

Update 51 (22th of December 2020)

Information about Infection disease COVID-19 (novel coronavirus)



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

22th of December 2020

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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

- GBR/WHO: The World Health Organization (WHO) has called on its European member states to tighten their corona measures in view of a new variant of the coronavirus in Great Britain.
- **EU:** Find information about the Coronavirus vaccination on the: European vaccination information portal.
- EMA: After the approval of the Biontech/Pfizer Coronavirus vaccine key facts of the vaccine can be found under the following link: <u>COVID-19</u> vaccines: key facts.
- **EU:** After the EMA approval on Monday, the first vaccine against the coronavirus has also been approved by the European Union. The EU Commission granted the preparation of the Biontech/Pfizer vaccine the conditional marketing approval on Monday. This means that vaccinations against the coronavirus can now start in the EU.
- WHO: To support countries' preparedness effort on the COVID-19 outbreak, WHO has developed multiple <u>COVID-19 tabletop exercise</u> (TTX) packages.
- WHO: WHO Director and International Federation of the Red Cross/Red Crescent Secretary signed a memorandum of understanding to cooperate on implementing the Emergency Medical Team Initiative.
- **The Lancet:** There is now a new published call from scientists for the further action in the pandemic: <u>Calling for pan-European commitment for</u> rapid and sustained reduction in SARS-CoV-2 infections.



GLOBALLY >

77 366 547 confirmed cases 50 704 600 recovered 1 702 960 deaths

EU/EEA and the UK \(\sigma\)

23 604 834 confirmed cases 11 788 500 recovered 515 585 deaths

USA \(\square \) (new cases/day 187 028)

17 956 960 confirmed cases 317 834 deaths

India ∖ (new cases/day 24 337)

10 075 116 confirmed cases 9 636 487 recovered 146 111 deaths

Brazil >

(new cases/day 50 464)

7 263 619 confirmed cases 6 469 310 recovered 50 723 deaths

Russia ≯ (new cases/day 28 917)

2 850 042 confirmed cases 2 273 510 recovered 50 723 deaths

France ≯ (new cases/day 5 797)

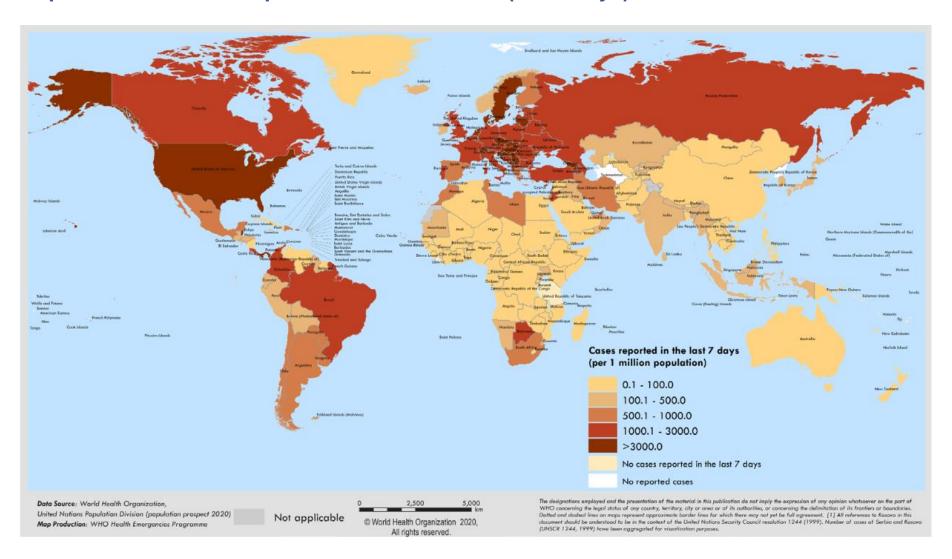
2 479 151 confirmed cases 184 464 recovered 60 900 deaths

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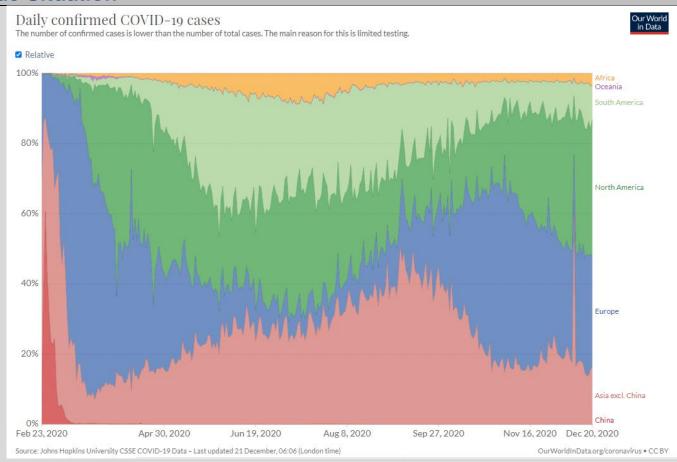
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Map of countries with reported COVID-19 cases (last 7 days)



Worldwide Situation

Global Situation



WHO weekly operational update on COVID-19 as of 21th 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.

CUREVAC:

The Tübingen biotech company Curevac would like to investigate the effect of its corona vaccine on hospital employees. The frequency of antibodies and Covid-19 diseases should be researched with a study on 2,500 employees at the Mainz University Hospital. The study should show what difference the vaccine candidate CVnCoV can make for this special group of people who are exposed to a high potential risk of infection. With the study, which will start on Tuesday, the company hopes to gain additional knowledge about the protection by vaccinations for this particularly vulnerable population group. The company announced the start of its approval-relevant phase III clinical trial a week ago. Curevac expects the first results of the study with probably more than 35,000 participants by the end of the first quarter of 2021. The final phase is to examine the safety and effectiveness of CVnCoV in adults at locations in Europe and Latin America. As with the Mainz vaccine developer BioNTech, the Curevac vaccine is based on the messenger molecule mRNA, which stimulates the formation of a virus protein in the body. This triggers an immune response that is supposed to protect people from the virus.

GBR Coronavirus Mutation:

The World Health Organization (WHO) and the UK are in close contact over the spread of a new mutation in the coronavirus. The member states and the public will be informed about new findings. Because of the rapid spread of the new virus variant, a new lockdown with extensive curfews is in

effect in London and other areas in south-east England since Sunday, including the Christmas days. It cannot be ruled out that the stricter measures would have to remain in force for months before an extensive vaccination campaign could be carried out.

