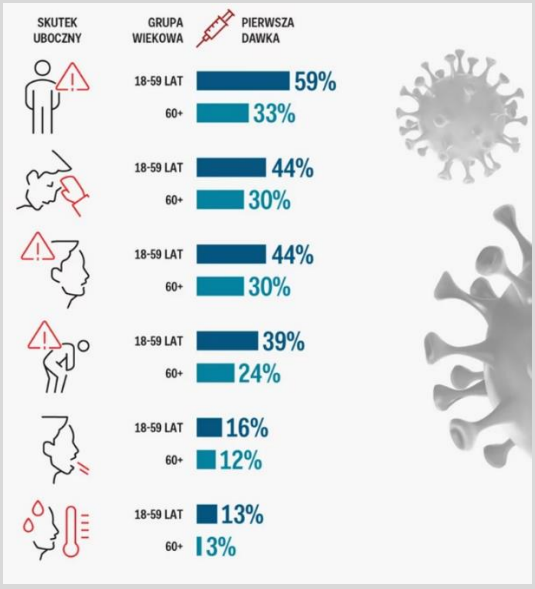
Fatigue was the second most common side effect of immunization with Moderna and Pfizer. It was experienced by 69 percent. participants in research on the Moderna vaccine and 63 percent people participating in the trail of the Pfizer product.

In the case of Johnson & Johnson, headaches were more common than fatigue. 39 percent people who was administrated the single-dose vaccine complained of pain in this part of the body, while fatigue appeared in 38 percent of volunteers.

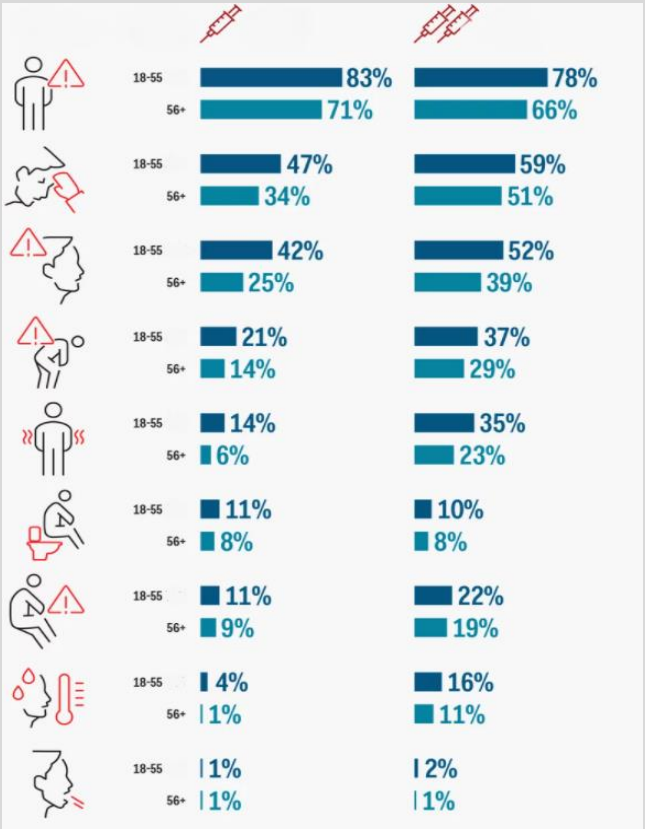
53 percent people in the AstraZeneca studies reported both fatigue and headache.

Below is a table of the side effects of receiving the COVID-19 inoculation by vaccine type and age category. Data on the preparations of Pfizer, Moderna and Johnson & Johnson come from clinical trials of the vaccines. About AstraZeneca from a small study involving 130 volunteers. New technologies in molecular biology and advanced chemistry techniques have most recently led to vaccines against hepatitis B, influenza, and pneumococcus, which causes pneumonia and meningococcus, which causes meningitis and septicaemia.

