



Update 25 (23rd of June 2020)

Information about Infection disease COVID-19 (novel coronavirus)



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

23rd of June 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

- **WHO:** On Friday the hydroxychloroquine arm of the Solidarity Trial, which seeks to find an effective COVID-19 treatment, is being stopped. The decision is based on evidence from the Solidarity Trial, the UK's Recovery trial and a Cochrane review of other evidence on hydroxychloroquine. [Data shows that hydroxychloroquine does not result in the reduction of mortality of hospitalised COVID-19 patients](#), when compared with standard of care.
- **WHO:** has published '[Criteria for releasing COVID-19 patients from isolation](#)' which provides an update to previous guidance. The updated criteria reflect recent findings that patients whose symptoms have resolved may still test positive for the COVID-19 virus for many weeks. Despite this positive test result, these patients are not likely to be infectious and therefore are unlikely to be able to transmit the virus to another person.
- **WHO:** With influenza season starting in the southern hemisphere, WHO has alerted countries to maintain vigilance for influenza and prepare for the upcoming influenza season during the COVID-19 pandemic.
- **Influenza vaccination should be encouraged to prevent the health systems of patient overwhelming.**
- **ECDC:** published a [guidance on Heating, ventilation and air-conditioning systems in the context of COVID-19](#). The document aims to provide guidance for public health authorities on the ventilation of indoor spaces in the context of COVID-19.
- **FHP Branch** started to organize a weekly VTC on "COVID-19 response" next VTC will take place on Wednesday, 17th of June focusing on **"COVID 19 Second Wave prediction and preparedness base on facts/experiences, modelling and simulation"**.

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](#)

GLOBALLY

9 067 951

confirmed cases

4 530 208 recovered

472 239 deaths

EU/EEA and the UK

2 470 564

confirmed cases

1 373 049 recovered

192 818 deaths

USA ↗

(new cases/day 27 865)

2 305 258

confirmed cases

639 942 recovered

120 237 deaths

Brazil →

(new cases/day 30 817)

1 106 470

confirmed cases

601 736 recovered

51 271 deaths

Russia ↘

(new cases/day 7 854)

591 465

confirmed cases

343 847 recovered

8 196 deaths

UK →

(new cases/day 1 205)

305 289

confirmed cases

not reported recovered

42 647 deaths

India ↗

(new cases/day 13 265)

440 215 confirmed cases

248 190 recovered

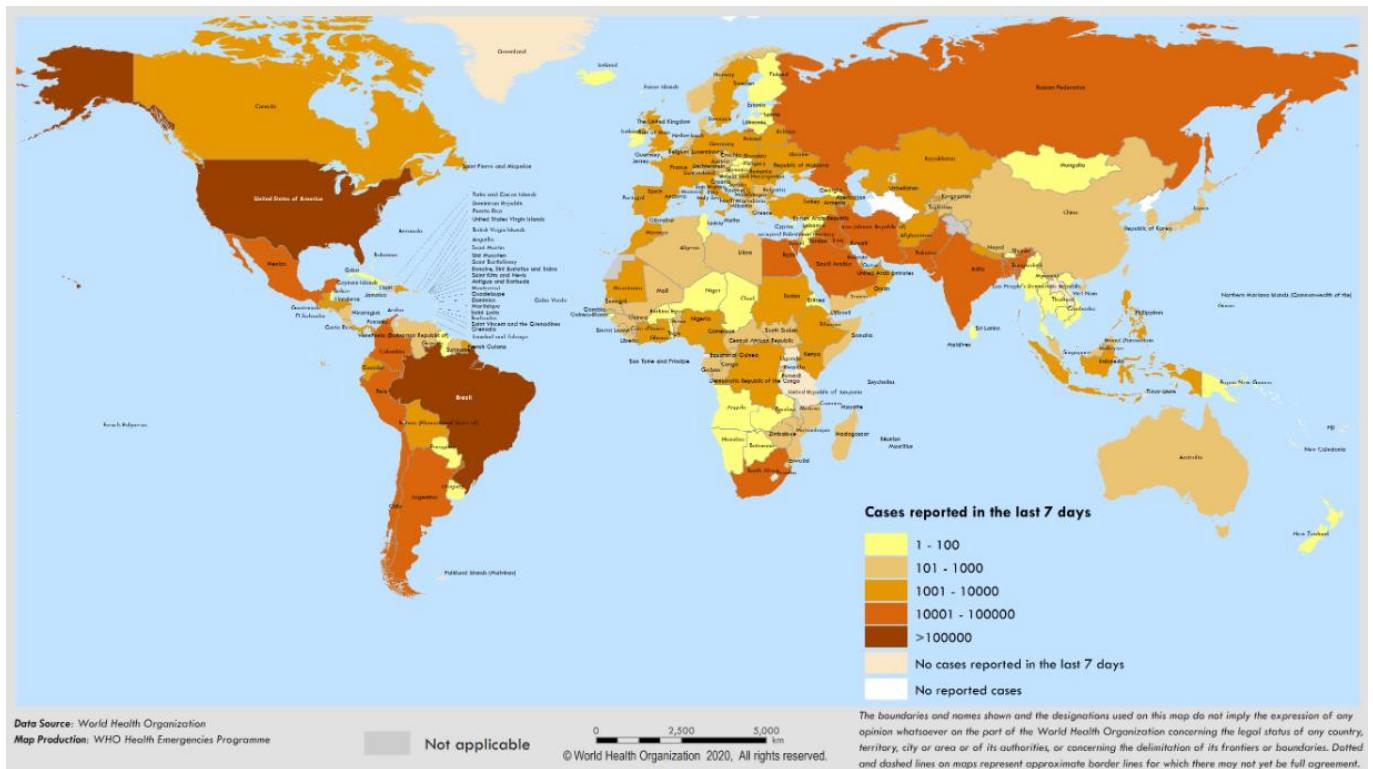
14 011 deaths

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



Worldwide Situation

Global Situation

WHO announced that currently most infections are found in the Americas. The situation in Africa is different. Some countries like South Africa would have significant growth rates. But there are also signs that mortality is lower in Africa than elsewhere.

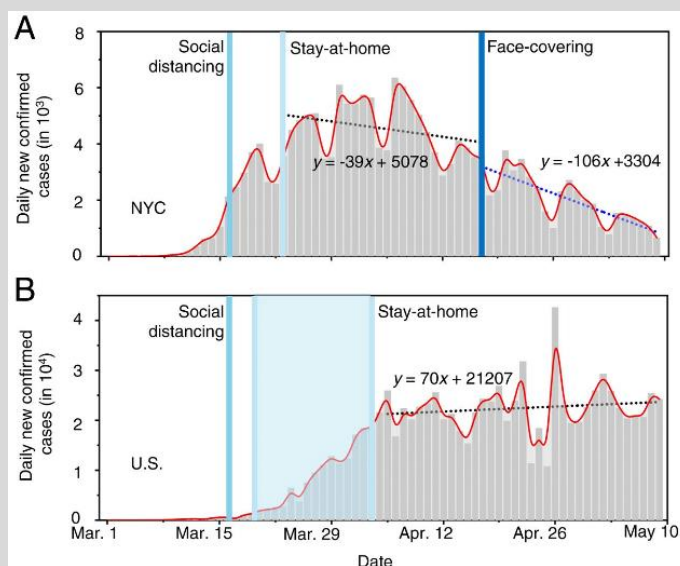
CHN: Nine new infections have been reported in Beijing on Monday - the lowest number of infections since a new outbreak hit a wholesale market twelve days ago.