The mutation is not only of great concern to the British. To prevent the virus mutation from spreading across borders, Belgium, Germany, the Netherlands, Luxembourg, Poland, Canada, Argentina, Colombia and Chile are cutting their flight connections there. Belgium also announced an interruption of train services with the island. Because France has closed the borders with the United Kingdom, the important British port of Dover on the English Channel and the Eurotunnel were closed. Freight traffic and passengers were asked not to arrive, the port announced on Twitter on Sunday evening. In Germany all flights from the United Kingdom were stopped from Sunday at midnight. Corresponding regulations would also be drawn up for other travel routes including South Africa. The EU members consider a joint approach.

Several countries in the Arab world have restricted international air travel. **Saudi Arabia** will suspend all international passenger flights for a week. The state Saudi news agency SPA reported on Sunday evening that entry by land and sea will also be temporarily stopped. The measure is intended to protect the health of citizens. It can be extended if necessary. In addition, the government ordered a two-week quarantine for everyone who entered from Europe or another affected country. **Tunisia** has stopped all flight connections with **Great Britain, South Africa and Australia** until further notice. Foreigners who have stayed in one of the three countries are not allowed to enter, according to the Tunisian Ministry of Transport's announcement on Monday. **Kuwait** will suspend all commercial flights from the International Airport in Kuwait City until January 1, the aviation authority announced. From Tuesday, **Oman** will close all air, land and sea connections with foreign countries for a week, reported the state news agency of the Gulf state.

The new variant of the Sars-CoV-2 coronavirus has also been found in **Australia**, **Iceland**, **Italy**, **the Netherlands and Denmark** in addition to the UK. Apart from Denmark, there were individual cases, reported the coronavirus expert from the World Health Organization (WHO).

Find more about this topic as Subject in Focus

BioNTech: Biontech director Ugur Sahin is confident that his company's vaccine will also work with the new virus variant found in Great Britain. This will be checked in the coming days.

BioNTech wants to deliver 12.5 million vaccine doses in the EU by the end of the year.

Pfizer and **Moderna** are testing their coronavirus vaccines to see if they will work against the new mutated version of the virus. "Based on the data so far, we expect that the immunity induced by **Moderna** vaccines will protect against the variants recently described in the UK. We will be doing additional testing in the coming weeks to confirm this expectation," **Moderna** said.

Pfizer said it is now "generating data" on how well blood samples from people immunized with the vaccine "may be able to neutralize the new strain from the UK".

DEU: After the conditional approval of their corona vaccine in the European Union, the Mainz company BioNTech and the US pharmaceutical giant Pfizer want to arrange for the first deliveries of the preparation to the EU member states immediately. Deliveries will start immediately and will take place gradually over the course of 2020 and 2021 to ensure fair distribution of vaccines in accordance with the terms of the EU contract. The vaccine doses for Europe are said to be manufactured in the BioNTech production facilities in Germany and in the Pfizer plant in Puurs, Belgium.

USA: In the United States, the first people were given the corona vaccine from the US company **Moderna** on Monday. The United States are the first country in the world where this vaccine is used on a regular basis outside of clinical trials. In Europe, the European Medicines Agency (EMA) meeting on a possible approval is scheduled for January 6th.

VAT: The Vatican has confirmed that the use of corona vaccines is morally acceptable. The Vatican stated that "it is morally acceptable to receive Covid-19 vaccines that have used cell lines from aborted foetuses in their research and production process" it was added that "[this] does not constitute formal cooperation with the abortion from which the cells used in production of the vaccines derive". The Vatican requested that vaccination should remain a voluntary option but urged everyone who refuses to get vaccinated to "do their utmost to avoid [spreading the infection]". Vatican also pleaded for a fair distribution of the vaccine that also accounts for poor countries and disadvantaged groups. The full statement can be found here.

Vaccine development:

In the fight against the coronavirus, a combination of the Russian vaccine "Sputnik V" and the vaccine from the British pharmaceutical company Astra Zeneca is said to provide highly effective protection against the pathogen. Both sides announced this on Monday when they signed a memorandum for cooperation in the development of vaccines. According to Astra Zeneca, a combination of different vaccines may lead to better protection against the virus. The head of the Gamaleja Research Center for Epidemiology and Microbiology, Alexander Ginzburg, said in Moscow that the two vaccines went together. The clinical trials could begin immediately.

Country reports:

THA: After a corona outbreak, a fish and seafood market in Thailand was completely sealed off. Thousands of people have been tested to prevent the virus from spreading further. At least 700 market-related infections had been reported as of Sunday. There is great concern that the virus could spread even further there. Most of those infected are workers from neighboring Myanmar who live there in overcrowded accommodations near the market. The outbreak was attributed to a 67-year-old shrimp seller in the market.

AUS: After a corona outbreak in the Australian metropolis of Sydney, more and more cases are reported. Authorities today reported 30 new infections, bringing the number of cases attributable to the Avalon cluster to 70. There is no evidence that the virus has spread outside of Avalon to any major extent. However, the list of new infections also showed cases in other parts of Greater Sydney and the rest of New South Wales. The government has imposed a lockdown until at least Wednesday. The country has actually largely contained the virus through strict entry regulations and quarantine regulations, including between the individual states of Australia. How it has now reappeared in Avalon is unclear.

USA: After more than a quarter of a million vaccinations with the vaccine from Biontech/Pfizer, the USA has so far registered six severe allergic reactions. The CDC health authority said that by Saturday morning the vaccine against the coronavirus had been administered more than 272,000 times. The number of six cases in which vaccinated people had severe allergic reactions was the status of Friday evening. The CDC said that one of the people affected had already had reactions after vaccinations in the past. In the United States, vaccinated people are encouraged to stay in the facility where they were given the inoculation for a while to see if signs of allergy appear. According to the CDC, the six cases all occurred within the recommended observation period and were treated immediately. Less severe side effects from the vaccine were also rare. Of the first 215,000 people vaccinated in the United States, less than 1.5 percent had problems that prevented them from doing normal activities or required medical attention. Many vaccines can cause temporary discomfort, such as arm pain or certain flu-like symptoms.

