



Update 50 (15th of December 2020)

**Information about Infection disease
COVID-19 (novel coronavirus)**



**Force Health Protection Branch FHPB (former DHSC) NATO MILMED COE
in Munich**

15th of December 2020

email: info.dhsc@coemed.org

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

- **GBR/WHO:** A new variant of the virus could be responsible for the renewed high number of cases in the UK, among other things, which could be "in connection with the faster spread in the south of England". So far, 1000 cases have been identified. The WHO emphasized that the new variant would now be examined. However, there is no evidence that the strain behaves differently than existing virus types. "We saw many variants, this virus evolves and changes over time."
- **Sputnik V:** The developers of the Russian [coronavirus vaccine Sputnik V](#) explain that it creates 91.4 percent protection against the lung disease Covid-19. This is based on the results of a study with 22,714 participants, said the researchers from the Gamaleya Institute.
- **EMA:** sees itself under increasing pressure from EU governments to accelerate the approval of the corona vaccines from Biontech / Pfizer and Moderna. The pressure has grown since the emergency approvals in the UK and the US. The EMA had announced that it would make a decision by December 29th respectively 18th January.
- **EMA:** According to the authority, documents relating to Moderna's COVID-19 vaccine are also affected by the hacking attack on the European Medicines Agency. As the company announced, however, no personal information to identify individual study participants is affected.
- **EMA** wants to present its report on the approval of the corona vaccine from BioNTech and Pfizer on December 21 - eight days earlier than planned.
- **WHO:** published a video "[How do vaccines work to protect us?](#)"
- **Unesco:** has called on governments around the world to give teachers priority access to corona vaccines. "We believe teachers and educational support staff must be seen as a priority group".

GLOBALLY ↗ 72 879 777 confirmed cases 47 710 950 recovered 1 622 200 deaths
EU/EEA and the UK ↘ 21 936 276 confirmed cases 10 689 950 recovered 479 566 deaths
USA ↗ (new cases/day 208 183) 16 447 422 confirmed cases 6 338 494 recovered 299 053 deaths
India ↘ (new cases/day 27 071) 9 906 165 confirmed cases 9 422 636 recovered 143 709 deaths
Brazil ↘ (new cases/day 21 825) 6 927 145 confirmed cases 6 158 049 recovered 181 835 deaths
Russia → (new cases/day 26 902) 2 656 601 confirmed cases 2 105 414 recovered 46 846 deaths
France → (new cases/day 3 063) 2 379 915 confirmed cases 177 647 recovered 58 282 deaths

Find articles and other materials at the MilMed CoE homepage: [click here](#)

Please use our online observation form to report your lessons learned observations as soon as possible.

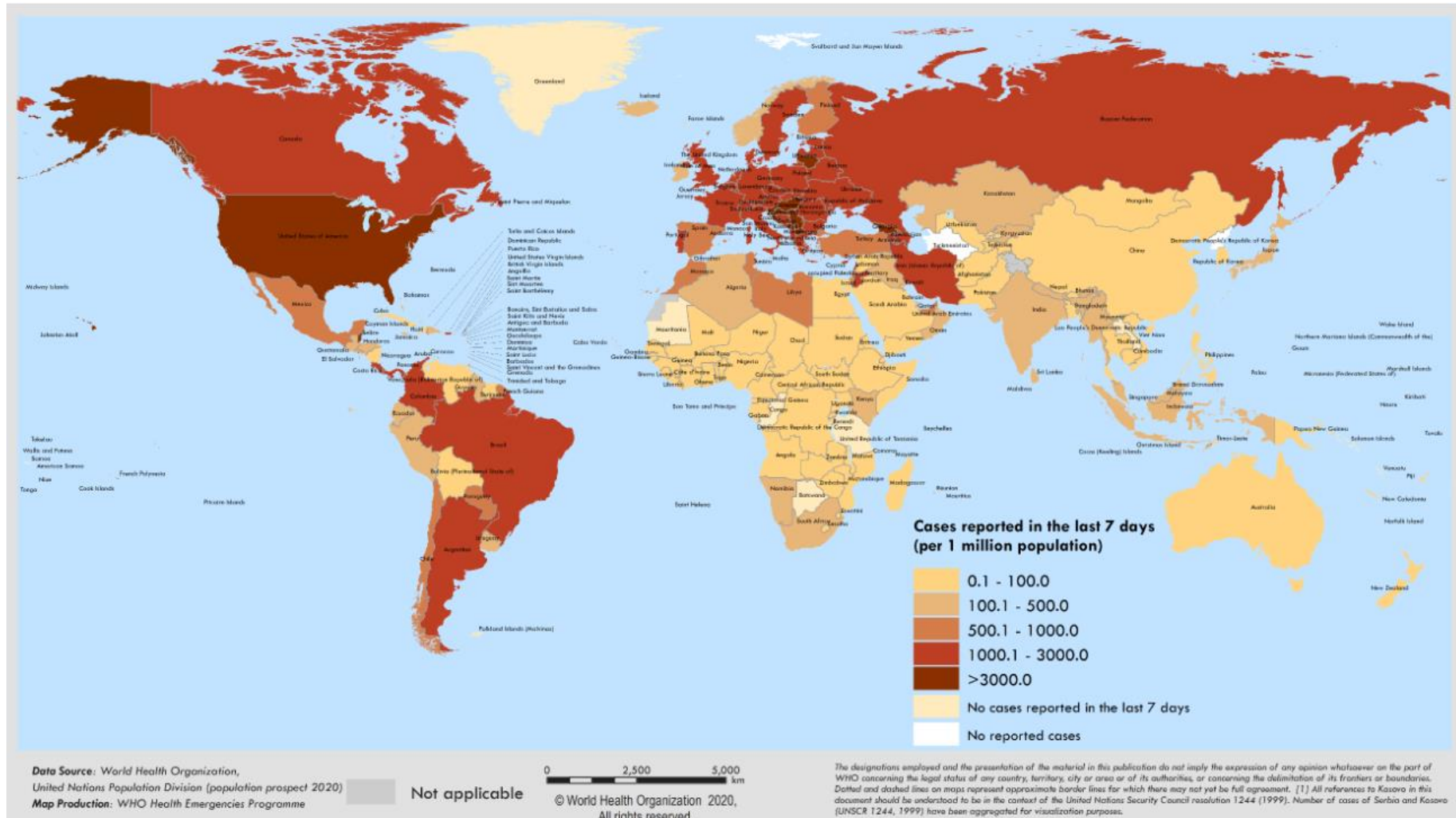
[Click here to submit your lessons learned observations online](#)

Please click on the headlines to jump into the document

Table of Contents

HIGHLIGHTS/NEWS	1
Map of countries with reported COVID-19 cases (last 7 days)	3
Worldwide Situation	4
<i>Global Situation</i>	4
<i>Situation in Europe</i>	8
Subject in Focus	12
<i>Coronavirus Vaccine Development and Differences</i>	12
Conflict and Health	16
<i>COVID-19 Crisis in Liberia</i>	16
MilMed CoE VTC COVID-19 response	20
<i>Topic</i>	20
<i>The current status of SARS-CoV-2 vaccine development</i>	20
Recommendations	21
<i>Recommendation for international business travellers</i>	21
<i>As of 19th October 2020</i>	21
<i>Updated 2nd December 2020 by ECDC and CDC</i>	21
Risk Assessment	25
<i>Global</i>	25
<i>Europe</i>	26
<i>As of 4th of December 2020</i>	26
References:	28
Disclaimer:	29

Map of countries with reported COVID-19 cases (last 7 days)



Worldwide Situation

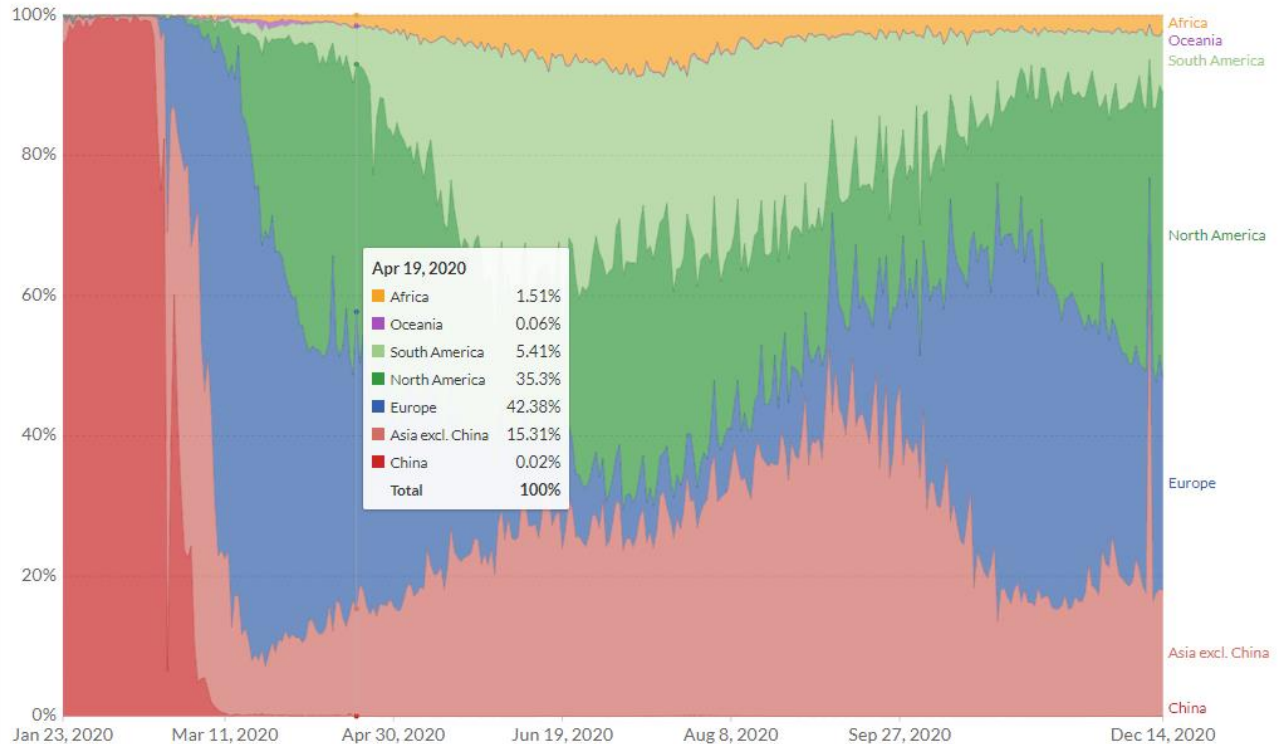
Global Situation

Daily confirmed COVID-19 cases

The number of confirmed cases is lower than the number of total cases. The main reason for this is limited testing.