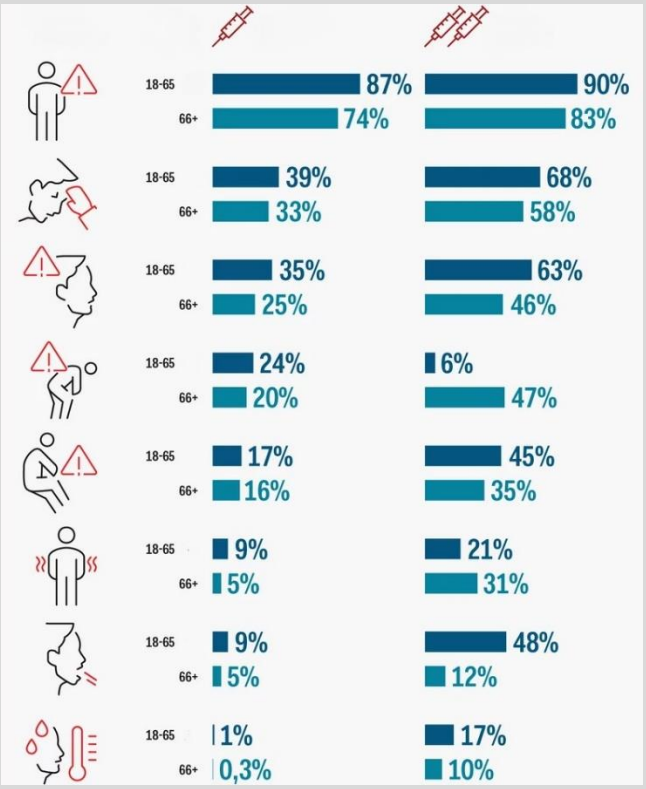




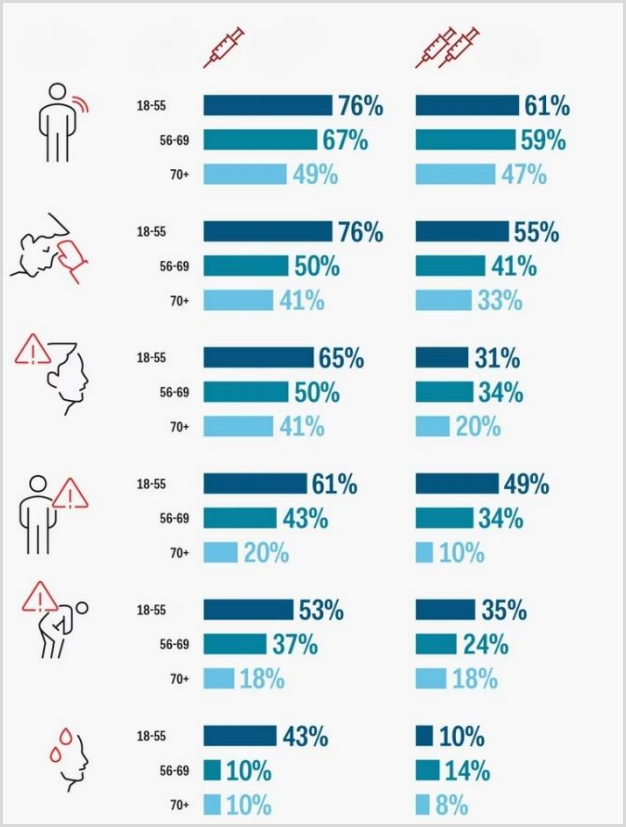
Johnson & Johnson

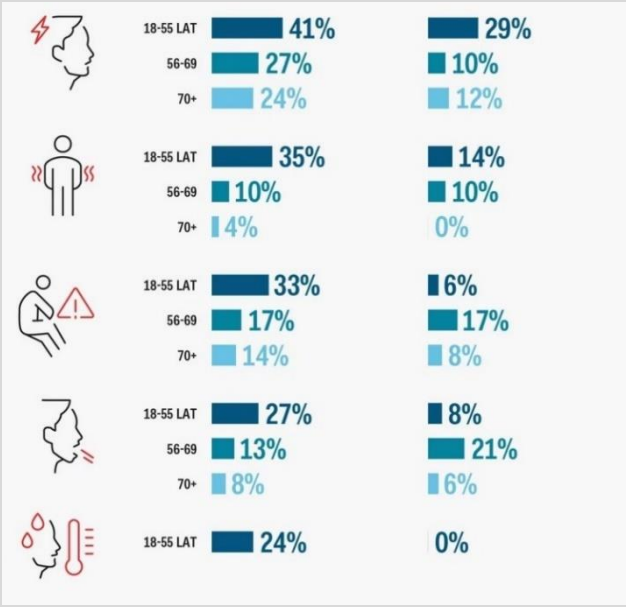


Pfizer/BioNTech



Moderna





AstraZeneca

Fatigue and headaches are the most common side effects of taking a second dose of Pfizer and Moderna, but not AstraZeneka

The U.S. Centers for Disease Control and Prevention recently published a report detailing the most common side effects in 1.9 million Americans vaccinated who received two doses of the vaccine. Side effects appeared more frequently with Moderna, both after the first and second doses, than in patients who took two doses of Pfizer. For each vaccine, the side effects were more severe and more numerous after the second dose. Pain at the injection site occurred in 68 percent people vaccinated with the first dose. This percentage grew to the level of 72% after taking the second dose. Fatigue occurred in 31 percent people vaccinated with the first dose and 54 percent people with the second dose. 26 percent complained of headaches. people after the first vaccination and 47 percent after the second.