China reported a total of 18 new infections nationwide on Monday. There were two other local cases in Hebei Province, adjacent to Beijing. Seven "imported" infections have been detected in people entering China.

Studies prove the effectiveness of the community mask

After the first wave of the COVID-19 pandemic in Asia and the second wave in Europe, the focus of infection has now shifted to the American continent. The longer the global outbreak lasts, the easier it will be to compare the different approaches of the individual nations to contain the virus. The individual measures of social distancing, curfews and the obligation to wear a mask have been pronounced by almost all countries, but the timing and the mandatory implementation in public space differ significantly. Two studies, each of (1) [Texas A&M University](#) and (2) a [cooperation between the universities of Southern Denmark, Kassel, Darmstadt and Mainz \(DEU\)](#), specifically examine the effectiveness of general mask requirements.

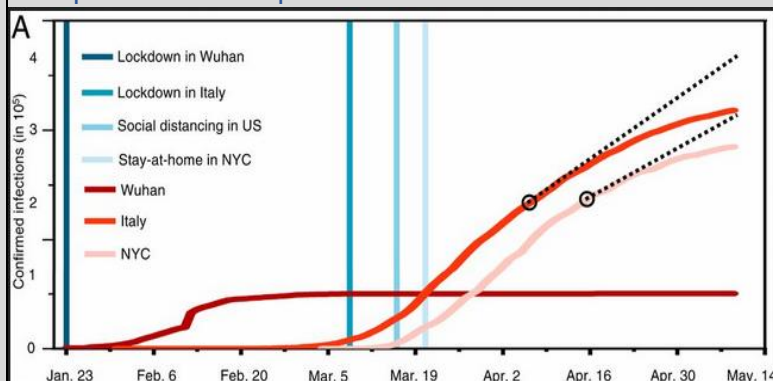
(1) compares the outbreak trends in China, Italy and the USA (NYC). Due to the spread of the virus via aerosols, airborne transmission plays a dominant role in the spread of the disease within the population; especially under the aspect that asymptomatic people can also transmit the disease. The authors complain that at the beginning of the pandemic, measures to interrupt direct transmission, such as hand hygiene, were recommended, whereas the main route of transmission via aerosols should have been included earlier in the recommendations for combating infection. This can be compared particularly well based on the epidemiological trends in New York City compared to that of the entire USA, since measures are not uniformly implemented in the country and there is still no national mask requirement. On average, the data show a significant decline in daily new infections in NYC, after the public space should only be used when wearing a mouth-nose guard.



Contrasting the trends of new infections between NYC and the United States. Daily new confirmed infections in (A) NYC and (B) the United States. The dotted lines represent linear fitting to the data between April 17 and May 9 in NYC and between April 4 and May 9 in the United States. In B, the number in NYC was subtracted from that in the United States. The vertical lines label the dates for social distancing, stay-at-home orders, and mandated face-covering.

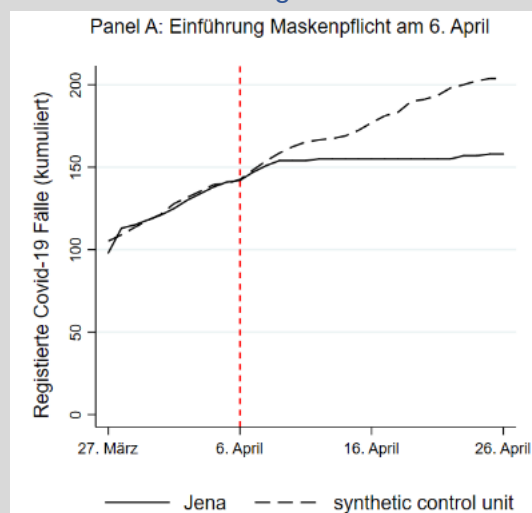
The authors were able to demonstrate the same development for Italy, where the increase in the number of cases slowed down significantly. It is believed that this measure alone could help prevent almost 80,000 infections in ITA.

Study (2) focuses on the implementation of containment measures in the city of Jena, Germany; Here the public mask requirement was introduced much earlier



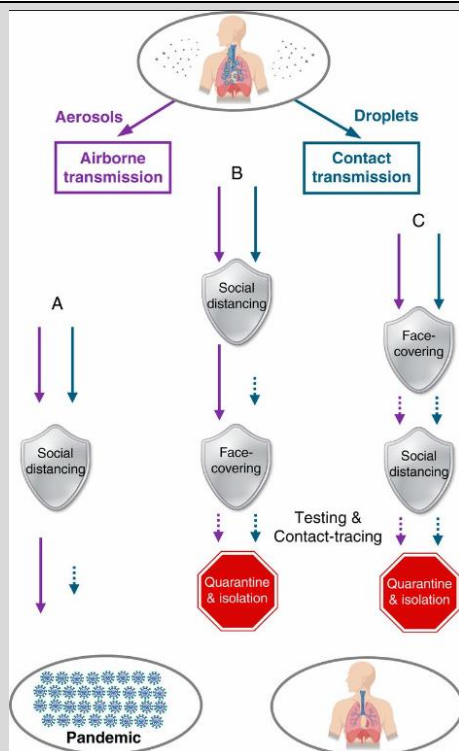
The evolving epicenter from Wuhan, to Italy, to NYC. (A) Comparison of the trends and mitigation measures between Wuhan, Italy, and NYC in 2020. The vertical lines mark the date for implementing mitigation measures. The two black circles label the dates when face covering was implemented: April 6 in northern Italy and April 17 in NYC. The black dashed lines represent the projection without face covering based on linear regression of 26-d data prior to implementing this measure.

than in all other parts of Germany. In order to be able to draw a statistically valid comparison, a value was calculated from all infection numbers in DEU, averaged according to population density, average age and health care density, which was compared with that of the city of Jena. Here, too, a significant slowdown in the spread of infections after the introduction of the measure could be demonstrated. And these authors also criticize the rather late recommendation / ordinance on wearing a mouth and nose protection on the part of the authorities and official bodies.



Effect of the introduction of the mandatory mask in Jena on April 6th on the COVID-19 case number

CONCLUSION: Due to the different dispersion and residence dynamics of droplets or aerosols in the air, both research teams speak out clearly in favour of a general mask requirement in public to combat the pandemic, since it is implemented “cost-effectively, less economically harmful and compatible with democracy” can be. In addition, all other measures available such as social distancing, hand hygiene, sneeze etiquette, contact tracking and extensive testing of contact persons should continue to be carried out. The authors see a particular responsibility among political decision-makers to allow scientific findings to be incorporated more quickly into the decision-making process in the context of future health emergencies.