Our World in Data

Relative



Source: Johns Hopkins University CSSE COVID-19 Data – Last updated 15 December, 06:07 (London time)

OurWorldInData.org/coronavirus • CC BY

[WHO weekly operational update on COVID-19 as of 14th December 2020:](#)

See information about partnership, logistics, health learning, medicines and health products, funding/donors and regional highlights in the document as well as links to Technical guidance and latest publications. To assess household transmission, a case-ascertained study was conducted by the CDC in Nashville, Tennessee, and Marshfield, Wisconsin, commencing in April – September 2020.

[Face masks considerably reduce COVID-19 cases in Germany:](#)

The effect of face masks on the spread of COVID-19 in Germany was analyzed in a study. The period investigated is limited to the time in which the wearing of face masks in public transport and shops became mandatory. Depending on the region we consider, we find that face masks reduced the number of newly registered severe acute respiratory syndrome coronavirus 2 infections between 15% and 75% over a period of 20 days after their mandatory introduction. Assessing the credibility of the various estimates, we conclude that face masks reduce the daily growth rate of reported infections by around 47%.

[CureVac Commences Global Pivotal Phase 2b/3 Trial for COVID-19 Vaccine Candidate, CVnCo:](#)

The German biotech company Curevac is one step further on the way to the approval of its corona vaccine. According to the Tübingen-based company, the approval-relevant clinical phase III study has started with more than 35,000 participants. According to a spokesman, Curevac expects the first results at the end of the first quarter of 2021. After the start of the third phase, Curevac boss Franz-Werner Haas spoke of a "milestone in the development of our vaccine candidate CVnCoV".

Vaccinations – Country updates

CHN: According to estimates, hundreds of thousands of people in China have already been vaccinated with Chinese vaccines. The basis is an emergency ordinance, as the third phase of the trials for these vaccines has not yet been completed.

SGP: has approved BioNTech /Pfizer's COVID-19 vaccine. Prime Minister Lee Hsien Loong said the first vaccination doses are expected to be delivered by the end of December. The Southeast Asian city-state expects to have enough vaccine doses for all of its 5.7 million residents by the third quarter of 2021. Lee said he and other government officials would be among the first to be vaccinated after health care workers, the elderly and the most vulnerable.

RUS: In the capital Moscow, the mass vaccinations have been running for more than a week. Initially, doctors and teachers are to receive the "Sputnik V" vaccine developed in Russia, which is currently still in the important test phase III.

After corona outbreaks on several mink farms in Europe, [Russia is developing its own vaccine for animals](#). The vaccine should be available at the end of January, said the head of the agricultural inspectorate, of the Russian trade journal "Veterinarian und Life". The European Union, the USA and Singapore have already expressed their interest. The active ingredient is currently going through the crucial test phase III. "The new vaccine is currently being tested on mink, cats and rodents." His authority regularly receives requests from Russian animal farms for a corona vaccine because minks and ferrets are particularly susceptible to the virus and could infect each other, said the head of the authority. In the past few weeks there have been cases of corona infections in mink in several European countries, including Sweden, France and the Netherlands. Millions of animals had been killed in Denmark because the virus had mutated. According to official reports, there are more than 97,000 mink and 6,900 ferrets living on animal farms in Russia. Two vaccines for people against corona have already been released in the country.

USA: Following an emergency approval, vaccinations against the coronavirus began in the United States on Monday morning (local time). The television channel CNN broadcast images of the vaccination of a nurse with the means of BioNTech / Pfizer in the east of the New York borough of Queens. "I want to create public trust that the vaccination is safe," said Sandra Lindsay after the vaccination. A few minutes after the vaccination, President Donald Trump tweeted congratulations: Trump claims the vaccine's rapid scientific success, but Pfizer has repeatedly stressed that it is not part of the US government program in order to be able to act politically independently.

After the approval of the first corona vaccine in the USA, the head of the US drug agency FDA again contradicted reports that it had been accelerated under pressure from the White House. "Science and data guided the FDA's decision," Stephen Hahn said at a press conference. Due to the urgency of the pandemic, the approval process, which usually took months, could be shortened to several weeks - especially because the employees responsible worked day and night. "External pressure" played no role here.

CAN: The first batch of vaccine against the coronavirus has arrived in Canada. The country approved the corona vaccine BioNTech / Pfizer on Wednesday. Canada wants to support the vaccination campaign with 14 distribution centers. First, residents of care facilities in the province of Québec are to be vaccinated on Monday.

ZAF: The health organization of the African Union (Africa CDC) expects the first mass vaccinations on the continent in the 2nd quarter of 2021. The AstraZeneca vaccine is more attractive for Africa than the one from BioNTec because of the logistic challenges.

EGY: The start of the vaccination is still unclear. The North African country received the vaccine from the Chinese manufacturer Sinopharm as a gift from the United Arab Emirates. The first delivery has already arrived in Cairo.

SAU: Vaccinations are slated to begin this month. Like the USA, Great Britain and Bahrain, the country had approved the Pfizer / BioNTech vaccine. He is supposed to arrive in the coming days.

VAE: In Abu Dhabi, the capital of the United Arab Emirates, the Sinopharm vaccine has been administered on Monday today. To get vaccinated, residents can book an appointment through a health department hotline. At least 45 hospitals and clinics in the city are reportedly equipped with the vaccine. According to official information, the Sinopharm vaccine is given free of charge and in two doses 21 days apart.

BRA: The government wants to vaccinate a good quarter of the population against COVID-19 in the first half of 2021. A document sent to the country's Supreme Court shows that 108 million doses of vaccine will initially be available. Around 70 percent of the population - 148 of the 212 million Brazilians - would have to be immunized to stop the virus from spreading. Experts criticize the statements as hastily put together with errors in the details of possible vaccines. The Supreme Court had given the government a deadline to make arrangements for the vaccinations.

MEX: will be the first country in Latin America to vaccinate its population with the vaccine from BioNTech /Pfizer at the end of next week. However, initially only about 125,000 medical professionals and nurses who work with corona patients will be vaccinated. From February, the vaccination of further groups is planned gradually until March 2022.

PER: Peru has stopped vaccinations with the active ingredient from the Chinese manufacturer Sinopharm. The reason was a "serious adverse event," said the government of the South American country. The Ministry of Health said the incident was being investigated to see if it was caused by the vaccination or if it had any other cause.

GBR: Ten of thousands have already been vaccinated there with the vaccine from BioNTech / Pfizer in the past few days - first of all, people over 80 years of age and medical staff are in line. As of this week, it should also be possible to inject the vaccine in selected medical practices across the country. Great Britain was the first country in the world to approve the vaccine from the Mainz-based company and the US pharmaceutical company.

JOR: Jordan has also approved the corona vaccine from the Mainz-based company BioNTech and its US partner Pfizer. The Jordanian Food and Drug Administration (JFDA) announced the emergency approval on Monday evening. When the vaccinations should start remained unclear at first. JFDA director general Nisar Mheidat told the state news agency Petra that the BioNTech / Pfizer vaccine had gone through all stages of the approval process and could now be used. His authority is therefore examining two other vaccines. According to its own statements, the Jordanian government had also negotiated vaccine contracts with the manufacturers AstraZeneca and Johnson & Johnson.

Europe: The start of vaccinations depends on the EU approval. It is assumed that the first vaccination campaign can start in January - for example in old people's homes.

Country reports:

AUS/NZL: According to the New Zealand government, travel between Australia and New Zealand should be made easier. In the first quarter of 2021, travel between the two countries without quarantine ("travel bubble") is to be permitted. There are virtually no new locally transmitted Covid-19 cases in New Zealand and Australia.

ISR: A third wave seems to be emerging in Israel. According to official information, 2279 new infections with the corona virus have been registered within 24 hours for the first time in two months. The value was last higher on October 13 with 2336 cases. The government wants to implement new tightenings if the number of new infections exceeds 2500. If this does not significantly reduce the number of new infections within three weeks, a new partial lockdown would be imposed.

.....
The quarantine period in Israel is shortened by two to ten days if you show two negative tests. The Israeli Ministry of Health announced that this relief should apply from Tuesday morning. A quarantine is necessary after contact with infected people or after entry from abroad. Last month, the quarantine period had already been reduced from 14 to 12 days for two tests.

ZAF: In view of the increasing number of new corona infections, South Africa is tightening its restrictions at the start of its holiday season from midnight on Monday. This includes strict mask controls in public, but also in buses and trains or offices. Violators face up to six months in prison. Public gatherings are limited in number to a maximum of half the room capacity. Beaches and parks in hotspot areas such as the Garden Route or the Eastern Cape Province will be temporarily closed between December 16 and January 3. There is a nationwide ban on going out between 11 p.m. and 4 a.m., restaurants must close at 10 p.m. This also applies to New Year's Eve or Christmas. In addition, alcohol sales will again be limited in time. The Cape State has recorded an increase in the daily number of infections by 74 percent over the past week, the number of deaths has increased by almost 50 percent from over 100 to over 150 per day.