Scientists do not yet know why the side effects may be more severe after the first dose of AstraZeneca. According to experts, the way of developing a vaccine based on a genetically modified virus, which is used to introduce the SARS-CoV-2 virus into the body, may be responsible for such a reaction of the body to the vaccine ingredients.

	Muscle aches and fever are more common symptoms than stomach problems The results of clinical trials of each of the four vaccines indicate muscle pain as the most common side effect. It was experienced by 60 percent. study participants who took Moderna. That percentage for the Pfizer vaccine was 38 percent. Discomfort related to muscle pain occurred in 1/3 of people who tested Johnson & Johnson and 44 percent testing the AstraZeneca vaccine. The symptom of chills was less common, though not uncommon: 43 percent participants of the study on the Moderna felt chills, they also appeared in 32 percent. people who took Pfizer and AstraZeneca as part of clinical trials. In the case of the Johnson & Johnson vaccine, this symptom appeared in only 2 percent of people. In both the Moderna and Pfizer clinical trials, the proportion of participants complaining of fever was 15%, and 9%. in the case of Johnson & Johnson research and 8 percent AstraZeneca. The appearance of gastrointestinal problems such as nausea, vomiting or diarrhoea was not common among patients vaccinated with Pfizer or Moderna, while the proportion of J&J and AstraZeneca participants who experienced nausea was 14 and 22 percent, respectively. The side effects of all vaccines disappeared quickly. Most of the people vaccinated in the studies with Moderna indicated that the side effects appeared on the day of taking the preparation and disappeared after two days (this applies to both the first and the second dose of the vaccine). Participants in the Pfizer vaccine studies reported that the effects started one to two days after receiving the vaccine and usually disappeared after one day. Volunteers testing Johnson & Johnson noticed side effects within two days of taking the inoculation. Fatigue, headache, and muscle pain lasted an average of two days, while nausea and fever resolved after one day. The side effects of getting the AstraZeneca vaccine usually went away after a few days. Sources: https://www.cdc.gov/coronavirus/2019-ncov/vaccines/expect/after.html https://www.businessinsider.com/most-common-side-effects-of-coronavirus-vaccines-2021-4

COVID-19 Crisis in Myanmar

In cooperation with Bundeswehr HQ of Military Medicine

MYANMAR

Area:	676,578 km^2
Population:	53,582,855
Capital:	Naypyidaw
Age structure:	
0-14 years:	25,97%
15-24 years:	17,00%
25-54 years:	42,76%
55-64 years:	8,22%
65 years and over:	6,04%

CONFLICT:
Two lines of conflict are currently overlapping in Myanmar. One runs between the military and the democratic and civil society forces, whereby the socio-political orientation and constitution of the state are the focus. A second conflict takes place between the central state and numerous ethnic communities fighting for greater autonomy within the country. This particularly concerns the ethnic, religious and cultural identity of the state. After its independence in 1948, after a brief democratic phase from 1962, Myanmar was ruled by military regimes that concentrated on maintaining power and isolated them internationally. In 2003, a gradual and cautious democratization was initiated, but the first elections did not take place until 2010 and were considered by observers to be neither free nor fair. The victor was the USDP party built up by the military, whose President Thein Sein then pushed ahead with the political reform process in the government until it resulted in largely free and fair elections on November 8, 2015. Myanmar is a multi-ethnic state with 52 million people from 135 ethnic groups living on its territory. Many minority areas are ruled by armed ethnic groups who have established parastate structures and war economies through the exploitation of gemstone deposits, illegal logging and drug trafficking. While the ethnic minorities insist on greater independence and federal structures, this means the disintegration of the country for large parts of the military. The civilian government under State Councilor Aung San Suu Kyi, which began work in March 2016 after an overwhelming election victory, inherited many political construction sites. The economic sector, education and health care must be reformed and corruption combated. There are also numerous violent conflicts. In many cases, open battles between the military and armed groups that campaign for the rights of minorities occur again and again. The military responded to attacks with several offensives, some in violation of humanity, which is why thousands of people fled across the Thai and Chinese borders or live in camps as internally displaced persons. The Myanmar government refuses any on-site investigations in the conflict areas and offers diplomats and journalists at best "guided" tours. Anyone who has contact with a member of an armed ethnic organization faces several years in prison. The UN High Commissioner for Human Rights, Michelle Bachelet, warns of a civil war, which Myanmar is inevitably heading because of the brutal military action. In Myanmar, the military overthrew the civilian government and took power in February 2021. Since then, demonstrations have taken place almost every day in numerous cities, although the security forces are increasingly brutal against them. The protesters are demanding the reinstatement of the civilian government of Aung San Suu Kyi, who is under house arrest. According to the Aid Organization for

Political Prisoners, over 3,000 people have been arrested and at least 710 killed, including 50 children, since the coup.