Mitigation paradigm. Scenarios of virus transmission under the distancing/quarantine/isolation measure only (path a), the measures with distancing/quarantine/isolation followed by face covering (path b), and the measures with simultaneous face covering and distancing/quarantine/isolation (path c). The short-dashed arrows label possible remnants of virus transmission due to circumstances when the measure is not possible or disobeyed and/or imperfection of the measure.

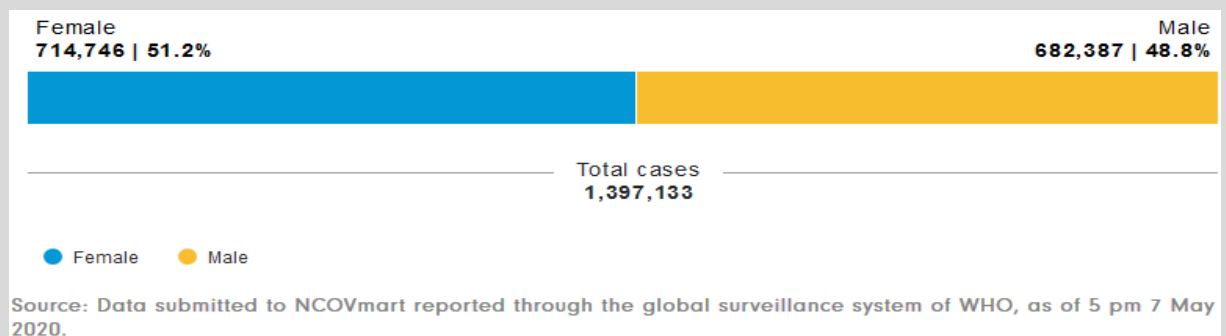
It should be pointed out again and again, also by leaders, that the correct wearing of the mask is essential to achieve maximum protection. Wearing the mask under the nose means accepting a possible infection of others.

Source: [PNAS.org](https://www.pnas.org); [University of Mainz](https://www.unimainz.de)

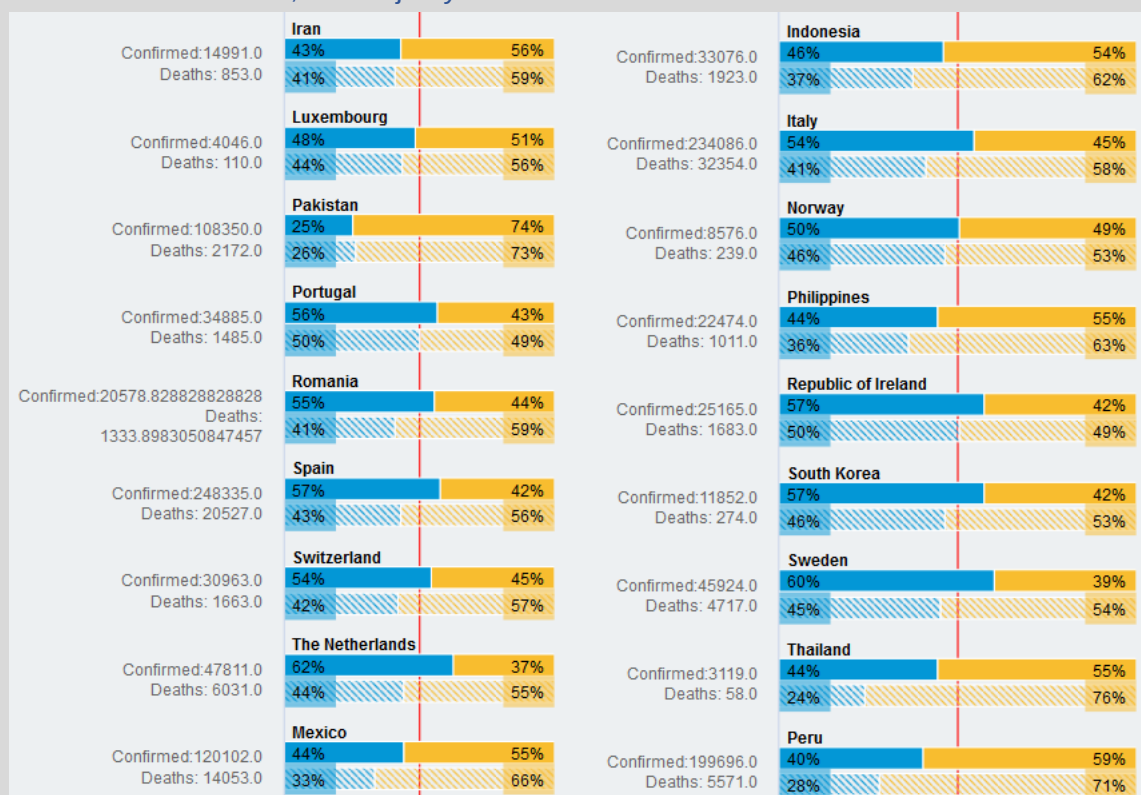
Are men more at risk of infection/death?

Among over 9 000 000 confirmed cases of COVID-19 reported to WHO by June 23th 2020, there are almost equal numbers of cases in men and women (sex ratio of M:F cases = 1.03:1). The sex ratio varies with age. In both the younger (20-29-year-old) and older (80 years and older) age groups, there are more cases in women than men. However, for other age groups (0-9 years, 60-69 years and 70-79 years), there are more cases in men than women.

Overall, however, cases are evenly reported among both men and women.



In nearly every country the study is tracking, including in those countries where there are a higher number of confirmed cases in women, the majority of deaths are in men.



Sex and gender both play a role in many disease outcomes and COVID-19 is no different.

A person's sex, meaning their underlying biological make-up, determines both immunological and hormonal profiles that may be important in responding to infection. These differences in the biological responses of males and females might be important in determining clinical outcomes in COVID-19. For example, it is thought that an enzyme called ACE2 (enzyme 2) is important in the risk of developing severe COVID19 disease. ACE2 sits on cell membranes and may allow the virus to enter cells more easily, and hence begin its destructive pathway through the body's vital organs. Levels of ACE2 are generally higher in men, meaning more cells may be vulnerable to the virus, and this, in turn, may lead to men's higher risk of severe COVID outcomes and death.

However, it is unlikely that biology can explain the difference entirely; gender is almost certainly playing a role.

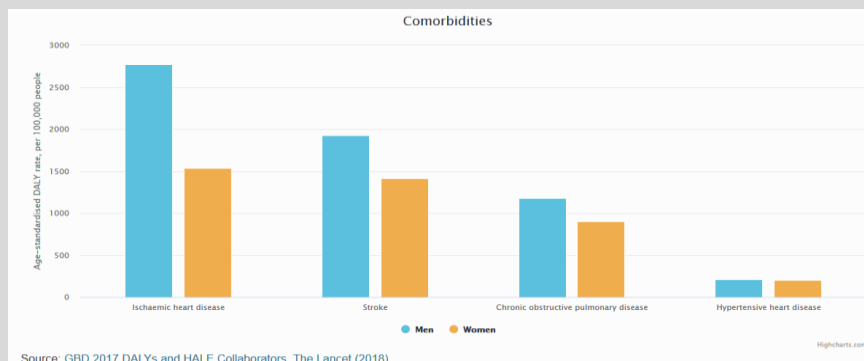
Behaviour, activities and attributes are different between genders.