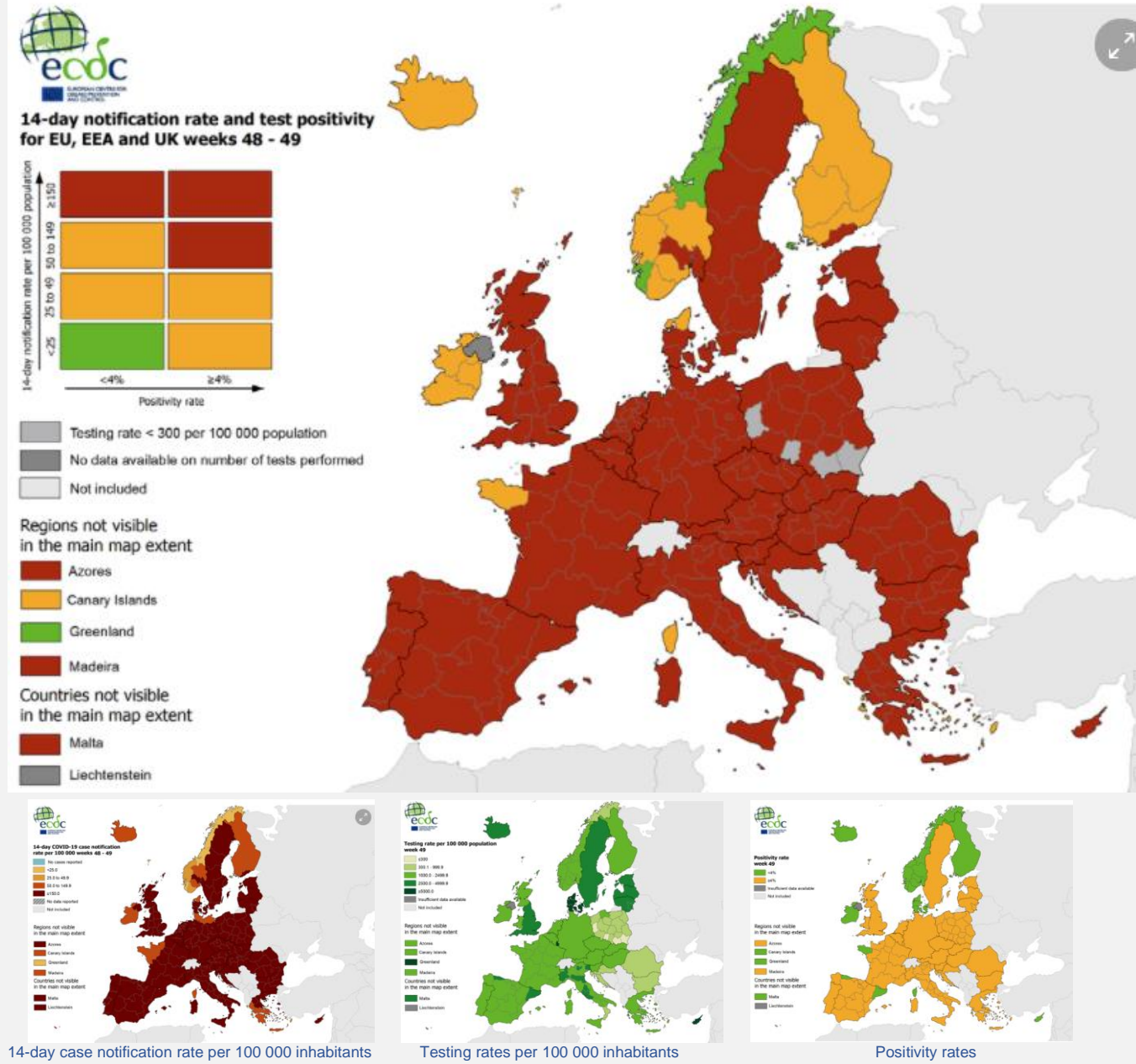
KOR: South Korea reports a new high for infections for the second day in a row. The disease center announced that 1030 new infections were registered. On Saturday, South Korea mobilized the police and the army to track chains of infection.

JPN: The threshold of 3000 new infections in one day is exceeded for the first time. In Tokyo alone there were 621 cases, reports the broadcaster NHK. A total of 3014 cases were registered. In Japan there have not yet been any comparable outbreaks of the pandemic as in the USA or some European countries. However, the number of infections has increased significantly since the beginning of winter, especially in the northern parts of the country.



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 10 December 2020



ECDC COVID-19 surveillance report Week 49, as of 10 December 2020

Weekly surveillance summary

Overall situation

By the end of week 49 (ending Sunday 6 December 2020), most countries have started or continue to observe a stabilisation or reductions in case notification rates, test positivity and new hospital/ICU admissions. Absolute values of these indicators remain high, even where they are stable or decreasing, suggesting that transmission is still widespread. Furthermore, case rates among older age groups in 10 countries and death rates in 17 countries continue to increase. Ten countries continue to observe increases in hospital or ICU admissions and/or occupancy due to COVID-19.

Trends in reported cases and testing

- By the end of week 49 (6 December 2020), the 14-day case notification rate for the EU/EEA and the UK, based on data collected by ECDC from official national sources from 31 countries, was 395 (country range: 58–1 182) per 100 000 population. The rate has been decreasing for 14 days.
- Among 30 countries with high case notification rates (at least 60 per 100 000), sustained increases (for at least seven days) were observed in six countries (Croatia, Cyprus, Estonia, Finland, Latvia and Lithuania). Two countries (Denmark and Sweden) had increases of less than seven days' duration. Stable or decreasing trends in case rates of 1–31 days' duration were observed in 22 countries (Austria, Belgium, Bulgaria, Czechia, France, Germany, Greece, Hungary, Ireland, Italy, Liechtenstein, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and the UK).
- Based on data reported to TESSy from 27 countries, among people over 65 years of age, high levels (at least 60 per 100 000) or sustained increases in the 14-day COVID-19 case notification rates compared to last week have been observed in 25 countries (Austria, Belgium, Croatia, Cyprus, Czechia, Denmark, Estonia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden).
- Notification rates are highly dependent on several factors, one of which is the testing rate. Weekly testing rates for week 49, available for 30 countries, varied from 627 to 13 048 tests per 100 000 population. Luxembourg had the highest testing rate for week 49, followed by Denmark, Cyprus, Malta and the UK.
- Among 25 countries in which weekly test positivity was high (at least 3%), three countries (Croatia, Cyprus and Estonia) had positivity that had increased compared to the previous week. Test positivity remained stable or had decreased in 22 countries (Austria, Belgium, Bulgaria, Czechia, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the UK).

Hospitalisation and ICU

- Pooled data from 18 countries for week 49 show that there were 1.7 patients per 100 000 population in ICU due to COVID-19, which is 76% of the peak ICU occupancy observed during the pandemic. Pooled weekly ICU admissions based on data from 14 countries were 1.8 new admissions per 100 000, which is 50% of the peak rate to date.
- 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 to the previous week in 28 countries (Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Spain, Sweden and the UK). No other increases have been observed, although data availability varies.

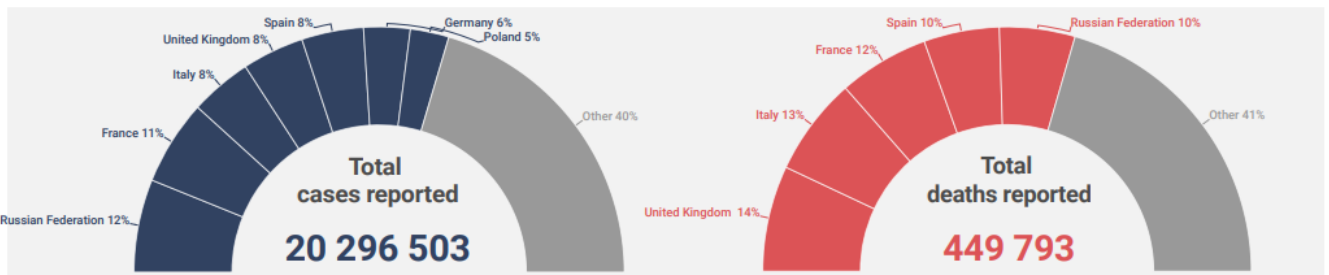
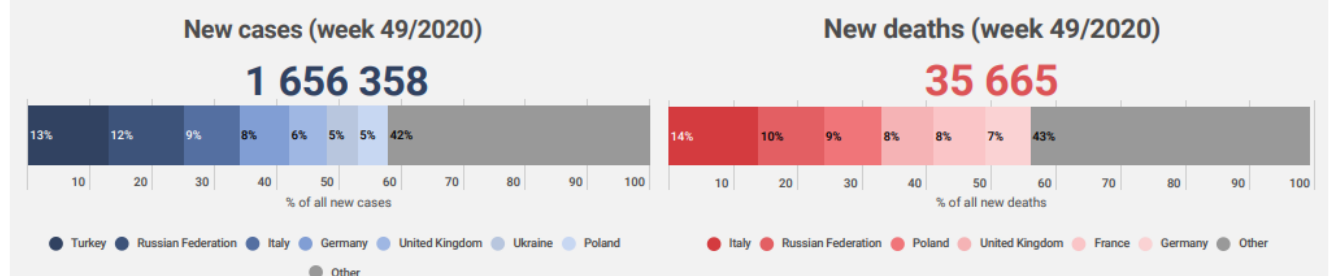
Mortality

- The 14-day COVID-19 death rate for the EU/EEA and the UK, based on data collected by ECDC from official national sources from 31 countries, was 106.7 (country range: 2.8–282.1) per million population. The rate has been stable for eight days.
- Among 28 countries with high 14-day COVID-19 death rates (at least 10 per million), sustained increases (for at least seven days) were observed in 10 countries (Austria, Bulgaria, Croatia, Denmark, Estonia, Germany, Greece, Hungary, Lithuania and Slovenia). Four countries (Cyprus, Latvia, Malta and Slovakia) had increases of less than seven days' duration. Stable or decreasing trends in death rates of 2–17 days' duration were observed in 14 countries (Belgium, Czechia, France, Ireland, Italy, Liechtenstein, Luxembourg, the Netherlands, Poland, Portugal, Romania, Spain, Sweden and the UK).

Notes

- ECDC produces two separate weekly COVID-19 surveillance outputs ([COVID-19 country overview](#) and [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 to download in open data formats on [ECDC's website](#).
- 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 situation update for the WHO European Region (30 Nov – 6 Dec 2020 Epi week 49)



Note: Reported cases and/or deaths from IHR States Parties may be subject to retrospective adjustments. * All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).