HEALTH:
Medical care in Myanmar cannot be compared with the situation in Europe. There is a lack of medical equipment, trained doctors and, above all, hygiene. In the interior of the country, medical care is largely guaranteed, in the south, on the other hand, there is hardly any. Those who can afford it can be cared for abroad. According to official information, there is a larger hospital in every region - in reality the health system is limited to only the central third of the country. The current situation of poor medical care has many causes. The ethnic minorities are medically neglected and the scarce medical staff is chronically underpaid. For every trained doctor there are up to 3500 patients in Myanmar, compared to only around 285 in Germany. In addition, the number of patients clearly exceeds that of hospital beds and the provision of the simplest medicines is very difficult outside of the larger cities. Generally, residents turn to their traditional healer first, as stays in state hospitals are costly. The health problems of the population are also diverse. A common disease in Myanmar is high blood pressure. This is mainly due to the salty food, lack of exercise and increasing alcohol consumption. Strokes, respiratory infections and ischemic heart disease are also among the three dominant causes of death. The probability of dying before the age of 15 is 23 percent for the male population, 18 percent for the female population, and the general life expectancy is around 65 years. In addition, infant and newborn death rates are among the highest in Southeast Asia. The reasons for this lie in particular in the poor hygienic conditions and the poor medical care for pregnant women. In addition, multiple syringes, a lack of medical knowledge, infected blood infusions, drug abuse, prostitution and a lack of education promote the spread of diseases. Along with Thailand and Cambodia, Myanmar is one of the Asian countries hardest hit by HIV / AIDS. For the government, however, public health plays a rather subordinate role than the military or propaganda. So it is not surprising that Myanmar's health system, for which only around one percent of the national budget is spent annually, is one of the worst in Asia. In addition, the current unrest falls in the middle of the Corona crisis. With 142,740 confirmed cases and 3,207 deaths so far, the country is one of the moderately severely affected compared to other countries in Southeast Asia. In Myanmar there are 2,600 cases per 100,000 inhabitants (for comparison: Vietnam 21, Thailand 326, Indonesia 4,235, Singapore 10,629). The numbers have recently fallen sharply, mainly due to a lockdown imposed by Aung Sang Suu Kyi's party in October 2020. However, many doctors and nurses from state hospitals participated in a campaign of civil disobedience and stayed absent from work after the coup. In any case, the gatherings of thousands of people during protests favor the spread of the virus. So even if the protests are not violently cracked down, a steep increase in corona infections and thus also corona deaths is to be feared.

CONCLUSION:
As the country is politically isolated, the inadequate medical care in Myanmar is also a forgotten problem. The border areas, where there is a scarcity of resources, instability and insecurity, are medically neglected. The ethnic minorities living there are significantly poorer and more exposed to attacks by the military and diseases such as malaria, dengue fever, colds and diarrhea than the Burmese in the central part of the country. In addition, the chronically underpaid medical staff refuses to work in remote regions due to a lack of security and insufficient pay. The health system in Burma is one of the most inadequate in Asia. Added to this are the poor living conditions associated with reprisals by the military such as torture, forced labor, resettlement, rape and a lack of protection and food. Overall, significantly more doctors, hospitals and a better supply of medicines are needed. Further investments, for example in health insurance for the population, are urgently needed. At the moment the country is supported by many aid organizations and foundations with the aim that Myanmar can help itself in the future and ensure the health of its own population.

Myanmar

43.4 Index Score **72**/195

	COUNTRY SCORE	AVERAGE SCORE*
PREVENTION	**30.3**	**34.8**
Antimicrobial resistance (AMR)	25	42.4
Zoonotic disease	49.4	27.1
Biosecurity	4	16.0
Biosafety	0	22.8
Dual-use research and culture of responsible science	0	1.7
Immunization	86	85.0
DETECTION AND REPORTING	**59.2**	**41.9**
Laboratory systems	83.3	54.4
Real-time surveillance and reporting	11.7	39.1
Epidemiology workforce	50	42.3
Data integration between human/ animal/environmental health sectors	100	29.7
RAPID RESPONSE	**50.4**	**38.4**
Emergency preparedness and response planning	81.3	16.9
Exercising response plans	0	16.2
Emergency response operation	33.3	23.6
Linking public health and security authorities	0	22.6
Risk communication	75	39.4
Access to communications infrastructure	61.6	72.7
Trade and travel restrictions	100	97.4