What plays a role in the outcome of the disease:

- a person's risk of exposure to environments and products that might be unhealthy (e.g. smoking tobacco or drinking alcohol, or occupations that involve driving and exposure to pollution),
- response to disease (e.g. patterns and timing of health service use),
- pathways of care within the health system including who can access services (testing, diagnosis, treatment), and the level and quality of care that a person receives in the health system
- whether health and social care workers at various levels are more likely to be one gender or another (e.g. in many countries nursing staff and social care staff are more likely to be female, while ambulance drivers, hospital security staff, orderlies etc are more likely to be male).

Even if at this point of the outbreak we do not know how much gender or sex are influencing the health COVID-19 patients, we already know from the past, that both sex and gender are important drivers of risk and response to infections and disease.

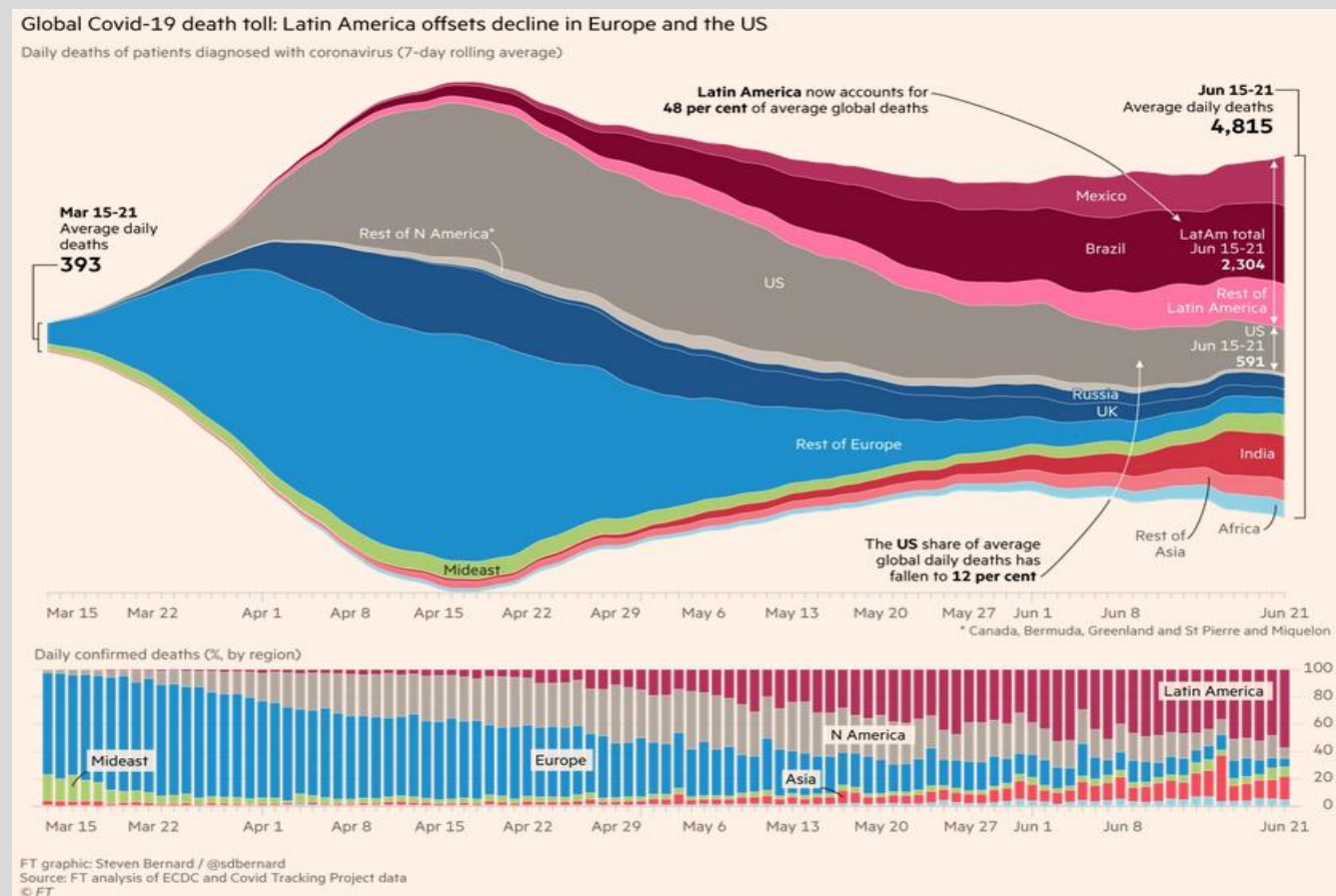
For example, even in the case of ACE2, there are generally more ACE2 receptors in the heart cells of someone with pre-existing heart disease. And heart disease itself is associated with gender. In many societies today it is men who are more likely to suffer from heart disease and chronic lung disease as they are more frequently smokers, drinkers or working in occupations that expose them to risk of air pollution.



Men generally use the health services less than female, including preventive health services – which might mean that men are further along in their illness before they seek care.

At this point in the pandemic, we are unable to provide a clear answer to the question of how much sex and/or gender are influencing the health outcomes of people diagnosed with COVID-19.

Source: [Global Health 50/50](#); [UN-Women](#)



Source: Financial Times

Situation in Europe

The WHO Regional Director for Europe, Dr Hans Henri P. Kluge, shared that the European Region accounts for 31% of COVID-19 cases and 43% of COVID-19 deaths globally. Dr Kluge highlighted that several countries continue to face increasing disease incidence and that ["Preparing for the autumn is a priority now at the WHO Regional Office for Europe"](#).

NDL: There have been riots in The Hague in protests against Corona measures. Mobile police commandos use water cannons and police horses to disperse the crowd. Several hundred demonstrators, including many hooligans, had deliberately sought to confront the police. For security reasons, Mayor Johan Remkes initially prohibited the demonstration against Corona measures by the "Virus Waanzin" group. Nevertheless, a few hundred demonstrators had come to the main station and several hundred football fans, the police said. The mayor then allowed a brief rally. When the atmosphere became violent and especially hooligans wanted to move towards the city, the police intervened.

The Dutch corona restrictions were less strict than in other European countries and most of them have already been relaxed. Restaurants, cafés, cinemas and museums have been open since the beginning of June.

For the first time since the beginning of the Corona crisis in the Netherlands in early March, no death from COVID-19 has been reported at 22 June.