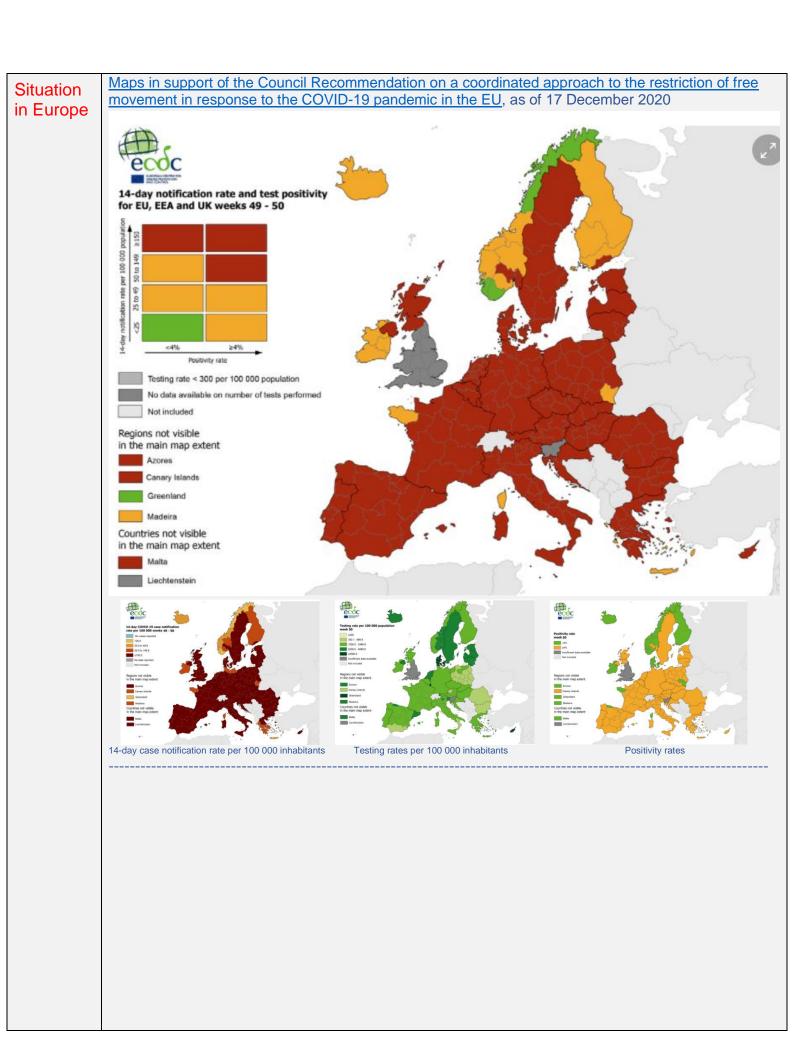
In order to take away the children's fear that Christmas could be canceled because of the corona pandemic, the US virologist Anthony Fauci said he personally took care of Santa's safety in the corona pandemic. "I traveled to the North Pole and personally vaccinated Santa Claus. He can travel without any problems," the corona expert said of children during a television program.

ISR: Israel starts vaccinating. Vaccinated people in Israel should receive advantages with a "green passport". For example, you can bypass a quarantine obligation and attend public events and restaurants. The ID card will probably be available two weeks after the second vaccination dose. The

number of new infections was recently the highest it has been in two months. Another partial lockdown is subject to ongoing discussion.

CHN: Hong Kong reported 109 new infections with the corona virus on Saturday. According to the authorities, 102 of them are due to local infections. Seven cases came from outside. It is already the fourth wave in the Chinese Special Administrative Region. Hong Kong had largely closed its borders since the first eruption in the spring. The consistent approach helped to bring the virus under control.

KOR: South Korea has tightened the corona measures in Seoul after a peak in deaths. From Wednesday, only four people are allowed to meet in the capital and the surrounding area. Intensive care beds are already scarce in and around Seoul. According to interim mayor Seo Jung Hyup, there recently were only four free beds. At least two capital city residents died while waiting to be hospitalized. The regional government in Seoul had already imposed stricter measures in early December, including a ban on gatherings of more than 50 people.



ECDC COVID-19 surveillance report Week 50, as of 17 December 2020

Weekly surveillance summary

Overall situation

By the end of week 50 (ending Sunday 13 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 continue to increase in nine countries and death rates in seven countries. Twelve 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 50 (13 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 375 (country range: 51–1 198) per 100 000 population. The rate has been stable for three 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 three countries (Cyprus, Denmark and Estonia). Four countries (Czechia, Lithuania, the Netherlands and Slovakia) had increases of less than seven days' duration. Stable or decreasing trends in case rates of 1–28 days' duration were observed in 23 countries (Austria, Belgium, Bulgaria, Croatia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Liechtenstein, Luxembourg, Malta, Norway, Poland, Portugal, Romania, Slovenia, Spain, Sweden and the UK).
- Based on data reported to TESSy from 25 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 22 countries (Austria, Belgium, Croatia, Cyprus, Czechia, Denmark, Estonia, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Spain and Sweden).
- Notification rates are highly dependent on several factors, one of which is the testing rate. Weekly testing rates for week 50, available for 29 countries, varied from 678 to 13 000 tests per 100 000 population Luxembourg had the highest testing rate for week 50, followed by Denmark, Cyprus, Malta and the UK.
- Among 24 countries in which weekly test positivity was high (at least 3%), six countries (Czechia, Estonia, Germany, Lithuania, the Netherlands and Sweden) had positivity that had increased compared to
 the previous week. Test positivity remained stable or had decreased in 18 countries (Austria, Belgium, Bulgaria, Croatia, Cyprus, France, Greece, Hungary, Italy, Latvia, Luxembourg, Malta, Poland, Portugal,
 Romania, Slovakia, Spain and the UK).

Hospitalisation and ICU

- Pooled data from 20 countries for week 50 show that there were 1.4 patients per 100 000 population in ICU due to COVID-19, which is 79% of the peak ICU occupancy observed during the pandemic. Pooled weekly ICU admissions based on data from 15 countries were 6.5 new admissions per 100 000, which is 48% 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 30 countries
 (Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway,
 Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the UK). No other increases have been observed, although data availability varies.

Mortality

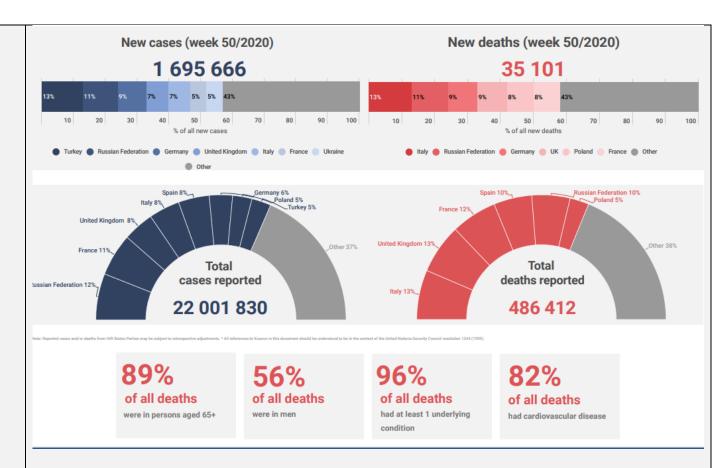
- The 14-day COVID-19 death rate for the EU/EEA and the UK, based on data collected by ECDC from official national sources from 31 countries, was 102.1 (country range: 5.6–268.1) per million population.