	COUNTRY SCORE	AVERAGE SCORE*
HEALTH SYSTEM	**19.5**	**26.4**
Health capacity in clinics, hospitals and community care centers	20	24.4
Medical countermeasures and personnel deployment	0	21.2
Healthcare access	24.5	38.4
Communications with healthcare workers during a public health emergency	50	15.1
Infection control practices and availability of equipment	0	20.8
Capacity to test and approve new medical countermeasures	25	42.2
COMPLIANCE WITH INTERNATIONAL NORMS	**59.1**	**48.5**
IHR reporting compliance and disaster risk reduction	50	62.3
Cross-border agreements on public and animal health emergency response	100	54.4
International commitments	37.5	53.4
JEE and PVS	50	17.7
Financing	50	36.4
Commitment to sharing of genetic & biological data & specimens	66.7	68.1
RISK ENVIRONMENT	**38.2**	**55.0**
Political and security risks	25	60.4
Socio-economic resilience	72.5	66.1
Infrastructure adequacy	33.3	49.0
Environmental risks	33.4	52.9
Public health vulnerabilities	30.1	46.9

*Average: all 195 countries

Scores are normalized (0–100, where 100 = most favorable)

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Source:
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MilMed CoE VTC COVID-19 response

Topics former VTCs

The NATO Centre of Excellence for Military Medicine is providing expertise and resources to support the response to the pandemic. This includes a regular VTC focusing on different COVID-related topics. The purpose of the VTC is to act as a forum for exchanging experiences, sharing learning and understanding the different responses to the pandemic from partner nations. We are always looking for topics that would be of interest and experts that are able to speak to each topic. Each VTC provides an opportunity for short briefings following by facilitated questions and discussion.

Topics of former VTCs:

- Regulations on the public, military and missions abroad. Medical Treatment Facilities: how equipped they are, is there pooling / isolation of COVID-19 patients in separate facilities.
- Testing strategies
- Aeromedical evacuation
- De-escalation strategy and measures
- Collateral damage of COVID-19 emphasing Mental Health Aspects and other non COVID related diseases
- Immunity map, national strategies to measure and evaluate the immunity level"
- Mental Health
- Treatment of mild symptomatic cases of COVID-19
- Transition home office back to the office
- COVID-19 Second Wave prediction and preparedness based on facts/experiences, modelling and simulation
- Perspectives of the current COVID-19 vaccine development
- National overview on current COVID-19 situation
- Long term effects of COVID-19 and the impact on force capability
- Overview on current COVID-19 situation in Missions
- Civil – military cooperation in view of COVID-19
- Immunity development versus reinfections of COVID-19
- The current status of SARS-CoV-2 vaccine development
- Resilience strategies from the private sector
- Vaccination: News and Facts
- Vaccination and Variants in Concern: News and Facts
- Vaccinated Personnel – National Regulations for Deployments
- Vaccinated Personnel – Logistic Challenges of the COVID-19 Vaccine Distribution

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How has COVID-19 driven medical innovation?

We had very comprehensive briefings from USA, Germany and Canada. A very special thank goes out to Canada this week.
The briefings covered on one hand national direct pandemic response activities like crating dashboards for military and civilian leaders, the lessons learned and improvements in the field of civil military cooperation and as well the training of medical and non-medical military personnel to support the military and the civilian population in the response to the outbreak, like training of contact tracers, testing personnel and people for the administration support. But also covered the field of surveillance and early diagnosis of a COVID-19 disease.
One nation emphasizes strongly the importance of early surveillance of SARS-CoV-2 by using wastewater monitoring. By focusing on this early recognizable source positive cases without symptoms could be traced down before they are able to infect so many other people. They also stressed that using this early surveillance tools could complement the tools currently used to label an area as highly infected or not like the incidence value.
Another nation impressively showed how biosensors like finger rings and watches in comparison with detailed daily questionnaires can be used to predict the likelihood of an infection. In a study with 10.000 active participants they screened for heard rate, respiratory rate, temperature for at least 14 days during the rest time of the participants and found a prediction rate 3.8 days prior to a diagnosable disease of SARS-CoV-2.

The next VTC will be held on 26 May, with the topic "**COVID-19 modelling and epidemic monitoring tools"**