89%
of all deaths
were in persons aged 65+

56%
of all deaths
were in men

96%
of all deaths
had at least 1 underlying
condition

82%
of all deaths
had cardiovascular disease

Country Reports:

LTU: In the fight against the second corona wave, public life in Lithuania is reduced to a minimum. In the Baltic EU country, all shops except shops for daily needs are to close from Wednesday and school operations are to be switched to distance learning. The regulation should apply until January 31st. The freedom of movement of the roughly three million inhabitants of Lithuania is also restricted: by order of the government, no one is allowed to travel to other cities and municipalities outside of their own place of residence without compelling reasons. House or apartment may also only be left for a valid reason.

EST: The number of new corona infections has reached a new high. The national health authority in Tallinn reported 760 positive tests within 24 hours. Underground land recorded nearly 18,000 infections since the pandemic began. Estonia with its 1.3 million inhabitants has registered a significant increase in new infections since autumn. According to the EU authority ECDC, the development is currently worse than in most European countries. To contain the pandemic, the Tallinn government has imposed new corona protective measures.

CZE: tightened its corona rules before Christmas but leaves all shops open. The second highest corona warning level applies from Friday, as the minority government decided today. The restaurants and hotels that have been open for a week and a half have to close again. The operators should receive compensation payments. A maximum of six people are allowed to meet indoors and outdoors. There is a night curfew. The schools' Christmas holidays are brought forward. This time retail and service providers such as hairdressers will remain open with restrictions such as limited customer numbers.

DEU: The partial lockdown is turning into a real lockdown: Germany will shut down public life on Wednesday, December 16. This affects almost all areas of life, including retail and schools and daycare centers. And it applies nationwide. First of all, the measures are limited to January 10, but an extension is possible.

The German Child Protection Association (DKSB) is demanding financial aid for low-income families because of the tough lockdown. The DKSB therefore demanded the assumption of the costs for a digital device for needy children as well as a compensation payment for poor families, since it is almost impossible for these families to provide their children with a laptop or tablet for distance learning. With the expansion of distance learning before Christmas, children and young people would no longer be fed at school for lunch. Many children with parents on low incomes are entitled to a free lunch in daycare or school. This benefit is no longer available and is not compensated at any point.

The German Hospital Society expects the number of COVID-19 patients in intensive care units to continue to rise despite the lockdown. DEU expects that the number of Covid-19 patients in intensive care units will increase from currently around 4500 to 5000 at the turn of the year.

ITA: Italy wants to accompany its national vaccination campaign with a large advertising campaign and the primrose as a symbol.

Due to the decreasing corona cases, the restaurants and bars in many regions of Italy have been open again since Sunday. Around five weeks after the establishment of three risk zones and a partial lockdown, the time of the red zones is over for the time being. Rather, Lombardy in the north, which was initially badly affected, and Calabria in the south even belong to the yellow zones with low risk again. This makes everyday life a little easier for many Italians. Because in the yellow zones - unlike in the other two risk areas - the bars are allowed to reopen during the day. And the people there can freely leave their homes again. All over Italy, however, the restaurants have to close for guests at 6 p.m. And from 10 p.m. there is a curfew until early morning, for which there are only a few exceptions.



FRA: The French government is easing the corona restrictions for residents of retirement and nursing homes over the holidays. The Ministry of Health wants to allow people who tested negatively for the virus to leave the facilities and visit their families from Tuesday. Those who tested positive can receive up to two visitors in their room until January 3rd. The ministry argued that it was essential to maintain family contacts and combat loneliness in the spirit of Christmas. A good third of all corona deaths in France were registered in retirement and nursing homes.

GBR: In view of the drastically increasing number of cases, the highest corona warning level will again apply in the British capital and parts of Southeast England from Wednesday. Restaurants and pubs, cinemas and theaters have to close again. In addition, stricter contact restrictions apply.

GRC: Greece is relaxing the lockdown measures that have been in place for almost six weeks. Bookstores and hairdressers were able to open on Monday morning under strict conditions. The "Click Away" principle has been in effect for other small shops since the weekend: Anyone who discovers a product in the shop window or on the Internet that they want to buy has to contact the shop and can then pick up their purchase at a specified time. Payment is made by card reader. Anyone entering Greece must do a rapid corona test and then go into quarantine for three days. The Greek state bears the costs of this test. The obligation to present a PCR corona test with a negative result that is no longer than 72 hours old remains in place.

TUR: Turkish President Erdogan has imposed a five-day ban on going out. This should start on New Year's Eve at 9 p.m. and continue until January 4th. In Turkey, exit restrictions already apply on weekends and on workdays from 9 p.m. Supermarkets are open at certain times.

NLD: The Netherlands are also going into a tough lockdown to reduce the spread of the coronavirus. There should be massive restrictions for the next five weeks: Schools and daycare centers will remain closed until **January 19**, as will all non-vital businesses. Museums, zoos, libraries and other public institutions are also no longer allowed to receive visitors. The Prime minister appealed to his compatriots to stay at home, not to go on unnecessary excursions and, if possible, not to travel abroad until mid-March. The new measures apply from midnight.

ESP: Due to the increasing number of infections, the corona measures on Mallorca will be tightened again over Christmas. From Tuesday, the highest level of the five-level (0 to 4) Corona protocol will apply again. The restrictions should initially apply until December 28th and then again to the test. Anyone traveling to the Balearic Islands from abroad and the rest of Spain must present a negative PCR test, which must not be older than 72 hours.

SWE: More people died in Sweden last month than in any November in the past 100 years. While the corona numbers have increased sharply, a total of 8088 people died with its special corona route in November 2020. This corresponds to an excess mortality of ten percent compared to the corresponding months from 2015 to 2019, said the Swedish Statistics Agency (SCB). "That is the highest recorded number of deaths in November since 1918. That was the year the Spanish flu broke out".







Subject in Focus

Coronavirus Vaccine Development and Differences

In January, scientists deciphered a piece of very bad news (a virus is “simply a piece of bad news wrapped up in protein,” the biologists Jean and Peter Medawar wrote in 1977): the genome of SARS-CoV-2, the virus that causes Covid-19. The sample came from a 41-year-old man who worked at the seafood market in Wuhan where the first cluster of cases appeared. Researchers are racing to make sense of this viral recipe, which could inspire drugs, vaccines and other tools to fight the ongoing pandemic. The development of a COVID-19 vaccine is critical to contain the current SARS-CoV-2 pandemic. The vaccine should stimulate an effective antibody response (so-called humoral) and from T lymphocytes (so-called cellular). The preparation of a new vaccine is a long and complex process. Each vaccine preparation must successfully complete the steps of preclinical laboratory and animal testing and human clinical trials. Scientists have used a variety of approaches to maximize the chances of a safe and effective COVID-19 vaccine being developed quickly. Well established as classical vaccines that use proteins to provoke an immune response and more novel like mRNA vaccines or vector vaccines.

COVID-19

What are the different kinds of vaccine?

					
RNA	DNA	Viral vector	Virus-like particle	Protein sub-unit	Inactivated virus
RNA vaccines work by introducing an mRNA sequence (the molecule which tells cells what to build) to the system which is coded for a specific antigen.	Short for deoxyribonucleic acid, DNA is another of the crucial macromolecules for life. A DNA vaccine involves the direct introduction into appropriate tissues of a plasmid - a double-stranded molecule which exists in bacterial cells.	Vaccines use live viruses to carry DNA into human cells.	This type of vaccine contains molecules that mimic the virus but are not infectious and, therefore, not a danger. VLP has been an effective way of creating vaccines against diseases such as human papillomavirus (HPV), hepatitis and malaria.	This kind of vaccine uses a part of the virus, in this case the protein component. These vaccines can also be used on almost anyone, including people with weakened immune systems and long-term health problems.	These vaccines use the dead version of the virus that causes a disease.

Source : <https://www.vaccines.gov/>

RNA: Short for ribonucleic acid, RNA is one of the crucial macromolecules – larger molecules comprising proteins, lipids and carbohydrates – for life. RNA vaccines work by introducing an mRNA sequence (the molecule which tells cells what to build) into the system which is coded for a disease-specific antigen.

DNA: Short for deoxyribonucleic acid, DNA is another of the crucial macromolecules for life. A DNA vaccine involves the direct introduction into appropriate tissues of a plasmid – a double-stranded molecule which exists in bacterial cells.

Viral vector: These vaccines use live viruses to carry DNA into human cells. It is one of the more effective means of gene transfer to modify specific cell types or tissue for therapeutic purposes.

Protein sub-unit: This uses a part of the virus, in this case, the protein component, to create a vaccine. These vaccines can be administered to almost anyone who needs them, including people with weakened immune systems and long-term health problems because they do not harm the immune system.

Inactivated virus: This particular type of vaccine uses the part of a virus which is no longer active, but which causes the disease. These vaccines do not usually provide the same degree of immunity as a live vaccine. Booster shots at a later date may be necessary to maintain immunity.

Virus-like particle: This type of vaccine contains molecules that mimic the virus but are not infectious and, therefore, not a danger. VLP has been an effective way of creating vaccines against diseases such as human papillomavirus (HPV), hepatitis and malaria.

Genetic and Viral Vector Vaccines

Shortly regarding this new vaccines approach, in mRNA or vector vaccines, there is not given the ready-made antigen, but the exact recipe for its preparation in the form of mRNA encoding information about the SARS-CoV-2 S protein (spike) or another virus (vector) in which the gene encoding the synthesis of the SARS virus protein is embedded -CoV-2 acting as an antigen.

Genetic Vaccines

COVID-19 mRNA vaccines give instructions for our cells to make a harmless piece of what is called the “spike protein.” The spike protein is found on the surface of the virus that causes COVID-19. The mRNA vaccine inoculation, it is given in the upper arm muscle. Once the instructions (mRNA) are inside the muscle cells, the cells use them to make the protein piece. After the protein piece is made, the cell breaks down the instructions and gets rid of them. Next, the cell displays the protein piece on its surface. Our immune systems recognize that the protein doesn’t belong there and begin building an immune response and making antibodies, like what happens in natural infection against COVID-19. At the end of the process, our bodies have learned how to protect against future infection. The benefit of mRNA vaccines, like all vaccines, is those vaccinated gain this protection without ever having to risk the serious consequences of getting sick with COVID-19.