 The rate has been stable for 15 days.
- Among 30 countries with high 14-day COVID-19 death rates (at least 10 per million), sustained increases (for at least seven days) were observed in seven countries (Croatia, Cyprus, Denmark, Finland, Germany, Hungary and Latvia). Two countries (Lithuania and Norway) had increases of less than seven days' duration. Stable or decreasing trends in death rates of 1–21 days' duration were observed in 21 countries (Austria, Belgium, Bulgaria, Czechia, Estonia, France, Greece, Ireland, Italy, Liechtenstein, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, 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 (7 Dec- 13 Dec 2020 Epi week 50)



Country Reports:

DNK: The carcasses of four million mink that were culled because of a coronavirus mutation and buried on a military areal in Denmark afterwards are said to be dug up and burned. According to the government, this should prevent contamination of the groundwater and nearby lakes. The exhumation should begin six months after the burial, if a risk of infection can be excluded and treatment as hazardous waste is not necessary anymore.

SWE: Because of the spread of a new coronavirus mutation in Denmark, Sweden closed the border with the neighboring country on Monday. In addition, the spread of the coronavirus in Denmark has generally increased. Denmark has also closed shopping malls over the Christmas holidays. This could tempt Danes to travel to neighboring Sweden for Christmas shopping. This should be prevented with the border closure.

ITA: Shortly before the tougher Corona rules came into effect, many people took the last opportunity to do Christmas shopping. In big cities like Milan, Rome and Bologna the inner cities were full. In the northern metropolis of Milan, the entrances to some subway stations were blocked around 150 times for a few minutes until Saturday afternoon. Because of the corona pandemic, the trains should only carry half as many passengers as usual. Stricter corona restrictions are in effect since Monday. Travel between the regions is then no longer permitted. Exceptions apply, for example, to drive to work or for health reasons. Travelers from abroad must expect quarantine. From the period from Christmas onwards, the country with around 60 million inhabitants will remain in some kind of lockdown until January 6th. The rules will only be relaxed between December 28th and 30th and on January 4th.

CHE: Several Swiss cantons are now closing their ski areas because of the number of infections. Other measures taken by individual cantons also go well beyond the protective measures that the government in Bern had implemented nationwide on Friday. As of today, restaurants, cinemas, museums and sports clubs have to close, but shops and the ski areas can remain open despite criticism from abroad. The cantons of Zurich, St. Gallen, Lucerne, Schwyz, Nidwalden, Obwalden, Zug and Appenzell Innerrhoden have announced that they will be closing their ski areas from today. The corona situation does not allow operations to continue. In contrast, ski areas will initially remain open in the cantons of Bern and Valais. The Bern government called on the population to be careful. She

announced that she would close the ski resorts if the situation in the hospitals gets worse. Other cantons such as Uri and Graubünden still wanted to decide whether to open the ski areas over Christmas. The number of infections in Switzerland is - in relation to the number of inhabitants - among the highest in Europe, and the health system is reaching its limits in many places. Nevertheless, the federal government and cantons have so far been cautious.

DEU: In Bavaria, intensive care beds are becoming scarce due to the Corona crisis. Several districts did not report a single free intensive care bed, according to the Germany-wide DIVI register. However, according to the Bavarian Ministry of Health in Munich, the total number of free intensive care beds with invasive ventilation for particularly seriously ill corona patients in Bavaria is around 300. If there are no more beds in a district, this does not mean that no treatment is possible anymore. But new intensive care patients then sometimes have to be brought to other hospitals over long distances. According to the intensive care register, a good 13 percent of the approximately 3,400 intensive care beds were still free across Bavaria.

SVK: In Slovakia, a lockdown, originally planned for next week, has begun. At the same time, exit restrictions came into force from 5 a.m. Police officers checked streets and train stations. In addition to urgently needed errands, commuting to work was also allowed. Christmas shopping is not possible. Grocery stores, pharmacies, petrol stations and banks, but also service points for mobile phones, are allowed to keep open.

SVN: corona mass test has started in Slovenia. In the capital Ljubljana and in twelve other cities, all residents can have themselves tested for the corona virus free of charge until Thursday. After Christmas, a second mass test will start, which is aimed primarily at important professional groups such as teachers, police officers and soldiers.

Subject in Focus

Rapid increase of a new SARS-CoV-2 variant in the United Kingdom On 20th December 2020 ECDC has published a threat assessment brief titled "Rapid increase of a SARS-CoV-2 variant with multiple spike protein mutations observed in the United Kingdom". Below you can find a condensed version thereof. The full article can be found here. The Subject in focus also contains assessments of the new mutation from other sources and experts. For additional references, please have a look at the list of sources at the end of this chapter.

Background:

Over the last few weeks, the UK has faced a rapid increase in COVID-19 cases. This increase was pronounced in South East England, with an increase in the 14-day case notification rate from 100 cases per 100,000 population in week 41/2020 to over 400 per 100,000 in week 50/2020.

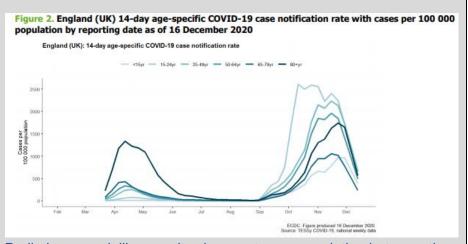
This increase led to an enhanced epidemiological and virological investigation. Analysis using viral genome sequence data identified a large proportion (>50%) of cases belonged to a new single phylogenetic cluster. This variant is referred to in the UK as SARS-CoV-2 VUI 202012/01 (Variant Under Investigation, year 2020, month 12, variant 01). Overall, around 5 to 10% of all COVID-19 cases are regularly sequenced in the UK, with a sequencing coverage in Kent, the part of South East England that was most affected, of around 4%.