Recommendations

Recommendations for international business travellers As of 19th October 2020 Updated 2nd December 2020 by ECDC and 12th January by CDC	Many countries have halted some or all international travel since the onset of the COVID-19 pandemic but now have re-open travel some already closed public-travel again. This document outlines key considerations for national health authorities when considering or implementing the gradual return to international travel operations. The decision-making process should be multisectoral and ensure coordination of the measures implemented by national and international transport authorities and other relevant sectors and be aligned with the overall national strategies for adjusting public health and social measures. WHO Public health considerations while resuming international travel. **Travel has been shown to facilitate the spread of COVID-19 from affected to unaffected areas. Travel and trade restrictions during a public health event of international concern (PHEIC) are regulated under the International Health Regulations (IHR), part III.** The majority of measures taken by WHO Member States relate to the denial of entry of passengers from countries experiencing outbreaks, followed by flight suspensions, visa restrictions, border closures, and quarantine measures. Currently there are exceptions foreseen for travellers with an essential function or need. **In the case of non-deferrable trips, please note the following** • Many airlines have suspended inbound and outbound flights to affected countries. Contact the relevant airline for up-to-date information on flight schedules. • Check your national foreign office advices for regulations of the countries you´re traveling or regulations concerning your country. • Information's about the latest travel regulations and De-escalation strategy measures you can find at IATA. For Europe you will find more information here. For the US here. **Most countries implemented strikt rules of contact reduction:** • Everyone is urged to reduce contacts with other people outside the members of their own household to an absolutely necessary minimum. • In public, a minimum distance of 1.5 m must be maintained wherever possible. • Staying in the public space is only permitted alone, with another person not living in the household or in the company of members of the own household (for most countries, please check bevor traveling). • Follow the instructions of the local authorities. **Risk of infection when travelling by plane:** The risk of being infected on an airplane cannot be excluded, but is currently considered to be low for an individual traveller. The risk of being infected in an airport is similar to that of any other place where many people gather. If it is established that a COVID-19 case has been on an airplane, other passengers who were at risk (as defined by how near they were seated to the infected passenger) will be contacted by public health authorities. Should you have questions about a flight you have taken, please contact your local health authority for advice. **General recommendations for personal hygiene**, cough etiquette and keeping a distance of at least one metre from persons showing symptoms remain particularly important for all travellers. These include: • Perform hand hygiene frequently. Hand hygiene includes either cleaning hands with soap and water or with an alcohol-based hand rub. Alcohol-based hand rubs are preferred if hands are not visibly soiled; wash hands with soap and water when they are visibly soiled; • Cover your nose and mouth with a flexed elbow or paper tissue when coughing or sneezing and disposing immediately of the tissue and performing hand hygiene; • Refrain from touching mouth and nose; See also: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public • If masks are to be worn, it is critical to follow best practices on how to wear, remove and dispose of them and on hand hygiene after removal.

- WHO information for people who are in or have recently visited (past 14 days) areas where COVID-19 is spreading, you will find here.

Travellers who develop any symptoms during or after travel should self-isolate; those developing acute respiratory symptoms within 14 days upon return should be advised to seek immediate medical advice, ideally by phone first to their national healthcare provider.
Source: WHO and ECDC

Information on COVID-19 testing and quarantine of air travellers in the EU and the US you can find following the link:
https://www.ecdc.europa.eu/en/publications-data/guidelines-covid-19-testing-and-quarantine-air-travellers
https://www.cdc.gov/coronavirus/2019-ncov/travelers/testing-air-travel.html

More information about traveling you can find here.
- National regulation regarding travel restrictions, flight operation and screening for single countries you will find here (US) and here (EU).
- Official IATA travel restrictions. You will find here.

European Commission:

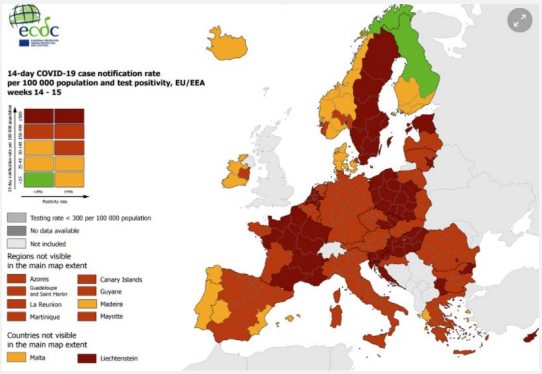
On 13 May, the European Commission presented guidelines and recommendations to help Member States gradually lift travel restrictions, with all the necessary safety and precautionary means in place.

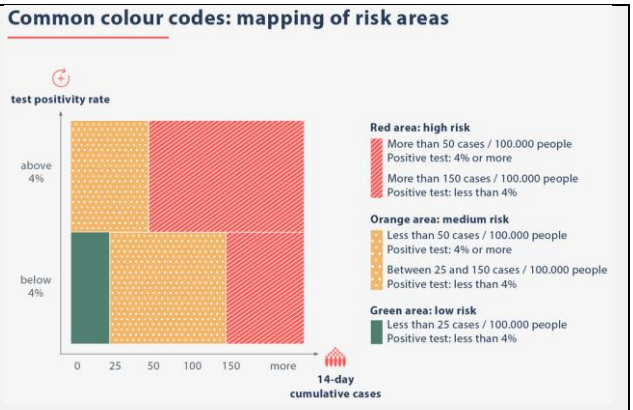
On 13 October, EU Member States adopted a Council Recommendation on a coordinated approach to the restriction of free movement in response to the COVID-19 pandemic.