In the Netherlands, the Corona measures - people are sitting in a restaurant for isolation in greenhouses - have been successful. Since March 10, there has been no casualty related to the corona virus.
Photo: Peter Dejong / dpa

[ITALY: Corona virus found in December wastewater samples](#)

COVID-19 probably circulated in Europe last year. Italian researchers have now found another indication of this: the virus was detected in wastewater samples - which were taken in December.

The suspicion that Sars-CoV-2 has been circulating in Europe since the end of last year is borne out: the pathogen was detected in wastewater samples from the two northern Italian cities of Milan and Turin, which date back to December, according to a statement from Italy's national Health institute ISS. This is confirmed by a study that had examined wastewater samples in the past few months.

The first officially confirmed cases of coronavirus were announced in Italy in mid-February. Due to the high number of deaths and the force with which the pandemic struck the country, it was assumed early on that the virus had spread unnoticed in Italy long before the first cases became known.

Already at the beginning of the pandemic, Sars-CoV-2 genetics were detected in stool samples from sick people. The researchers now analysed around 40 samples taken from sewage treatment plants across Italy between October 2019 and February 2020. They found Sars-CoV-2 for the first time in samples from Milan and Turin from December 18, 2019. In Bologna, the virus was detected in wastewater from January 29, 2020.

"These findings can help to understand when the virus started circulating in Italy," the ISS statement said. At the same time, this does not mean that the virus sequences discovered must necessarily come from those who would have introduced the virus into the country - an earlier spread is therefore

conceivable. However, water samples could be helpful to control the spread of the virus. The ISS pointed to wastewater studies in France and Spain that had come to similar results.

Not only the wastewater investigations from Italy indicate that Sars-CoV-2 spread worldwide much earlier than initially thought. In a French hospital, for example, the blood sample from a patient with pneumonia from December was subsequently tested positive for the coronavirus. In Barcelona, researchers also found the virus RNA in wastewater samples from mid-January - around a month before the first cases were officially confirmed. A British study that examined mutations in the virus also came to the conclusion that Sars-CoV-2 had spread rapidly around the world long before the first cases became known.

The ISS announced a pilot project to test wastewater in tourist locations in July. A nationwide monitoring network should also provide information about the spread of the virus. Wastewater is a "strategic" tool for an early warning system, since the virus could possibly be detected there earlier than in humans.

The government in Rome declared provinces in Lombardy and Veneto a restricted area at the end of February. In the meantime, there has been criticism that the entire region should have been sealed off earlier. Italy was the first in Europe to be hit hard by the pandemic. The Chinese metropolis of Wuhan is the starting point for the corona pandemic. There, the novel corona virus was first detected in humans in December.

Source: [ISS.it](https://www.iss.it)

[ECDC COVID-19 surveillance report Week 24, 2020](#)

Summary of key messages

New this week

- A table summarising the definition of deaths (by case classification, setting and time limit) included in each country's COVID-19 death totals has been added to the report in Section 4.7.

Overall reported cases

- Based on data available to ECDC on 18 June 2020, 28 out of 31 countries (EU/EEA countries and the UK) have observed COVID-19 notification rates lower than at peaks that were observed 56–78 days ago (the average rate for the EU/EEA and the UK was 82% lower than at the peak on 9 April 2020).
- COVID-19 notification rates are the highest since the start of the pandemic in three countries (Bulgaria, Poland and Sweden). Recent increases have been observed in three additional countries (Greece, Malta and Romania). Some of these increases may reflect increases in testing.

Primary care

- Among three countries that reported data up to week 24 from primary care sentinel surveillance for COVID-19 using the systems established for influenza, one country (Sweden) has observed a recent increasing trend in SARS-CoV-2 positivity among individuals with respiratory symptoms; the remaining two (Germany and Netherlands) have observed stable or decreasing trends.
- All countries that reported ILI and/or ARI syndromic surveillance data up to week 23 using the systems established for influenza have observed low and stable recent trends in consultation rates.

Hospitalisation

- Both countries that have reported recent data from in-hospital SARI surveillance (Sweden and Slovenia) have observed decreasing trends in the numbers positive for SARS-CoV-2 and/or SARS-CoV-2 positivity among individuals with SARI.
- Overall, 32% of reported COVID-19 cases in the EU/EEA and the UK to date have been hospitalised; among hospitalised patients, 11% required ICU and/or respiratory support, although there is considerable variation between countries.

Mortality

- New deaths due to COVID-19 were reported in the last week in 22 countries. The remaining nine countries last reported a death due to COVID-19 7–74 days ago.
- We estimate that 23% of hospitalised COVID-19 cases reported to date in the EU/EEA and the UK have died.
- Pooled estimates of all-cause mortality reported by [EuroMOMO](#) are now approaching normal expected levels following a period of substantially increased excess mortality that coincided with the COVID-19 pandemic peaks. A few countries are still seeing some excess mortality.

COVID-19 situation update for the WHO European Region (08 – 14 June 2020 Epi week 24)

Key points

Week 24/2020 (8 - 14 Jun 2020)

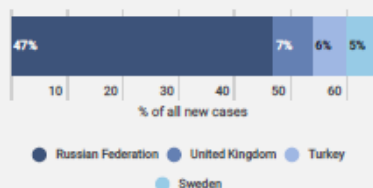
- The number of cases reported in week 24/2020 in the Region has declined by 50% since week 14/2020
- 65% of the cases reported in week 24/2020 were from the Russian Federation, United Kingdom, Turkey and Sweden
- Six countries had a crude incidence of ≥ 35 per 100,000 in week 24/2020: Armenia, Sweden, Belarus, Republic of Moldova, North Macedonia and the Russian Federation
- In 17 countries, the 14-day cumulative incidence increased by $\geq 10\%$ in week 24/2020 compared to the previous week, however for some countries data was retro-adjusted by national authorities. In order of percentage increase: Andorra, North Macedonia, Israel, Slovenia, Bulgaria, Albania, Azerbaijan, Greece, Sweden, Uzbekistan, Bosnia and Herzegovina, Republic of Moldova, Armenia, Ukraine, Cyprus, Portugal and Estonia. (see [EURO COVID-19 Dashboard](#) for recent trends).
- In four countries, the 14-day cumulative incidence increased compared to the previous week: Bulgaria, Greece, Bosnia and Herzegovina and Cyprus
- 75% of the deaths reported in week 24/2020 were from the United Kingdom, Russian Federation, Italy, France and Sweden
- The proportion of reported cases that died decreased from 4.4% in week 23/2020 to 3.3% in week 24/2020, a change that is likely due to a range of factors