The reported COVID-19 cases related to the VUI 202012/01 variant are concentrated in Kent and wider South East England, including the regions of London and the East of England, but there are indications of a more widespread occurrence of cases across the UK as well as small numbers of cases detected in other countries.

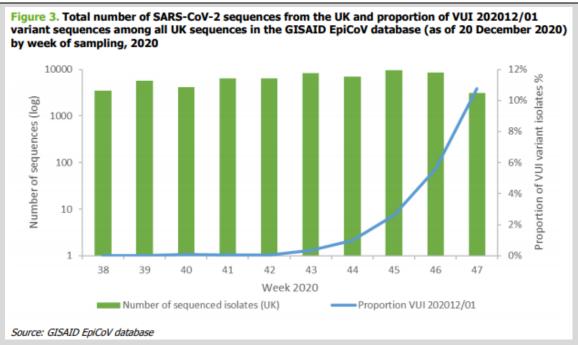
In response to the increase of this variant, the countries of the UK have announced stricter measures to be applied from 20 December and over the coming weeks, with affected areas going into a 'Tier 4' level with movement restrictions within and between more and less heavily affected areas. These measures include recommendations for residents of the most affected areas to restrict movements and travel, including international travel, outside of these areas. The government of Scotland announced a travel ban between Scotland and rest of UK from 26 December.

Epidemiology:

The investigations into the properties of this new variant are ongoing, and poorer clinical outcomes, higher mortality or particularly affected groups have not been reported to date. The cases with the VUI 202012/01 variant are predominantly identified in people younger than 60 years, but the increase of overall COVID-19 cases in England is similarly driven



by this age group (Figure 2). Preliminary modelling results show a strong association between the presence of the new variant in the Kent/South East England region and increasing incidence of COVID-19. Among the 20 VUI 202012/01 cases identified in Wales, cases have a median age of 41 years (range 11-71 years), and are mainly located in South Wales, where incidences are also rising.



Genomic properties of the new SARS-CoV-2 variant:

This new SARS-CoV-2 virus variant is referred to in the UK as SARS-CoV-2 VUI 202012/01. It is defined by multiple spike protein mutations (deletion 69-70, deletion 144, N501Y, A570D, D614G, P681H, T716I, S982A, D1118H) present as well as mutations in other genomic regions.

The cluster differs by 29 nucleotide substitutions from the original Wuhan strain, which is higher than current molecular clock estimates of around two substitutions per genome per month. The fraction of non-synonymous mutations in the spike protein for the variant is much higher than expected from random mutations (27% of the 22 substitutions acquired since the Nextstrain clade 20B common ancestor are located in the S-gene, which comprises 13% of the viral genome, and all of these substitutions are nonsynonymous). Three sequences from Denmark and one from Australia, from samples collected in November 2020, cluster with the UK variant, most likely indicating that international spread has occurred, although the extent remains unknown.

The UK has an established SARS-CoV-2 genome sequencing consortium called COG-UK. It consists of the national public health institutes, National Health Service organisations, academic institutions and the Wellcome Sanger Institute. They are working to keep sequencing coverage high and geographically representative and to keep turnaround times low. The consortium is by far the largest contributor to the GISAID EpiCov database in the world, with more than 120 000 of around 270 000 genomes published so far. This initiative increases the likelihood that emerging variants are identified and can be assessed in a timely fashion.

Possible sources of SARS-CoV-2 virus variants with a high number of mutations in the spike protein:

The unusually high number of spike protein mutations, other genomic properties of the variant, and the high sequencing coverage in the UK suggest that the variant has not emerged through gradual accumulation of mutations in the UK. It is also unlikely that the variant could have arisen through selection pressure from ongoing vaccination programmes as the observed increase does not match the timing of such activities. There are three more or less likely scenarios:

- 1. SARS-CoV-2 infection in a single patient, potentially with reduced immunocompetence. Such prolonged infection can lead to accumulation of immune escape mutations at an elevated rate.
- 2. Adaptation processes in a virus that occur in a different susceptible animal species and is then transmitted back to humans from the animal hosts (Denmark during transmission among mink, or in Netherlands different spike protein mutations associated with mink have also been described)
- 3. The variant has emerged through circulation in countries with no or very low sequencing coverage. This hypothesis is less plausible, as random mutations acquired during circulation of the virus would not explain the unusually high proportion of spike protein

mutations, and undetected circulation for a long enough time for the high number of mutations to accumulate (around 10 months according to current molecular clock estimates) is also not very likely due to global travel patterns.

What We Know So Far

How contagious is the new coronavirus variant?

According to initial findings by British scientists, the mutation is up to 70 percent more contagious than the previously known form. However, there is no evidence that the variant causes more severe disease processes or is more fatal.

Do the vaccinations work against the mutation?

The British authorities and many scientists so far assume that the COVID-19 vaccines are also effective against the mutation. However, this point has not been clearly clarified. Initial analyzes by British scientists show that the new variant has an unusually large number of genetic changes in the spike protein.

The problem: The BioNTech vaccine used in Great Britain generates an immune response against precisely this protein. Therefore, the researchers fear that the effectiveness of the vaccine will be affected. Different scientists from all over the world emphasized that mutations are not uncommon, but at the moment it is not yet known whether the changes decisively change the properties of the pathogen.

Where is the new virus variant rampant?

The World Health Organization (WHO) announced that apart from the cases in England, the virus variant had also been found in these countries:

- 9x in Denmark
- 1x in the Netherlands
- 1x in Australia

The Ministry of Health in Rome announced on Sunday evening that the mutation had been detected in a patient in Italy. The infected person and another individual had returned from Great Britain in the past few days and landed in Rome by plane. The patient is now in quarantine.

The South African variant emerged independently. But it has a similar combination of mutations. Therefore, the two variants cannot be compared directly. How solid the information from South Africa is cannot be precisely assessed at the moment.

Experts' assessment of the situation

Viruses mutate and SARS-CoV-2 is no exception. According to experts, there is hardly any evidence that the new variant, which is now circulating in England, is highly infectious or could reduce vaccination protection. It has also been isolated in several other countries.

According to preliminary British analyses, the new variant has an unusually high number of genetic changes, particularly in the spike protein. As is well known, the virus needs this protein in order to attach to the cells of the infected person and penetrate them.

In corona vaccines, including the mRNA vaccines that are now available, the protein serves as an antigen. It is therefore theoretically possible that an altered spike protein could make the immune system blind to the pathogen after vaccination (i.e. might be treated as an unknown/new virus despite immunity to the initial SARS-CoV-2 pathogen).