1. Common criteria
- **the notification rate** (the total number of newly notified COVID-19 cases per 100 000 population in *the last 14* days at regional level)
- **the test positivity rate** (the percentage of positive tests among all tests for COVID-19 infection carried out during the last week)
- **the testing rate** (the number of tests for COVID-19 infection per 100 000 population carried out during the *last week*)

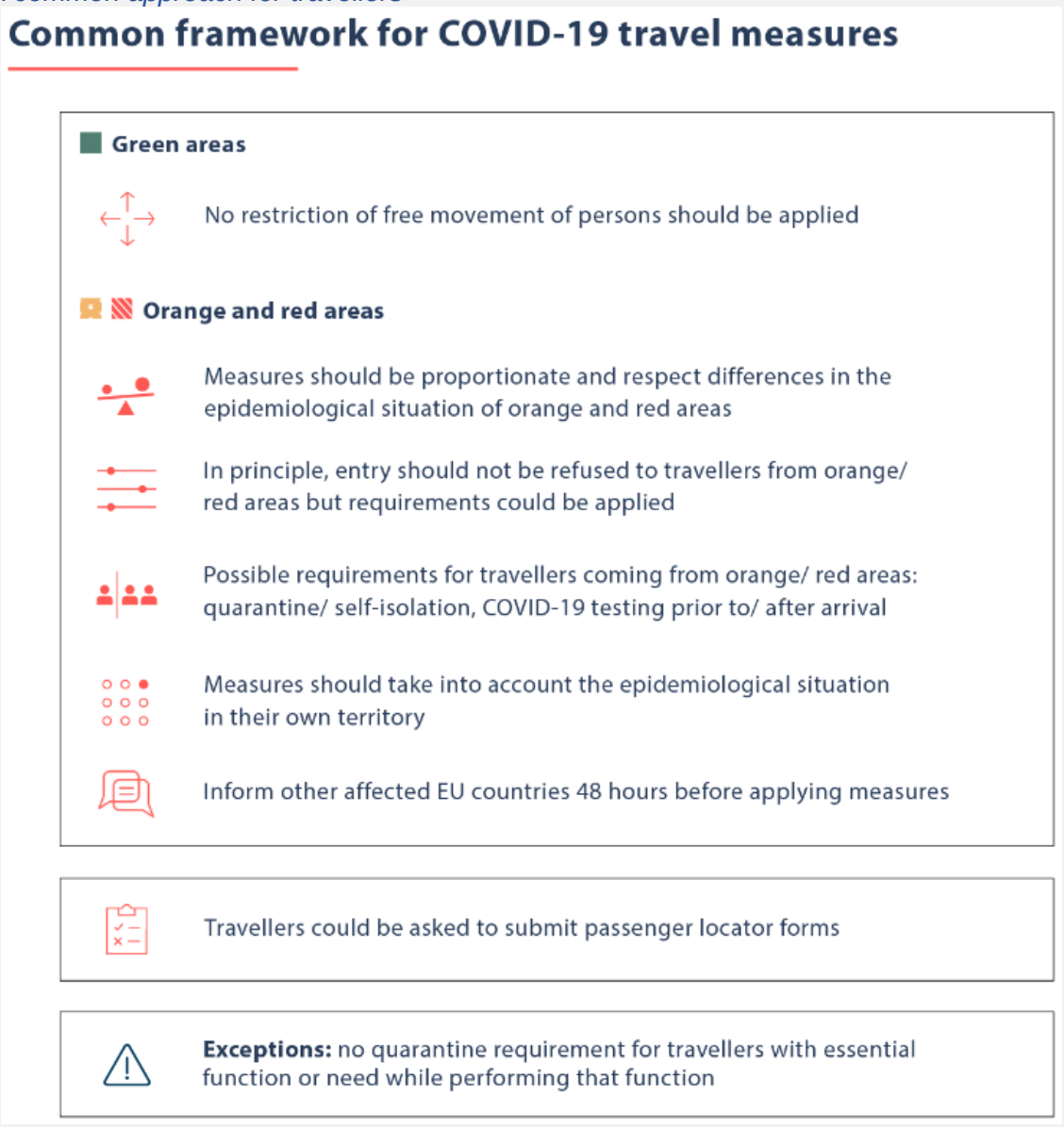
2. A common map
The ECDC will publish a map of EU Member States, broken down by regions, which will show the risk levels across the regions in Europe using a traffic light system. See also "Situation in Europe".

Areas are marked in the following colours:
- **green** if the 14-day notification rate is lower than 25 cases per 100 000 and the test positivity rate below 4%;
- **orange** if the 14-day notification rate is lower than 50 cases per 100 000 but the test positivity rate is 4% or higher or, if the 14-day notification rate is between 25 and 150 cases per 100 000 and the test positivity rate is below 4%;
- **red** if the 14-day notification rate is 50 cases per 100 000 or higher and the test positivity rate is 4% or higher or if the 14-day notification rate is higher than 150 cases per 100 000;
- **grey** if there is insufficient information or if the testing rate is lower than 300 cases per 100 000.