The mRNA vaccines are new, but not unknown. Researchers have been studying and working with them for decades. Interest has grown in these vaccines because they can be developed in a laboratory using readily available materials. This means the process can be standardized and scaled up, making vaccine development faster than traditional methods of making vaccines. mRNA vaccines have been studied before for flu, Zika, rabies, and cytomegalovirus (CMV). As soon as the necessary information about the virus that causes COVID-19 was available, scientists began designing the mRNA instructions for cells to build the unique spike protein into an mRNA vaccine. Future mRNA vaccine technology may allow for one vaccine to provide protection for multiple diseases, thus decreasing the number of shots needed for protection against common vaccine-preventable diseases.

The claim that the COVID-19 mRNA vaccine modifies the human genome is inconsistent with basic cell biology. The mRNA in the COVID-19 vaccine contains the content of the SARS-CoV-2 S (spike) protein synthesized. mRNA is closed in lipid nanoparticles, which play a protective role (mRNA does not degrade immediately) and immediately transport RNA to cells (facilitate penetration through the human cell membrane). This allows the mRNA from the vaccine to enter the cytoplasm of the vaccinated person's cell and hit there to produce the coronavirus S protein. As an antigen, this protein has immunogenic properties, thanks to which it stimulates the human immune system to produce neutralizing antibodies and a cellular response. Human genetic material is double-stranded DNA that is found in the cell nucleus. The cell nucleus is separated from the rest by a cell membrane. The mRNA administered in the vaccine replicates in the cytoplasm, not the nucleus into the nucleus. Hence, it cannot integrate with human chromosomal DNA. An additional barrier is the variation between mRNA and DNA. The mRNA vaccine cannot modify the genome and there is no risk of damaging human DNA.

Mostly developed mRNA vaccines:

- Pfizer and BioNTech (approved in United Kingdom, Canada, USA, Mexico, Saudi Arabia, Kuwait, Bahrain and Singapore. The vaccination regime submitted by Pfizer-BioNTech requires two doses of vaccine to be administered 21 days apart, in individuals aged 16 years old and above, according to a statement by the Health Sciences Authority. Pregnant women, immunocompromised persons and those below 16 should not receive this vaccine as the safety and efficacy data for these people is not available yet.
- Moderna, under F.D.A. review.
- CureVac, AnGes, phase 3,

Viral Vector Vaccines

Viral vector-based vaccines differ from most conventional vaccines in that they don’t contain antigens, but rather use the body’s own cells to produce them. They do this by using a modified virus (the vector) to deliver genetic code for antigen, in the case of COVID-19 spike proteins found on the surface of the virus, into human cells. By infecting cells and instructing them to make large amounts

of antigen, which then trigger an immune response, the vaccine mimics what happens during natural infection with certain pathogens - especially viruses. This has the advantage of triggering a strong cellular immune response by T cells as well the production of antibodies by B cells. Several virus vector vaccines are used to vaccinate animals against rabies and distemper. Johnson & Johnson has developed H.I.V. and Ebola vaccines using an adenovirus. Both have proven safe in humans and are now in efficacy trials.

Deeper explanation how viral vector vaccines trigger immunity. Viruses survive and replicate by invading their host's cells and hijacking their protein-making machinery, so it reads the virus' genetic code and makes new viruses. These virus particles contain antigens, molecules that can trigger an immune response. A similar principle underpins viral vector vaccines - only in this case, the host cells only receive code to make antigens. The viral vector acts as a delivery system, providing a means to invade the cell and insert the code for a different virus' antigens (the pathogen you're trying to vaccinate against). The virus itself is harmless, and by getting the cells only to produce antigens the body can mount an immune response safely, without developing disease. Various have been developed as vectors, including adenovirus (a cause of the common cold), measles virus and vaccinia virus. These vectors are stripped of any disease-causing genes and sometimes also genes that can enable them to replicate, meaning they are now harmless. The genetic instructions for making the antigen from the target pathogen are stitched into the virus vector's genome.

There are two main types of viral vector-based vaccines. Non-replicating vector vaccines are unable to make new viral particles; they only produce the vaccine antigen. Replicating vector vaccines also produce new viral particles in the cells they infect, which then go on to infect new cells that will also make the vaccine antigen. The COVID-19 viral vector vaccines under development use non-replicating viral vectors. Once injected into the body, these vaccine viruses begin infecting our cells and inserting their genetic material – including the antigen gene – into the cells' nuclei. Human cells manufacture the antigen as if it were one of their own proteins and this is presented on their surface alongside many other proteins. When the immune cells detect the foreign antigen, they mount an immune response against it. This response includes antibody-producing B cells, as well as T cells, which seek out and destroy infected cells. T cells do this by examining the repertoire of proteins expressed on the surfaces of cells. They have been trained to recognise the body's own proteins as 'self', so if they notice a foreign protein, such as an antigen from the pathogen, they will mount an immune response against the cell carrying it. One challenge of this approach is that people may previously have been exposed to the virus vector and raise an immune response against it, reducing the effectiveness of the vaccine. Such "anti-vector immunity" also makes delivering a second dose of the vaccine challenging, assuming this is needed, unless this second dose is delivered using a different virus vector.

A major bottleneck for viral vector vaccine production is scalability. Traditionally, viral vectors are grown in cells that are attached to a substrate, rather than in free-floating cells - but this is difficult to do on a large scale. Suspension cell lines are now being developed, which would enable viral vectors to be grown in large bioreactors. Assembling the vector vaccine is also a complex process, involving multiple steps and components, each of which increases the risk of contamination. Extensive testing is therefore required after every step, increasing costs.

Mostly developed viral vector vaccines:

- AstraZeneca 'AZD1222' ChAdOx1 nCoV-19, the vaccine is developing in base of Chimpanzee AD - phase 3.
- Johnson&Johnson 'Ad26.COV2.S', the vaccine is made using a virus called Adenovirus 26 or Ad26 for short - phase 3.
- CanSino 'Ad5-nCoV', The Chinese company developed a vaccine based on an adenovirus called Ad5- limited use in China.
- Gamaleya 'Sputnik V' (formerly Gam-Covid-Vac), it is produced from a combination of two adenoviruses called Ad5 and Ad26. - early use in Russia. This vaccine in not following some clinical rules like is required for medical products.

The advantage of this type of vaccines is that most of them are stable in refrigerator for a few months.

Protein-Based Vaccines

Rather than injecting a whole pathogen to trigger an immune response, subunit vaccines (sometimes called acellular vaccines) contain purified pieces of it, which have been specially selected for their

ability to stimulate immune cells. Because these fragments are incapable of causing disease, subunit vaccines are considered very safe. There are several types: protein subunit vaccines contain specific isolated proteins from viral or bacterial pathogens; polysaccharide vaccines contain chains of sugar molecules (polysaccharides) found in the cell walls of some bacteria; conjugate subunit vaccines bind a polysaccharide chain to a carrier protein to try and boost the immune response. Only protein subunit vaccines are being developed against the virus that causes COVID-19. Some vaccines contain whole proteins, and some contain fragments of them. Some pack many of these molecules on nanoparticles.

Mostly developed protein-base vaccines:

- Novavax 'NVX-CoV2373', stable in refrigerator - phase 3.
- The Anhui Zhifei Longcom and the Chinese Academy of Medical Sciences 'ZF2001'- phase 3.
- Medicago GSK 'CoVLP', stable in refrigerator - phase 2/3.

Inactivated or Attenuated Coronavirus Vaccines

Whole virus vaccines use a weakened (attenuated) or deactivated form of the pathogen that causes a disease to trigger protective immunity to it. There are two types of whole virus vaccines. Live attenuated vaccines use a weakened form of the virus, which can still grow and replicate, but does not cause illness. Inactivated vaccines contain viruses whose genetic material has been destroyed by heat, chemicals or radiation so they cannot infect cells and replicate but can still trigger an immune response. Both are tried and tested vaccination strategies, which form the basis of many existing vaccines – including those for yellow fever and measles (live attenuated vaccines), or seasonal influenza and hepatitis A (inactivated vaccines). Bacterial attenuated vaccines also exist, such as the BCG vaccine for tuberculosis.

Vaccines created from weakened coronaviruses or coronaviruses that have been killed in most advanced development:

- Sinopharm-Beijing Institute 'BBIBP-CorV', stable in refrigerator - phase 3 - approved in U.A.E., Bahrain and limited use in China.
- Sinopharm-Wuhan Institute of Biological Products - phase 3 – limited use in China and U.A.E.
- Sinovac Biotech 'CoronaVac' - phase 3 – limited use in China.

Finally, the optimistic scenario assumes that the first COVID-19 vaccines may be authorized by the European Medicines Agency in early 2021.

Sources:

<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines.html>

<https://www.ema.europa.eu/en/news/ema-receives-application-conditional-marketing-authorisation-covid-19-mrna-vaccine-bnt162b2>

<https://szczepienia.pzh.gov.pl/wszystko-o-szczepieniach/szczepionki-przeciw-covid-19/>

<https://theconversation.com/how-the-leading-coronavirus-vaccines-work-146969>

<https://www.nature.com/articles/s41392-020-00352-y#Sec3>

<https://www.gavi.org>

<https://www.nytimes.com>

Conflict and Health

COVID-19 Crisis in Liberia



In cooperation with Bundeswehr HQ of Military Medicine

Liberia

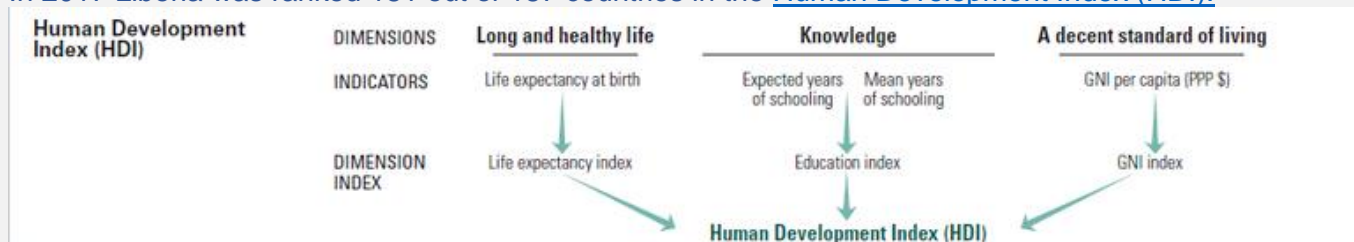
Area:	111,369 km ²
Population:	5,073,296
Capital:	Monrovia
Age structure:	
0-14 years:	43,35%
15-24 years:	20,35%
25-54 years:	30,01%
55-64 years:	3,46%
65 years and over:	2,83%