Summary overview

- Ten countries in the Region each reported a cumulative incidence of ≥ 500 cases per 100,000 population: San Marino, Andorra, Luxembourg, Armenia, Belarus, Iceland, Spain, Belgium, Ireland and Sweden. Of these, Armenia, Belarus and Sweden reached a cumulative incidence of ≥ 500 cases per 100,000 population since week 23.
- 21% of all reported infections with information available were in a health care worker
- 76% of all ICU admissions were in persons aged 50-79 years of age, with 70% of all ICU admissions in men
- 70% of cumulative deaths were reported from the United Kingdom, Italy, France and Spain
- 90% of all deaths were in persons aged ≥ 65 years and 57% of all deaths were in men
- 95% of all deaths with information available had at least one underlying condition, with cardiovascular disease the leading comorbidity (65%)
- Following a period of a very substantial excess mortality observed in some countries coinciding with the COVID-19 pandemic, pooled estimates of all-cause mortality for the countries in the [EuroMOMO](#) network have now returned to normal levels. Excess mortality was observed primarily in the age group of ≥ 65 years, followed by the age group of 45-64 years and 15-44 years.
- In week 24/2020, no countries reported testing or COVID-19 detections in persons with influenza-like illness in primary care sentinel surveillance. The updated positivity rate in week 23/2020 was 9.6% (5 countries) compared to 5.7% (7 countries) in week 22/2020. The highest positivity was 15%, seen in week 13/2020
- As of 07 June 2020, five countries in the European region had an effective reproductive number significantly over 1: Albania, Israel, Kyrgyzstan, Turkey and Ukraine (See [EpiForecasts](#) and the CMMID COVID working group COVID-19 Global Summary for latest estimates)

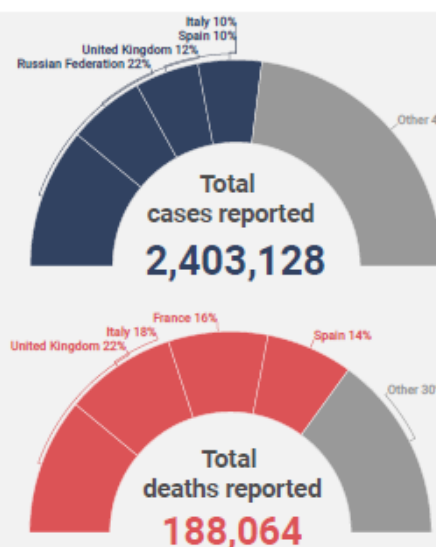
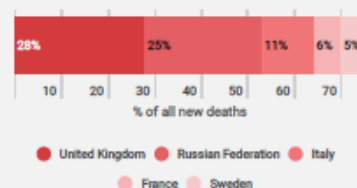
New cases Epi week 24

131,218



New deaths Epi week 24

4,274



21%

of all people infected were health care workers

95%

of all deaths had at least 1 underlying condition

57%

of all deaths were in men

76%

of all ICU admissions were people aged 50-79 years

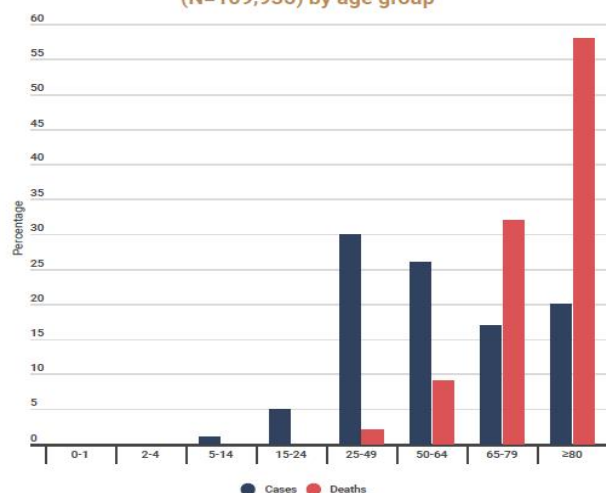
94%

of all deaths were in persons aged 65+

65%

of all deaths had cardiovascular disease

Figure 3. Percentage of COVID-19 cases (N=799,473) and deaths (N=109,935) by age group



Source: Cases: Case-report forms and aggregate data from TESSy (Spain); Deaths: Case report forms, mortality survey, aggregated data from TESSy (Spain)

Table 1. Characteristics of COVID-19 cases and deaths

Characteristics	n	%	Total records with data available
Cases			
Age in years, median (range)*	55 (1-105)		549,715
Sex, male*	254,428	46	547,677
Recovered*	204,918	91	225,873
Health care workers*	91,753	21	441,188
Hospitalization*	134,604	26	519,342
Intensive care unit admissions*	10,030	2	443,241
Deaths			
Age in years, median (range)^	82 (0-108)		118,113
Sex, male^	67,651	57	118,539
At least one underlying condition^	58,216	95	61,331
• cardiovascular disease	18,434	65	28,149
• diabetes	8,956	33	26,823
• lung disease	6,168	23	27,149
• neurological disease / dementia	2,397	25	9,495
• renal disease	1,709	20	8,730
• malignancy	991	26	3,884
• obesity	714	10	7,305
• liver disease	440	5	8,714
• immune disease	269	3	8,301
• other	12,730	51	25,117

Source:

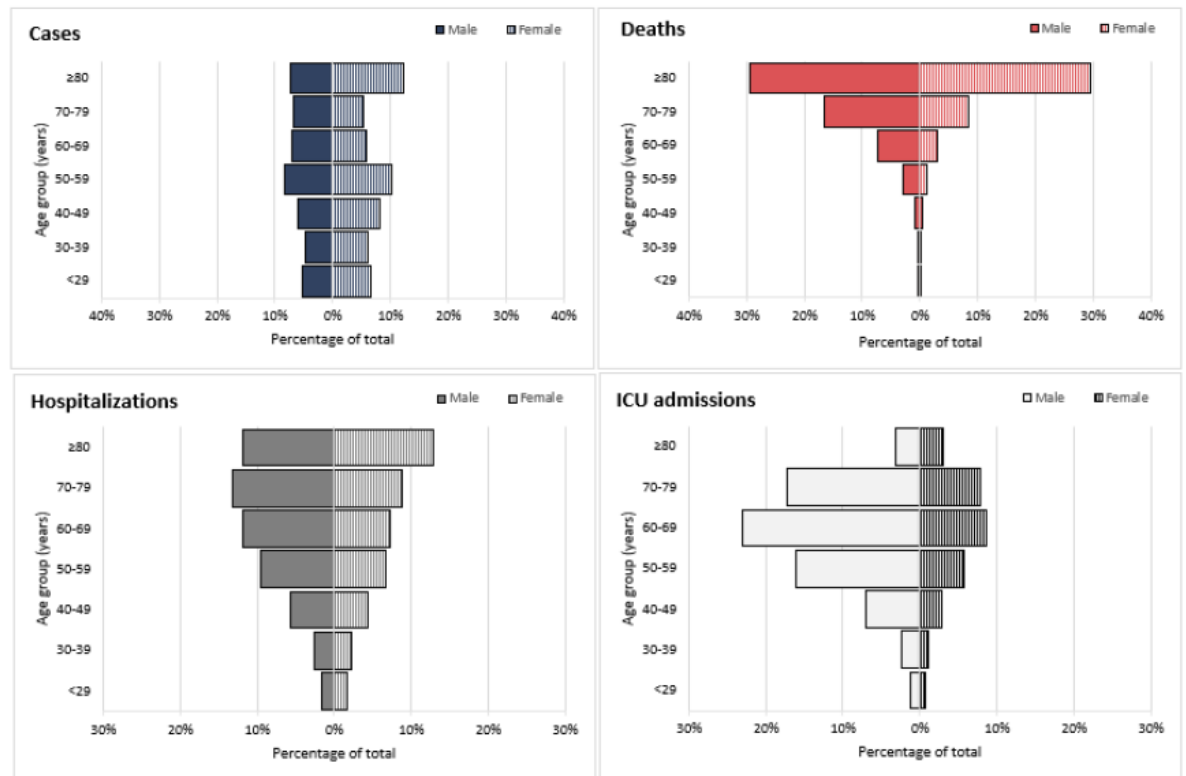
*Case report forms (n=552,193);