However: The vaccines available induce an immune reaction against the entire spike protein. Individual mutations were not enough to escape the complex immune system. Until today little is known about the actual effects of the genetic changes.

The publicly known documents are still incomplete, which is also emphasized by the British scientists. A more precise statement is not possible before the end of this week. Then the preliminary data analysis should be completed in order to be able to confirm/reject the expressed concern.

According to leading virologists, the question remains whether the new virus variant is to blame for the increased number of infections or whether local transmission mechanisms that also occur in every other virus have come into play.

What is clear to date: This variant has the genetic characteristics of independence. It stands out from the relatively homogeneous SARS-CoV-2 virus genomes observed so far. It therefore clearly has its own genetic signature. It seems that - at least in the UK - it has reproduced faster, i.e. has a higher R-value. Whether it does this in general remains to be confirmed. There are indications of a

slightly different replication behavior, but further analyzes have to follow in order to make a scientifically sound statement.

Mutation as usual

It is not unusual for such a mutation to be discovered. In China, for example, the country of origin of the pandemic, a new variant of the pathogen was already circulating six months ago. In the summer, another variant quickly spread across half of Europe from Spain. Viruses are constantly mutating, and these mutations usually have no or only minimal effects.

How does the body react to mutations?

Normally, the human body is able to protect itself against viruses. It produces antibodies that defend it against virus attacks and make it immune to the pathogen. However, if the pathogen has already mutated and the antibodies formed are programmed for an older version of the pathogen, then these antibodies are significantly less effective. For the same reason, we keep getting colds on a regular basis. Our body has already formed appropriate antibodies from the previous cold, but we do not yet have antibodies for the pathogen that has mutated again. However, there is no reason to panic, because a virus does not necessarily become more dangerous through a mutation. Some mutations can also significantly weaken a virus.

How do mutations occur?

When the human body develops antibodies against a virus and thus prevents an outbreak of disease, the virus has to change its envelope in order not to be recognized by the antibodies and immune cells. In order to survive, it changes its external proteins and develops new strains. Viruses use a host cell to multiply. When viruses attack such a host cell, they smuggle the genetic information from their nucleus into the infected cell. This is how the body's cells reproduce millions of copies of the virus. However, with each of these reproductions, small copying errors occur and each of these errors also changes the genetic code of the virus, it mutates.

Why can the new variant spread faster?

Like all coronaviruses, the SARS-CoV-2 virus responsible for the COVID-19 disease is an RNA virus with a mutation rate of almost one mutation per month. These different variants also explain why a pathogen causes waves of infections of different severity in certain regions of the world and why infections can also take very different courses in different people.

The new variant registered in Great Britain has several mutations in the spike protein of the coronavirus - due to a so-called gene deletion, it is missing two amino acids, which may make it easier for the virus to spread. A similar deletion had already been observed in East Asia in the summer. There, however, the mutated SARS-CoV-2 variant caused milder infections because it apparently weakened the coronavirus.

Are the new vaccinations ineffective now?

Great Britain was the first Western European country to have just started a large-scale vaccination campaign. The newly registered mutation does not make the new vaccines ineffective. These vaccines are all designed to encode the information for the coronavirus spike protein in such a way that, despite mutation, it stimulates our immune system accordingly. Fortunately, it takes more than a few mutations for a virus to alter its proteins in such a way that they can bypass immune protection. Currently there is no conclusive evidence for or against the effectiveness of the vaccines currently in use regarding immunity against the new variant.

Nevertheless, we know from influenza that, for example, the flu viruses mutate very quickly and that the vaccines have to be readjusted every flu season in order to remain effective. As a result, the corona vaccines will probably have to be further adapted. But the information gathered during the crisis and the newly built production capacities will ensure a quick supply of cheap vaccines in the future.

Options for response and considerations to support public health action:

The four nations of the UK have announced stricter measures to be applied from 20 December and over the coming weeks. These measures include recommendations for residents of the most affected areas to restrict movements and travel, including international travel, outside of these areas. The government of Scotland has announced a travel ban between Scotland and rest of UK from 26 December. In addition, some other countries issued an immediate travel ban for flights carrying passengers from the UK.

ECDC has previously recommended reducing non-essential travel and social activities. SARS-CoV-2 genetic evolution has the potential to impact on the antigenic properties, transmissibility or severity of the virus. It is therefore important to monitor the evolution through sequencing of virus isolates and to assess whether there is a need for EU/EEA Member States to adjust their response to COVID-19.

The following suggestions should be considered for public health response.

National public health authorities should:

- Immediately identify people with an epidemiological link to cases with the new variant or travel history to areas known to be affected in order to test, isolate and follow up their contacts so as to stop the spread of the new variant. Virus isolates from such cases should be sequenced in a timely manner to identify cases of the new variant.
- Continue to advise the population on the need for non-pharmaceutical interventions according to their national policies and consider in particular guidance on the avoidance of travel and avoidance of nonessential social activities. THREAT ASSESSMENT BRIEF Rapid increase of a SARS-CoV-2 variant with multiple spike protein mutations observed in the UK 8
- Continue to monitor for abrupt changes in rates of transmission or disease severity as part
 of the process of identifying and assessing the impact of variants.
- Notify cases of the new variant as well as new SARS-CoV-2 variants of potential concern through the Early Warning and Response System of the European Union.
- Follow up reports of suspected cases of COVID-19 reinfection and initiate sequence analysis of virus isolates from these cases.
- Follow up reports of cases with treatment failures using convalescent plasma or monoclonal antibodies as recently described and initiate sequence analysis of virus isolates from these cases.
- Ensure that close monitoring of COVID-19-vaccinated individuals regarding vaccination failure and breakthrough infections is in place and initiate sequence analysis of virus isolates from these cases, and then conduct antigenic characterisation to confirm or exclude vaccine escape mutants.
- Develop standardised mechanisms, in partnership with global stakeholders, including triggers to investigate and assess newly emerging variants of SARS-CoV-2 in terms of animal reservoir, antigenic characteristics, transmissibility, infection severity, crossprotection and also with regard to adapting vaccine strain recommendations. If needed, establish systems for reassessing vaccine composition and strategy.