CONFLICT:

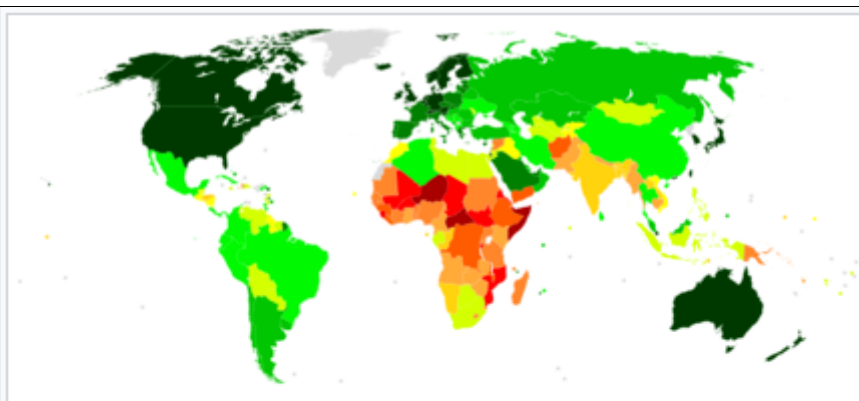
The small West African country Liberia (LBR) has been ravaged by 14 years of civil war in its recent history. The conflict lasted from 1989 to 2004 and was mainly ethnically motivated (mainly between descendants of slaves from North America and the indigenous population) but was also led to access to the country's natural resources (iron ore, natural rubber) those killed in the conflict are estimated at 250,000. Liberia was able to consolidate itself somewhat between 2004 and 2014 and with the help of the UN and the international community of states it was possible to restore rudimentary structures. The West African Ebola epidemic in 2014 (more than 11,000 deaths in total) hit the country hard and could only be brought under control again with international help. The massive financial and material support during the Ebola crisis was largely skimmed off by a small elite and the then ruling President and Nobel Peace Prize laureate Ellen Sirleaf and taken abroad. The presidential elections between late 2017 and early 2018 resulted in a peaceful change of power. However, the current President George Weah took over a state treasury with USD 500,000 from his predecessor in 2018. Although the country has achieved political stability, living conditions remain difficult for the majority of the population, especially in rural areas. The lack of access to health services and education, as well as a lack of work for young people, endanger the country's development. Over two thirds of Liberians live below the poverty line and over a third are considered undernourished.

In 2017 Liberia was ranked 181 out of 187 countries in the [Human Development Index \(HDI\)](#).

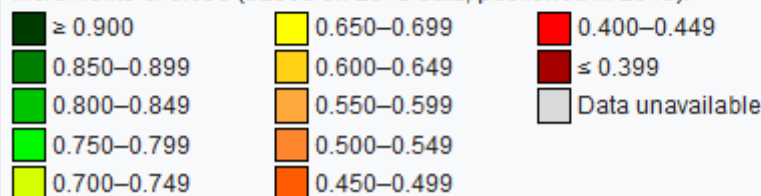


The underlying principle behind the Human Development Index.^[5]





World map of countries by Human Development Index categories in increments of 0.050 (based on 2018 data, published in 2019).



HEALTH:

The health system in Liberia is below the international average in many aspects. However, LBR owns i.a. a comparatively better evaluation result than other countries with regard to zoonosis prevention.

Surveillance and epidemiological competencies (such as contact tracking), risk communication and the training of specialist personnel, as well as emergency preparedness and the international implementation of standards, are rated even better than the global average. However, there is a blatant lack of laboratory capacity, clinical skills, protective equipment and, last but not least, access above all. in rural areas or socio-economically disadvantaged people to the health system in general. There does not seem to be any cross-departmental cooperation between the health and security sectors, which is imperative given the generally unstable situation. Support is mainly provided by international aid organizations.

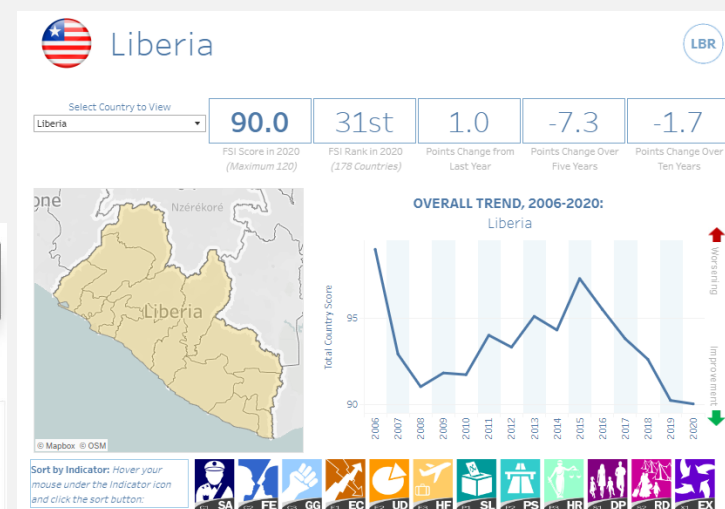
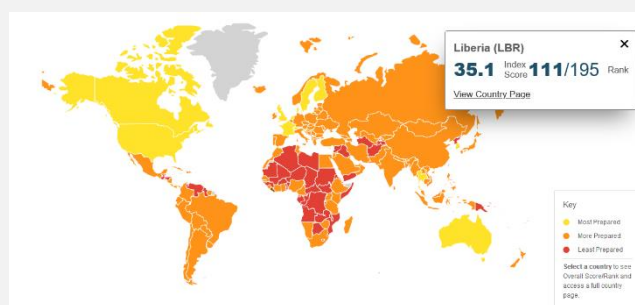
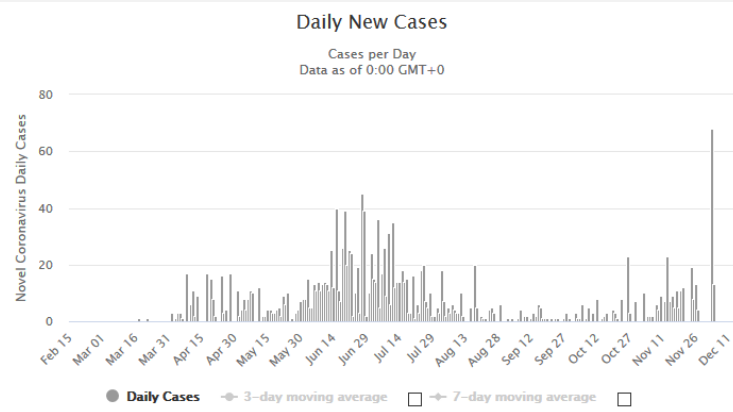
In rural areas in particular, access to health facilities remains very difficult due to the poor transport infrastructure. There is also a lack of qualified personnel, drugs and medical equipment everywhere in the Liberian health system. The population pays for this with an overall poor state of health and an average life expectancy of 63 years. Malaria is the leading cause of death, followed by diarrhea and respiratory infections. The HIV rate is an estimated 1.9 percent (2019). This is above the international average of around one percent, but Liberia is not one of the high-prevalence countries. In everyday life, HIV-infected people suffer from severe stigmatization and access to HIV-specific health care is made more difficult by long distances and corruption in the healthcare system. The infant mortality rate is well above the comparable figures from other African countries, with more than 15% dying before the end of the first year of life. The death rate for infants under five is around 7%.

A specific problem in post-war societies is the physical and psychological consequences of the events of the war. This also includes persistent high rates of rape and other forms of domestic violence. At present, three quarters of all medical facilities are still operated by - mostly foreign - non-governmental organizations, but this proportion is likely to decrease significantly in the next few years.

The Liberian government is therefore making efforts to train more professionals for the health sector. This has become even more important after more than 200 doctors, nurses and carers were infected with the Ebola virus during the Ebola outbreak in 2014/15 and around 100 of them died. Even before this crisis, there was only one doctor for 10,000 people in Liberia.

The weaknesses of the health system, combined with the experience of the Ebola epidemic, led to swift action when the Covid-19 pandemic broke out. Schools were closed before the first case became known, all commercial flights to and from Liberia were suspended from March 24th to June 28th, in public, including on public transport, wearing a face mask is compulsory, a distance of one Meters must be observed, hand washing is mandatory when entering the building. The national emergency declared in April 2020 was lifted on July 22nd, along with the night curfew. Schools have been gradually reopening since August 2020.