^Case report forms and aggregated data from Italy (12/14 June) and Spain (29 May 2020, TESSy) (n=843,784);

Health care workers refer to occupation and not to the place of exposure

*Case report forms, mortality survey, aggregated data from Italy (11 June 2020) and Spain (28 May 2020) (n=118,113)

Figure 4. Percentage of COVID-19 cases (N=793,009), hospitalizations (N=140,690), ICU admissions (N=12,729) and deaths (N=118,516) by age group and sex



Source: Cases, hospitalizations and ICU data: case report forms and aggregate data from Spain (29 May 2020); Deaths: Case report forms, mortality survey, aggregated data from Italy (11 June 2020) and Spain (29 May 2020)

Figure 1: Number of COVID-19 cases (N=2,403,128) and deaths (N=188,064) by reporting week

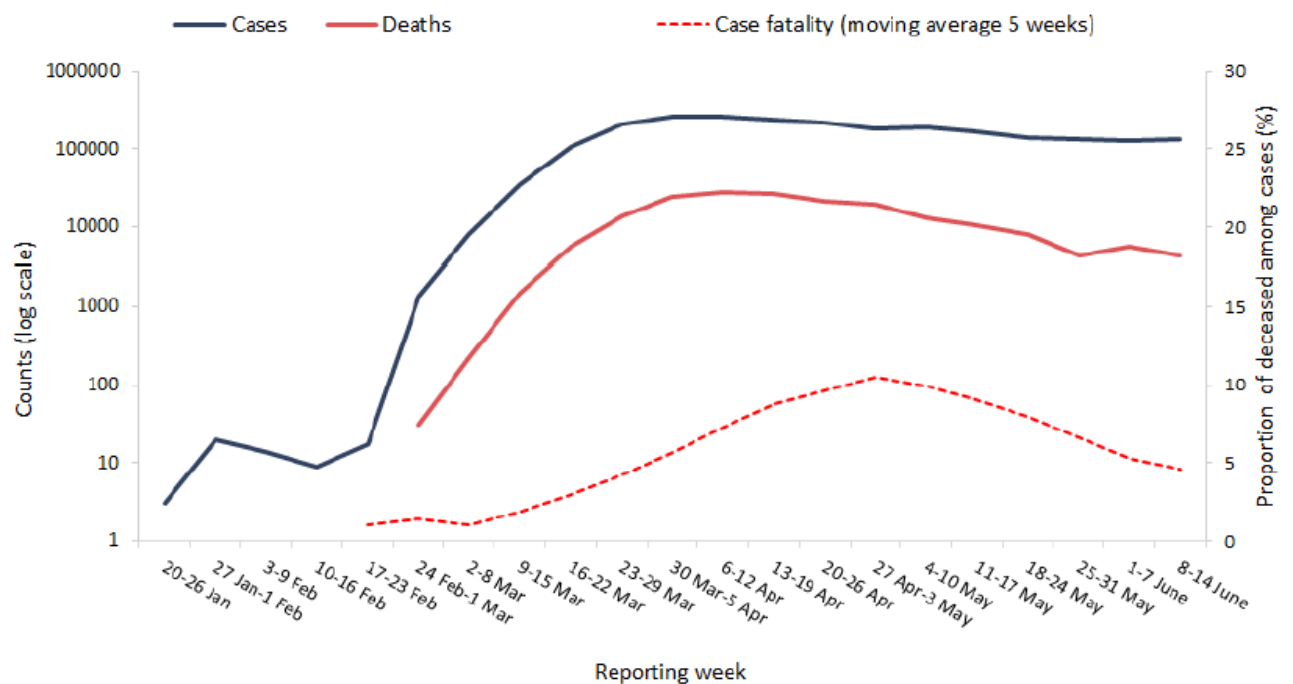
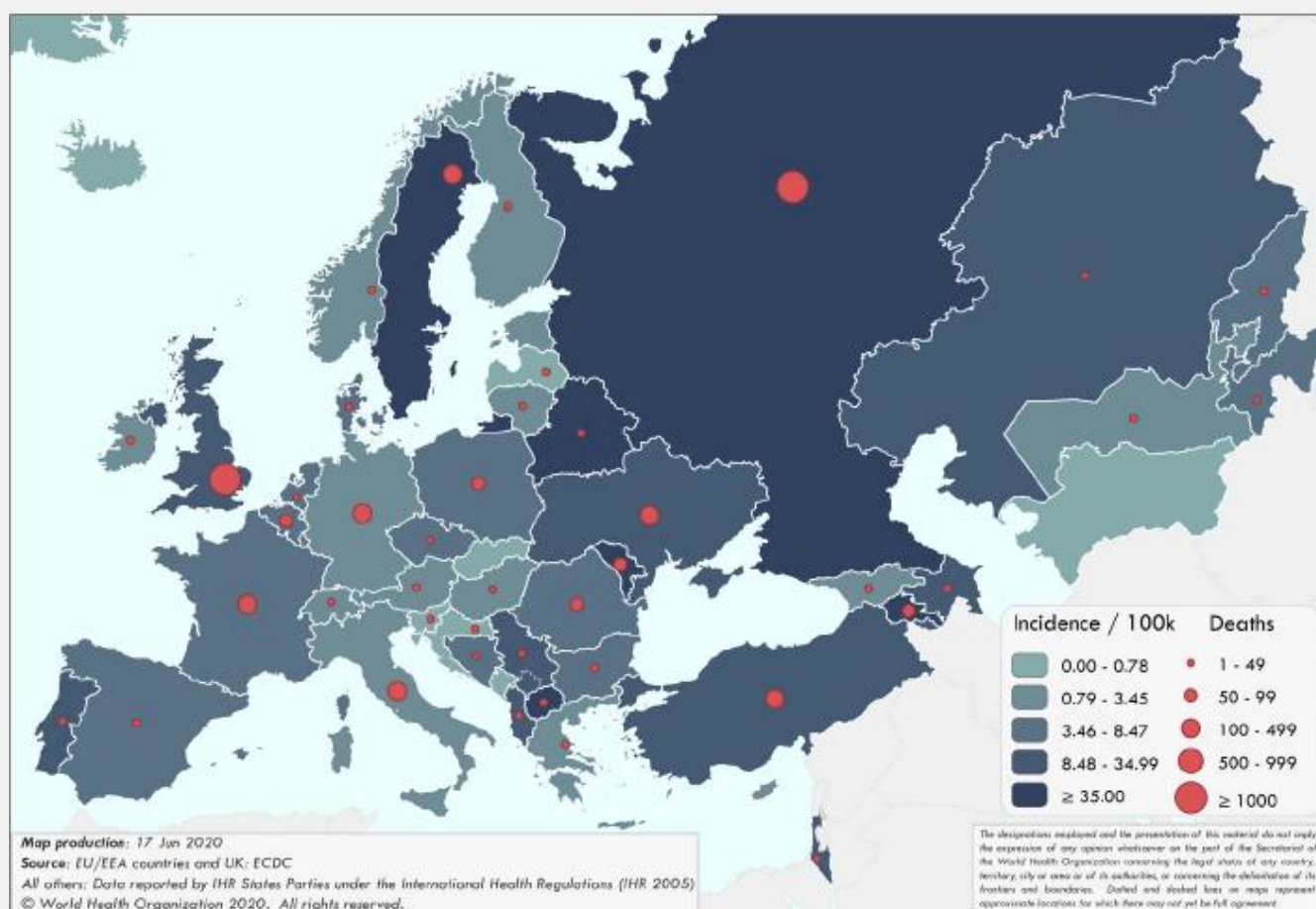
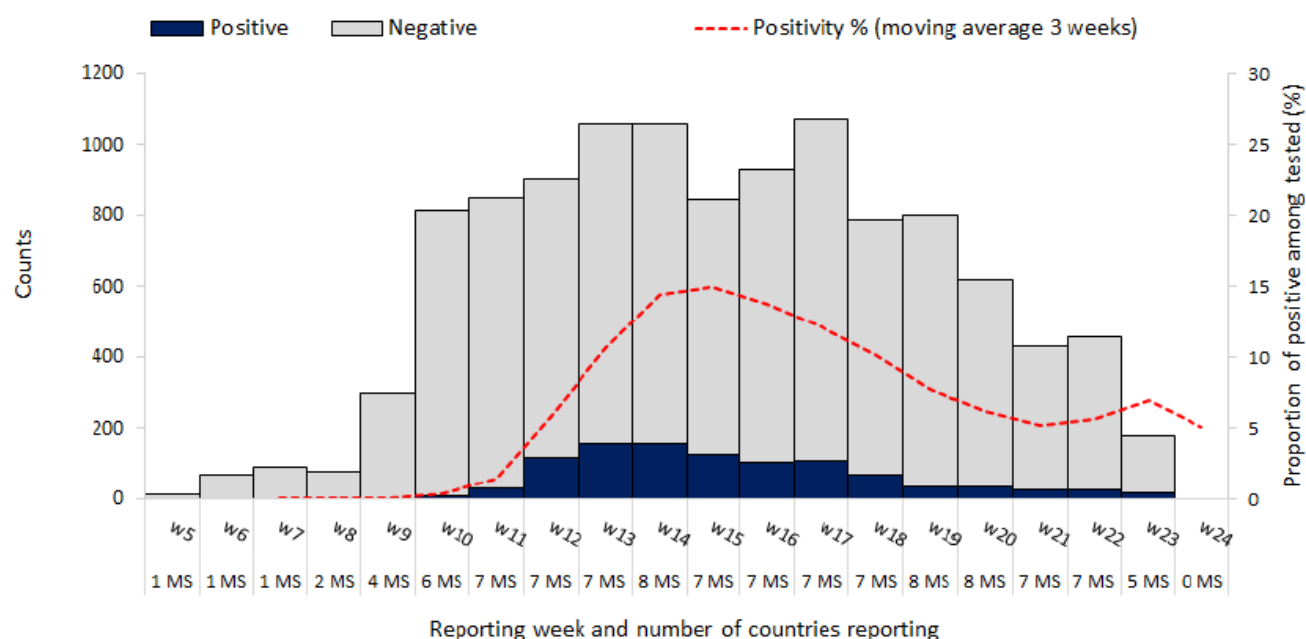