National public health laboratories should:

- Sequence virus isolates from cases with an epidemiological link to countries where the variant is present, currently the UK, Denmark, and the Netherlands according to official reports, and possibly also Belgium.
- Increase the number of sequenced SARS-CoV-2 virus isolates to identify new variants similar to the UK variants in EU/EEA Member States. Laboratories can refer to the upcoming technical note Sequencing of SARS-CoV-2 which is in preparation by ECDC and the WHO Regional Office for Europe for guidance about technologies and sample selection. ECDC can offer sequencing services to countries with limited national capacity in this area.
- Increase representativeness of isolates selected for sequencing based on population and geographic location of infections to identify emerging variants and assess spread.
- Assess the implications of the drop out of the S-gene target RT-PCR in use for diagnostic purposes and adapt the gene target regions for SARS-CoV-2 PCR diagnostics. If sequencing capacity is limited, multi-target RT-PCR assays that include a S-gene target that is affected by the deletions present in the variant can be used for identifying isolates that show a S-gene drop out as signal for further investigation. Note that the deletion at positions 69-70 of the spike protein is not exclusive to this variant. Confirmation using sequencing is recommended.

 Increase capacities to perform in-depth virus characterisation analyses genetically and antigenically or share isolates with SARS-CoV-2 reference laboratories for further genetic and antigenic investigations.

Source:

https://www.ecdc.europa.eu/sites/default/files/documents/SARS-CoV-2-variant-multiple-spike-protein-mutations-United-Kingdom.pdf

https://www.cogconsortium.uk/news_item/how-do-we-collect-and-sequence-sars-cov-2-samples/

https://www.zdf.de/nachrichten/panorama/corona-virus-mutation-grossbritannien-wissen-100.html https://www.tagesschau.de/inland/interview-corona-mutation-101.html

https://www.gov.uk/government/news/covid-19-sars-cov-2-information-about-the-new-virus-variant

Conflict and Health

COVID-19 Crisis in South Sudan



In cooperation with Bundeswehr HQ of Military Medicine

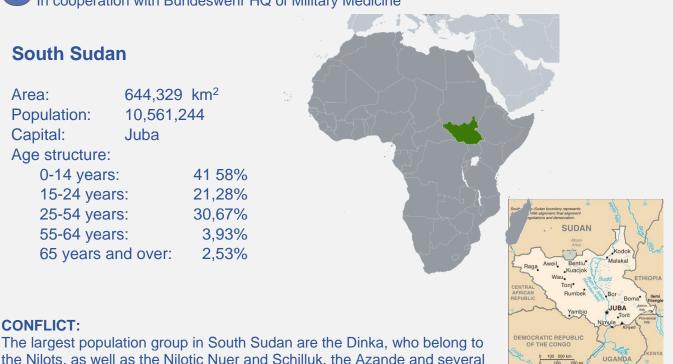
South Sudan

Area: 644.329 km² Population: 10,561,244

Capital: Juba

Age structure:

0-14 years: 41 58% 15-24 years: 21,28% 25-54 years: 30,67% 55-64 years: 3,93% 65 years and over: 2,53%



CONFLICT:

the Nilots, as well as the Nilotic Nuer and Schilluk, the Azande and several other groups. During the Turkish-Egyptian rule from 1821, the region came under the influence of what is now known as northern Sudan and eventually became part of the Anglo-Egyptian Sudan. The colonial government stopped the slave trade, but invested little in education and infrastructure in the south. From 1930-1946 it actively tried to suppress Arab-Islamic influences from the north as part of the Southern Policy. In 1947 it was decided at the Juba conference that the southern part of Sudan should remain under northern Sudanese leadership. Representatives from the South were not involved in this decision. Many South Sudanese felt marginalized and oppressed in the whole of Sudan, which became independent from Great Britain and Egypt in 1956. 1955–1972 and again from 1983, therefore, rebels fought for the independence of South Sudan. In the period between the two wars (1972–1983), South Sudan already existed as an autonomous region as a result of the 1972 peace agreement, but the central government increasingly intervened in the autonomy. From 1983 the Sudanese People's Liberation Army (SPLA) took over the leadership on the side of the separatists. In 2005 it reached a peace agreement with the government in Khartoum. Even after the peace agreement, there were various clashes between troops from the north and the south, but these did not develop into a war. Local battles within South Sudan continue to happen but they are simply considered as "tribal conflicts". Behind this are conflicts over land and livestock, but also the difficulties of the SPLA in building a functioning administration: Local administrators are mostly former commanders of the SPLA with little administrative experience. Administrative units are often defined "ethnically" and their boundaries are not precisely determined. State institutions are only able to resolve conflicts to a limited extent. The distribution of state resources is often opaque, which is why certain groups feel disadvantaged. In particular, the Dinka that represent the largest ethnic group within South Sudan, are accused of excessive dominance. South Sudan gained independence from Sudan on July 9, 2011; previously the area was an autonomous region within Sudan from 1972 to 1983 and again from 2005 to 2011. On December 23, 2013, hostilities broke out within the SPLA between supporters of the Dinka President Salva Kiir Mayardit and the Nuer Vice-President Riek Machar, who was dismissed by Mayardit on July 23, 2013. What media reports as Tribal conflict turns out to be a struggle over political power and resources from a cultural and social

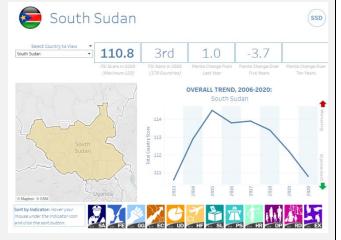
anthropological perspective when taking a closer look. The fighting, during which more than 63,000 people sought protection in UN camps, spread to other parts of the country. After various peace

negotiations, some of which were brokered by the AU, the conflicting parties in Khartoum finally agreed on a ceasefire on June 27, 2018.

On September 12, 2018, they signed a peace treaty in Addis Ababa. Due to the civil war that lasted until 2018, South Sudan is considered to be a failed state. With a nominal gross domestic product per capita of 228 US dollars, South Sudan came last in the world in 2017. According to the South Sudanese authorities for 2010, 73% of people over the age of 15 were illiterate. 20–34% of the population are

malnourished. At over 1%, the blindness rate is one of the highest in the world, as both trachoma and river blindness occur and the war largely prevented the fight against these diseases. There are 1.5 million internally displaced persons in South Sudan, and over 730,000 people have fled from South Sudan to neighboring countries (as of mid-2015). Several 100,000 people perished in the civil war. In addition, over 250,000 refugees from the Central African Republic, the Democratic Republic of the Congo, Ethiopia and Sudan fled to South Sudan.