To date, 1676 people have tested positive for Covid-19, 83 people have died of the disease. This is a very small increase in the official figures, which are not representative anyway. In June and July there was an increase in the number of cases, which, unlike most other West African countries, led Liberia to extend the existing lockdown and only relax later. The Liberian military enforced the measures in a state of emergency until the end of July and was then released from this task again. Liberia was said to have been sensitized to COVID-19 by the Ebola outbreak of 2013-16 with more than 4,600 deaths and to react to the new outbreak with the established tools and mechanisms. However, after the initial compliance of the population, doubts about the existence of the virus are reported, since the often asymptomatic course (in contrast to Ebola) promotes these doubts. In Liberia, according to World Bank data, 45 percent of the population is under 15 years of age and only 3 percent over 65 years of age, which is certainly one of the main reasons for the large number of asymptomatic courses. Cases that have tested



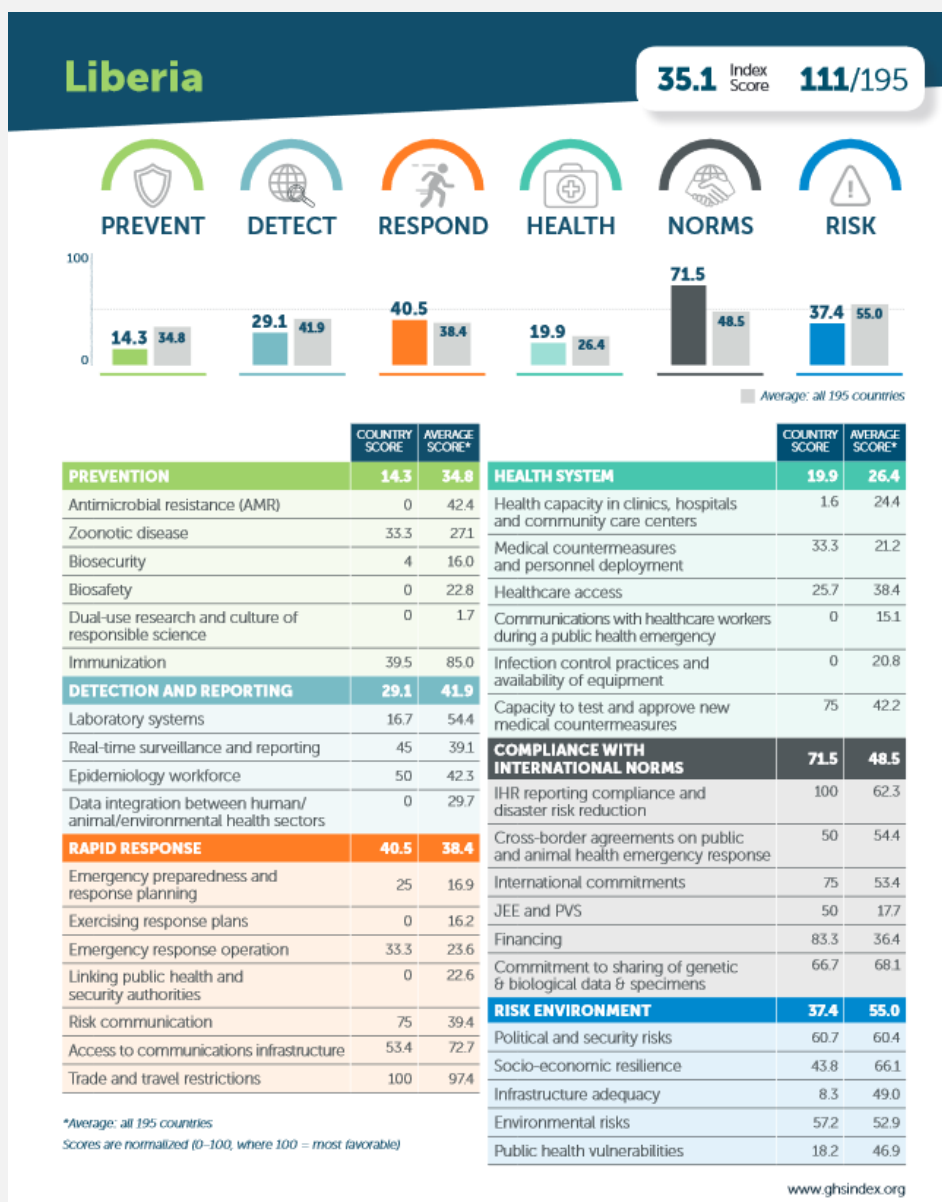
positive and without symptoms doubt their positive result are often reported. This has an impact on social behavior, so that the wearing of masks and social distancing - measures that are difficult to adhere to in the mostly poor living conditions are neglected. For the large part of the population who spends their daily income directly on food and has no financial reserves, the lockdown and limited job opportunities were more threatening than the risk of infection. The conditions of poverty have worsened again. Rumors are also circulating that COVID-19 is a government and aid invention to make money, making it difficult to fight the outbreak. Awareness campaigns and even an unusual measure by President Weah, in which he himself produced an educational song to combat the spread of COVID-19, could hardly counter the rumors.

Current measures in the corona pandemic:

The Liberia National [Incident Management System \(IMS\)](#) publishes a 5 month plan (August - December) as a measure to reduce COVID-19 and to further strengthen the efficiency and sustainability of the measures already introduced. Over 60 stakeholders were present at the drafting and the conference, including high government representatives, members of parliament, international and national NGOs, the United Nations Liberia, the National Incident Management System and the Senior Management Team of the Ministry of Health.

CONCLUSION: Liberia Land is still practiced in outbreak & crisis management due to the Ebola crisis 5 years ago - the LBR government - as well as the international aid organizations in their support - reacted very quickly. A very tense economic situation (also because of the drastic reduction in the UN mission), food shortages, a corrupt elite, omnipresent poverty and the still existing ethnic conflicts mean that the domestic political situation is extremely unstable. In addition, under these circumstances it is very difficult to identify the virus, especially in the often asymptomatic young population. There is therefore probably a high number of unreported cases, as hardly any new cases are reported in the official statistics (see graphic on the right). Data and numbers on tests carried out per 100,000 or total numbers are unknown

and thus support the assumption of a high number of unreported cases and an uncontrolled community spread.



Source:

- <https://reliefweb.int/report/liberia/covid-19-food-security-response-situation-report-6-reporting-period-may-23-may-29>
- <https://fts.unocha.org/appeals/989/clusters>
- <https://fragilestatesindex.org/country-data/>
- <https://www.qiz.de/de/weltweit/325.html>
- https://www.youtube.com/watch?v=XT0ZhhuK4al&feature=emb_logo
- <http://moh.gov.lr/wp-content/uploads/LR-COVID-19-Situation-Report-18-April-2-2020.pdf>
- https://de.wikipedia.org/wiki/COVID-19-Pandemie_in_Liberia
- <https://reliefweb.int/report/liberia/msf-supports-efforts-treat-covid-19-liberia>
- <https://www.afro.who.int/news/liberia-national-incident-management-system-ims-unveils-five-5-months-covid-19-reduction>
- <https://www.reuters.com/article/us-health-coronavirus-liberia-idUSKBN23T2RU>
- <https://www.technologyreview.com/2020/08/19/1007139/liberia-kateh-covid-coronavirus-ebola/>
- https://en.wikipedia.org/wiki/Human_Development_Index
- <https://www.worldometers.info/coronavirus/country/liberia/>

MilMed CoE VTC COVID-19 response

Topic

The NATO Centre of Excellence for Military Medicine is putting its expertise and manpower to aid in any way possible during the pandemic. The VTC is for interested participants (experts) to exchange experiences, management regulations and restrictions due to COVID-19. We would like to propose just one of the most important topics in the next iteration. We will have some experts giving a short briefing and then afterward we will have time for questions and experiences as well as a fruitful discussion.

Topics 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 emphasizing 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

Briefings by **SWE, BEL, and NATO MILMED COE.**

The SWE Briefer talked about the development of vaccines and highlighted the differences between the different vaccine types (RNA, DNA, Adenovirus).

The Briefer from **BEL** give a short introduction of the COVID-19 vaccine and talked also about the current studies in Belgium.

The NATO MILMED COE briefer gave a presentation about the ethical issues, immunization strategy and logistical requirement affecting the COVID-19 vaccination.

Next VTC will be after the Christmas time, in 2021.

The current status of SARS-CoV-2 vaccine development

Recommendations

Recommendation
for international
business
travellers

As of 19th
October 2020

Updated 2nd
December 2020
by ECDC and
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](#) and [International SOS](#). For Europe you will find more information [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

ECDC published a guidelines for COVID-19 testing and quarantine of air travellers – Addendum to the Aviation Health Safety Protocol

The document provides information on effective and differentiated strategies to enable the health authorities to evaluate scenarios and make informed decisions on the best possible measures.

Scientific evidence and information, presented and analysed in this document, give rise to the following key considerations:

- In the current epidemiological situation, where SARS-CoV-2 is established in all EU/EEA countries and the UK, imported cases account for a very small proportion of all detected cases and are unlikely to significantly increase the rate of transmission.
- The prevalence of SARS-CoV-2 in travellers is estimated likely to be lower than the prevalence in the general population or among contacts of confirmed cases.
- Travellers should not be considered as a high-risk population, nor treated as contacts of COVID-19 cases, unless they had been in known contact with a confirmed positive case.
- Travellers should be subject to the same regulations or recommendations as applied to the local population.
- Member States should always admit their own nationals and EU citizens and their family members resident in their territory and should facilitate swift transit through their territories.

Decision makers are invited to consider the detailed epidemiological evidence that supports the options presented in this document acknowledging that:

- In the current epidemiological situation, quarantine or systematic testing for SARS-CoV-2 of air travellers is not recommended.
- Harmonisation among Member States is recommended based on the specific measures presented in this document.

Chapter 3 outlines the main risk assessment criteria and the available evidence and information on the use of testing and quarantine for travellers. Where scientific evidence is insufficient, the document takes into consideration modelling studies and expert opinions from the relevant experts at the European Centre for Disease Prevention and Control (ECDC) and the European Union Aviation Safety Agency (EASA).

In Chapter 4, the document presents specific operational recommendations for the management of these travel related measures by the Member States.

The document, its observations, recommendations and conclusions are based on the evidence and best knowledge available at the time of writing, as compiled and analysed by experts at ECDC and EASA. Depending on the evolution of the pandemic and future evidence and developments, in terms of risk assessment criteria, testing technologies or the introduction of vaccines, this document may require updating which may prompt further assessment by the Member States in their implementation efforts.

Source: <https://www.ecdc.europa.eu/en/publications-data/guidelines-covid-19-testing-and-quarantine-air-travellers>

More information about traveling especially in US you can 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

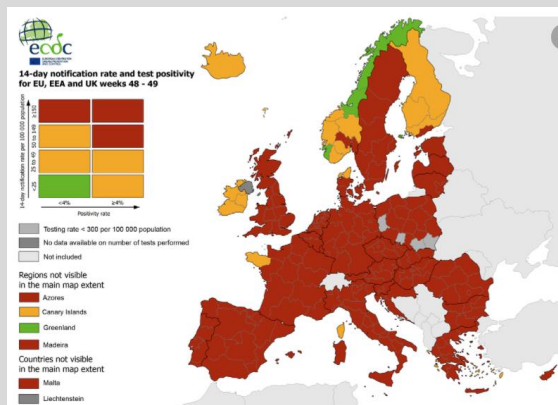
- **the notification rate** (the total number of newly notified COVID-19 cases per 100 000 population in *the last 14 days* at regional level)
- **the test positivity rate** (the percentage of positive tests among all tests for COVID-19 infection carried out during the last week)
- **the testing rate**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

2. A common map

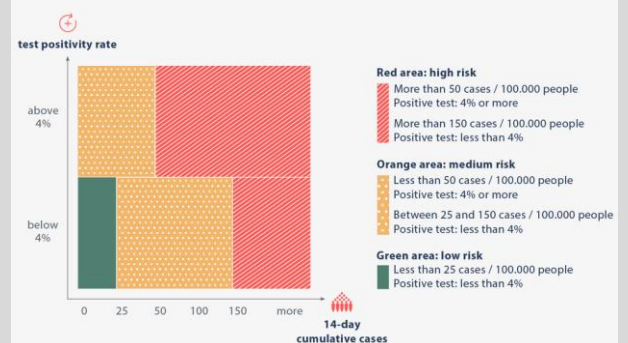
The ECDC will publish a map of EU Member States, broken down by regions, which will show the risk levels across the regions in Europe using a traffic light system. See also [“Situation in Europe”](#).