3. A common approach for travellers



4. Clear and timely information to the public about any restriction

As a general rule, information on new measures will be published 24 hours before they come into effect.

All information should also be made available on Re-open EU, which should contain a cross-reference to the map published regularly by the European Centre for Disease Prevention and Control.

	More information about traveling in the EU by the European Commission you will find here: https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response/travel-and-transportation-during-coronavirus-pandemic_en https://www.consilium.europa.eu/en/policies/coronavirus/covid-19-travel-and-transport/

Risk Assessment

Global	• Because of global spread and the human-to-human transmission the **high** risk of further transmission persists. • Travellers are at risk of getting infected worldwide. Unnecessary travel should currently be avoided. • Individual risk is dependent on exposure. • National regulations regarding travel restrictions, flight operations and screening for specific countries are here and here. • IATA has updated their travel documents with new travel restrictions. You will find the documents here. • Public health and healthcare systems are highly vulnerability as they already overloaded in some places with elevated rates of hospitalizations and deaths. Other critical infrastructure, such as law enforcement, emergency medical services, and transportation industry may also be affected. Health care providers and hospitals may be overwhelmed. • Asymptomatic persons as well as those who are infected but not unwell are a source of the virus. Therefore, no disease-free areas exist globally.
Europe As of 23rd of October 2020	ECDC assessment for EU/EEA, UK as of 23 October 2020: Under the current classification system, based on epidemiological indicators, the epidemiological situation in countries is classified as *stable*, *of concern* or of *serious concern*. The majority of countries in the European region are currently classified as experiencing an epidemiological situation of **serious concern** due to the increasing case notification rates and/or test positivity ≥3% as well as the high notification rates in the older age groups and/or high mortality rates. Countries have implemented various non-pharmaceutical interventions, but these have not been sufficiently effective in controlling transmission due to several factors: • adherence to the measures was sub-optimal; • the measures were not implemented quickly enough; • or the measures were insufficient to reduce exposure. As a result, the epidemiological situation is now rapidly deteriorating in most countries. **There are currently only six countries in the region that are classified as experiencing a *stable epidemiological situation*.** • In countries where the epidemiological situation is stable: • the **probability of infection** for the population is **generally low** but **the impact of infection** still **varies** depending on the individuals affected; • the risk for the **general population** in these countries is **low;** • for **vulnerable individuals**, including the elderly and people with underlying medical conditions, the risk is **moderate**. Nevertheless, in these six countries, there is still ongoing transmission and the situation must be closely monitored. **Based on the latest available data to ECDC, there are currently no countries categorised as having an epidemiological situation '*of concern*'.** **In countries where the epidemiological situation is of serious concern:** • there is a **high risk** to the **general population**, • and for **vulnerable individuals** the COVID-19 epidemiological situation represents a **very high risk**. In these countries the continuously increasing trend in notification rates calls for strong public health action in order to prevent the imminent risk that health care systems will be overwhelmed, rendering them unable to provide safe, adequate care.
As of 15th of February 2021	**ECDC** assessed the risk of the **two new variants** of SARS-CoV-2, as well as the risk of spreading in the EU and the increased impact on health systems in the risk assessment published on 15th February 2021

	Risks associated with new variants of current concern: **The risk associated with further spread of the SARS-CoV-2 VOCs** in the EU is currently assessed as **high** to **very high** for the *overall population* and **very high** for *vulnerable individuals*. This assessment is based on several findings and concerns: 1. the increased transmissibility, 2. recent evidence of increased severity and 3. the potential for the existing licensed COVID-19 vaccines to be partially or significantly less effective against a VOC, 4. combined with the high probability that the proportion of SARS-CoV-2 cases due to B.1.1.7 (and possibly also B.1.351 and P.1) will increase. Therefore, States are recommended to continue to advise their citizens of the need for non-pharmaceutical interventions in accordance with their local epidemiological situation and national policies and to consider guidance on the avoidance of non-essential travel and social activities. Source: https://www.ecdc.europa.eu/sites/default/files/documents/RRA-covid-19-14th-update-15-feb-2021.pdf •

References:

- European Centre for Disease Prevention and Control www.ecdc.europe.eu
- World Health Organization WHO; www.who.int
- Centres for Disease Control and Prevention CDC; www.cdc.gov
- European Commission; https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response/travel-and-transportation-during-coronavirus-pandemic_en
- Our World in Data; https://ourworldindata.org/coronavirus
- Morgenpost; https://interaktiv.morgenpost.de/corona-virus-karte-infektionen-deutschland-weltweit/

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