Since February 2017 there has been a famine in the country recognized as such by the UN, according to which more than 100,000 people are threatened with starvation and around 4.9 million people, i.e. more



than 40 percent of the population, are dependent on external supply of food. The fragile security situation in the country in particular was named as the cause of the crisis, as the widespread and persistent violence prevents continuous agriculture.

HEALTH:

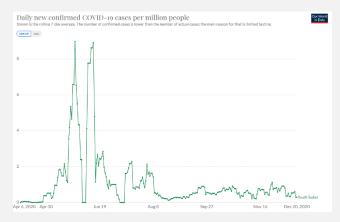
SSN is below or significantly below the international average for all aspects of the GHSI. There is hardly any laboratory capacity, no epidemiological staff whatsoever, for outbreak management there is only negligible access to the communication structure and almost no risk communication skills. Health care in South Sudan varies by area but is catastrophic everywhere. There are 120 registered doctors, around 100 nurses and around 150 registered midwives across the country. In remote areas there is practically no access to conventional medical care. The majority of medical services are provided by international aid organizations, including the World Health Organization (WHO) and Doctors Without Borders. Before the outbreak of the last civil war, there were only 1.5 doctors and nurses for every 100,000 South Sudanese. The minimum standard according to the World Health Organization should be at least 250. Furthermore, less than 50% of the South Sudanese have access to medical care. It can be assumed that the renewed civil war has further worsened these numbers. It will take years to train doctors, nurses and midwives. One approach to improve medical care by then and also in remote areas is to train local health workers from the communities, also known as "Community Health Workers". This approach is increasingly being pursued by both the government and aid agencies such as the International Committee of the Red Cross (ICRC). The ICRC also runs the only rehabilitation center in the country for people with disabilities - especially Amputations as a result of war or war material. The Ministry of Health, together with the World Health Organization (WHO), has set up a "Health Cluster" to coordinate all stakeholders in the health sector. For women, the greatest health and life risk is pregnancy and

childbirth. South Sudan was the country with the highest maternal mortality, the circumstances have improved somewhat so that South Sudan is currently ranked 5th among the countries with the highest maternal mortality. In the past few years, three centers for training midwives have opened to improve care in both cities and rural areas. However, only every fifth birth takes place in the presence of medical staff.



COVID-19 current Situation:

From March 25, 2020, after the coronavirus hit Mali, to April 5, 2020, South Sudan was the largest country by area with no confirmed cases of COVID-19. South Sudan was the 51st African country (out of 54) where COVID-19 was detected. This first case was a 29year-old woman and a United Nations agent who came into the country from the Netherlands via Ethiopia. The patient was quarantined in a UN facility. In addition, efforts were made to find all contact persons of the woman. This appeared for the first time in the WHO situation report on April 6, 2020. This case was the only case in South Sudan until April 6, 2020. On March 14, 2020, South Sudan



suspended flights to countries affected by the coronavirus. On March 20, 2020, all schools and universities were closed and sporting, political and religious events were canceled. On March 25, there was a night curfew from 8 p.m. to 6 a.m. The only thing left to the country is the declaration of travel restrictions. With a population of 11 million people, there are only four ventilators in a single intensive care unit to accommodate potential escalation in COVID-19 progression. To date, South Sudan has recorded 3,222 (2,692, 09/29/20) positive cases and 66 (46, 09/29/20) deaths. These low numbers and the slight increase since the last post on 09/28/20 are probably the result of the very few tests carried out. South Sudan only tests around 100 people per 100,000 on average and thus has one of the lowest test rates in the world and thus probably a high number of unreported cases. The head of the UN mission

UNMISS appealed to the Security Council on December 16, 2020 to increase support for South Sudan, as the economic crisis caused by COVID-19 is brewing a "perfect storm" with all other driving factors.

CONCLUSION: The prerequisites for outbreak management in the field of transmission avoidance are rather limited to general political measures. The spread of COVID-19 to a comparatively young population, albeit with a dramatically poor nutritional and health status and a virtually non-existent health system, is not adequately countered. The overall situation in South Sudan is likely to deteriorate significantly.

Source:

https://www.ghsindex.org/wp-

content/uploads/2019/08/South-Sudan.pdf

https://reliefweb.int/report/south-sudan/south-sudan-

refugee-population-statistics-30-november-2020

https://news.un.org/en/story/2020/12/1080102

https://de.wikipedia.org/wiki/COVID-19-

Pandemie im S%C3%BCdsudan

https://de.wikipedia.org/wiki/Südsudan

https://fragilestatesindex.org/country-data/

https://www.liportal.de/suedsudan/gesellschaft/#c35462

https://sites.google.com/site/healthclustersouthsudan/home

https://reliefweb.int/report/south-sudan/under-secretary-general-humanitarian-affairs-and-emergency-relief-coordinator-17 https://ourworldindata.org/coronavirus



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 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

Briefings by SWE, BEL, and NATO MILMED COE.

bliefings by SWE, BEE, and NATO MILMED COL.

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 take place after Christmas, in January 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 <u>IATA</u> and <u>International SOS</u>. 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.

<u>General recommendations for personal hygiene</u>, 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 quidelines 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 <u>guidelines and recommendations</u> 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 <u>Council Recommendation on a coordinated</u> approach to the restriction of free movement in response to the COVID-19 pandemic.

1. Common criteria

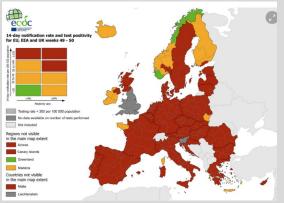
- **the notification rate** (the total number of newly notified COVID-19 cases per 100 000 population in *the last 14* days at regional level)
- <u>the test positivity rate</u> (the percentage of positive tests among all tests for COVID-19 infection carried out during the last week)
- <u>the testing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

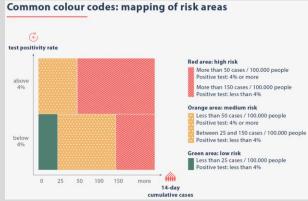
2. A common map

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 <u>"Situation in Europe".</u>

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

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

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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 <u>Re-open EU</u>, 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 <u>here</u>.
- 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.

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 4th of December 2020

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?

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.

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. **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 offorCOVID-19 infection/transmission in shared transport and at gatherings at destination.

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 <u>very high</u> 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_

<u>International travel restrictions</u>, 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 <u>implementation of systematic testing or quarantine of travellers</u> 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 <u>adequate staff capacity</u> 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 <u>quidelines for contact tracing:</u> 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 (≥80% and ≥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 presymptomatic 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:

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