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.



Common colour codes: mapping of risk areas



3. A common approach for travellers

Common framework for COVID-19 travel measures

■ Green areas



No restriction of free movement of persons should be applied

■ Orange and red areas



Measures should be proportionate and respect differences in the epidemiological situation of orange and red areas



In principle, entry should not be refused to travellers from orange/red areas but requirements could be applied



Possible requirements for travellers coming from orange/red areas: quarantine/ self-isolation, COVID-19 testing prior to/ after arrival



Measures should take into account the epidemiological situation in their own territory



Inform other affected EU countries 48 hours before applying measures



Travellers could be asked to submit passenger locator forms



Exceptions: no quarantine requirement for travellers with essential function or need while performing that function

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 **moderate to high** risk of further transmission persists.
- Travellers are at risk of getting infected worldwide. It is highly recommended to avoid all unnecessary travel for the next weeks.
- Individual risk is dependent on exposure.
- National regulation regarding travel restrictions, flight operation and screening for single countries you will find [here](#).
- Official IATA changed their travel documents with new travel restrictions. You will find the documents [here](#).
- Public health and healthcare systems are in high vulnerability as they already become overloaded in some areas 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 infected but not sickened persons could be a source of spreading the virus. Therefore, no certain disease-free area could be named globally.

<p>Europe</p> <p>As of 23rd of October 2020</p>	<p><u>ECDC assessment</u> 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 <i>stable</i>, <i>of concern</i> or of <i>serious concern</i>. 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 $\geq 3\%$ as well as the high notification rates in the older age groups and/or high mortality rates.</p> <p>Countries have implemented various non-pharmaceutical interventions, but these have not been sufficiently effective in controlling transmission due to several factors:</p> <ul style="list-style-type: none"> • adherence to the measures was sub-optimal; • the measures were not implemented quickly enough; • or the measures were insufficient to reduce exposure. <p>As a result, the epidemiological situation is now rapidly deteriorating in most countries.</p> <p>There are currently only six countries in the region that are classified as experiencing a <i>stable epidemiological situation</i>.</p> <ul style="list-style-type: none"> • 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. <p>Nevertheless, in these six countries, there is still ongoing transmission and the situation must be closely monitored.</p> <p>Based on the latest available data to ECDC, there are currently no countries categorised as having an epidemiological situation ‘of concern’.</p> <p>In countries where the epidemiological situation is of serious concern:</p> <ul style="list-style-type: none"> • there is a high risk to the general population, • and for vulnerable individuals the COVID-19 epidemiological situation represents a very high risk. <p>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.</p>
<p>As of 4th of December 2020</p>	<p><u>From the perspective of the upcoming end-of-year festive season, what is the risk of SARS-CoV-2 transmission to the general population and medically vulnerable individuals in the EU/EEA and the UK?</u></p> <p>Epidemiological situation High levels of transmission are a threat for healthcare capacity due to the increase of healthcare demand and the risk that more healthcare workers might be sick and isolated or quarantined. The bed and ICU occupancy rates are still increasing or remain high in many countries, and further increases may challenge healthcare capacity.</p> <p>Gathering and events Social gatherings and events that are traditionally common during the end-of-the-year season are associated with close contact between people (e.g. family members and/or friends, or unknown individuals) that do not normally meet in day-to-day life. Although the mobility and number of gatherings, events and the number of people participating in them is expected to be lower this year compared with previous years, more mobility and gatherings and consequent mixing of the population, compared with preceding weeks is to be anticipated during the end-of-year festive season, increasing opportunities for transmission.</p> <p>Mobility Increased mobility of people in shared transport to meet family and friends, attend gatherings, travel to winter-sport resorts or to warmer areas within their country, in Europe and/or other continents, also represents an additional opportunity for COVID-19 infection/transmission in shared transport and at gatherings at destination.</p>

Measures implemented and compliance

If, in the context of the end-of-year festive season, any temporary loosening of rules on social gatherings and events is considered, it should be accompanied by clear and strict guidance on how to mitigate the associated risks.

Risk assessment:

Probability of infection with SARS-CoV-2;

The probability of infection with SARS-CoV-2 during the forthcoming end-of-year festive season is considered as **very high** both for the **general population** and the **medically vulnerable individuals**.

Impact of SARS-CoV-2 transmission;

Consistent with previous ECDC rapid risk assessments, and because of the threat of experiencing substantial **increases in healthcare demand** after the festive season, the impact of SARS-CoV-2 transmission during the forthcoming end-of-year festive season is assessed as **moderate** for the **general population** and **very high** for **medically-vulnerable individuals**.

Risk of transmission of SARS-CoV-2;

Given the current epidemiological situation and the measures implemented, and anticipating end-of-year festive season gatherings, events, mobility, and reports of fatigue to measures in the EU/EEA and the UK, the risk of transmission of SARS-CoV-2 to **the general population** is assessed as **high**. For **vulnerable individuals**, including the elderly and people with underlying medical conditions, the risk is assessed as **very high**.

Risk communication

The following key messages may be relevant in advance of the festive season, whereby people should be encouraged to:

- Reduce travel and social activities, and only engage in those that are genuinely important;
- Take extra precautions before meeting friends and family –where possible, for example, by self-isolating in advance, as per local recommendations–to minimise the potential risk of transmission;
- Consider alternative activities that can replace those traditionally practiced during the festive season, such as the creation or maintenance of small ‘social bubbles’ some time before and during the festive season, or online gatherings;
- Consider the potential consequences of infecting others and sparking a chain of transmission that could lead to severe disease or even death in some people;
- People with a positive test, or with symptoms compatible with COVID-19 and people in quarantine because of contact with COVID-19 cases should not travel or participate in any gatherings, irrespective of whether they have laboratory confirmation;
- Plan their end-of year activities taking into account physical distancing, mask wearing, hand and respiratory hygiene, reducing time spent indoors, and ensuring appropriate ventilation;
- Remember that treatments have been improving in recent months, and that there is also now the prospect that vaccines will start to become available early next year. Thus, there is room for some optimism, and we should use this to help us through the rest of the winter.

Non-pharmaceutical interventions to prevent increased transmission

- Ensuring physical distance, hand and respiratory hygiene, use of face masks and sufficient ventilation
- Limiting the size of cancelling of social gatherings and events
- Shielding medically and socially vulnerable populations
- Ensuring healthcare capacity and personnel
- Travel-related measures

Reinforcing testing, case isolation and contact tracing Recommendation

International travel restrictions, including border closures, would **not be expected** to have a significant impact on the evolution of the pandemic. The residual risk of imported cases should be managed through national public health resources for testing suspect cases, contact tracing, and subsequent isolation of cases and quarantine of contacts.

The implementation of systematic testing or quarantine of travellers is **not recommended**, except in specific epidemiological situations, as it may detract public health resources and laboratory capacity from essential public health activities, such as timely testing of possible cases in the community and high-risk settings, contact tracing, and cluster investigations.

Countries should ensure that there is adequate staff capacity taking into account holidays, surge capacity, adequate supplies of laboratory reagents, consumables and personal protective equipment, to prevent shortages and long result turn-around times that will limit the effective implementation of infection prevention and control measures.

People in quarantine

People that experience any **COVID-19 compatible symptoms** should **self-isolate for 10 days** from the onset of symptoms, if they cannot have laboratory confirmation or until they have a negative test result.

People that have been in **close contact** with **confirmed cases** within 10 days of their symptom onset should **quarantine for 14 days** or can discontinue quarantine on day 10 with a negative RT-PCR test.

ECDC has published guidelines for discharge and ending of isolation of people with COVID-19.

ECDC has published guidelines for contact tracing: public health management of persons, including healthcare workers who have had contact with COVID-19 cases in the European Union.

Rapid antigen tests

The use of clinically validated rapid antigen tests with adequate sensitivity and specificity ($\geq 80\%$ and $\geq 97\%$) can contribute to the strengthening of COVID-19 testing capacity, also offering advantages due to the shorter turnaround times (usually < 30 minutes) and reduced costs, enabling rapid isolation and contact tracing of highly infectious cases.

It is important to note that rapid antigen tests perform best in cases with high viral load in pre-symptomatic and early symptomatic cases, up to five days from symptom onset. Trained healthcare or laboratory staff or trained operators are needed to carry out sampling, test analysis, interpretation and reporting of test results to clinical staff and public health authorities at local, regional, national and international level.

ECDC has published guidelines for the use of rapid antigen tests in the EU/EEA and UK.

Source: <https://www.ecdc.europa.eu/sites/default/files/documents/Risk-assessment-COVID-19-transmission-related-the-end-of-year-festive-season.pdf>

References:

- European Centre for Disease Prevention and Control www.ecdc.europa.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/>

Disclaimer:

This update provided by the NATO Centre of Excellence (NATO MILMED COE) on its website is for general information purposes only and cannot be considered as official recommendation. All national and international laws, regulations, and guidelines as well as military orders supersede this information. All information is provided in good faith, however, the NATO MILMed COE makes no representation or warranty of any kind, express or implied, regarding the accuracy, adequacy, validity, reliability, availability or completeness of any information.

The information published on this website is not intended to substitute professional medical advice, diagnosis or treatment.

The NATO MILMED COE disclaim any liability in connection with the use of this information.