Figure 5. Percentage positive for COVID-19 in the ILI/ARI sentinel surveillance by reporting week



COVID-19 incidence per 100,000 population and number of deaths by country for week 24

Subject in Focus

COVID-Pandemic second waves scenarios

COVID-19 Pandemic second waves(s) scenarios as of 17 JUN 2020.

For mid- and long-term planning purposes, everybody tries to forecast what will be the evolution of COVID-19 pandemic the next months. All governments and international organisations (IOs) as NATO have tasked their Subject Matter Experts (SMEs) to develop some possible scenarios.

Every day brings surprises regarding SARS-CoV-2 features, evolution and spreading mechanisms. These unexpected findings make any reliable forecast impossible beyond a horizon of one month. That is why these scenarios are vague, and more or less encompass all possibilities, which does not help for planning. But there are no possibilities for more accurate foresight.

As these scenarios are vague and broad, they are all similar for Western and Central Europa, regardless the government or the IO who originate them. As an example, below are described the 4 scenarios described by the French Government's COVID-19 Scientific Council (analysis and report dated 02 JUN 2020,

source: https://solidarites-sante.gouv.fr/IMG/pdf/avis_conseil_scientifique_2_juin_2020.pdf).

These scenarios are only valid for Western and Central Europa and were built based on mathematic models of pandemic evolution, historical comparisons, mainly with previous Influenza pandemics, and SMEs analyses. The assumptions for the situation this autumn were: no vaccination available yet, no chemoprophylaxis available yet, no mass-treatment available yet, no SARS-Cov-2 major genetic mutation with epidemiological consequences, and a seasonal feature of SARS-CoV-2 (almost confirmed by Intertropical and South Hemisphere current pandemic developments). Of course, a better knowledge about SARS-CoV-2 protective immunity and a possible cross-immunity with seasonal coronaviruses will improve the predictions over this summer.

Scenario 1, low tide.

This scenario describes a controlled epidemic with a low intensity of SARS-CoV-2 circulation within European populations. The incidence will be more or less stable and moderate (most commonly defined as below 50 weekly new cases per 100.000 inhabitants), with a limited number of cluster under control. The health capacity is sufficient to cope with the COVID-19 incidence. This favourable scenario could be observed if there is a very good implementation of barrier measures and social distancing and if the Test-Track-Isolate (TTI) strategy is enforced successfully.

Scenario 2, waves and wavelets.

This scenario describes multiple local outbreaks, with localised high intensity of SARS-CoV-2 circulation and localised but exponential increase of incidence. Several critical clusters, difficult to investigate and control, will be described. The health capacity will be locally insufficient and will oblige to evacuate patients to non-impacted regions. The consequences will be an enhancement of barrier measures and social distancing, a surge of the TTI strategy with staff reinforcement from non-impacted areas and a possible localised lock-down.

Scenario 3, high tide.

This scenario describes a diffuse epidemic with an increasing intensity of SARS-CoV-2 circulation and spreading, and a constant increase of incidence. There will be few identified clusters, difficult to limit and impossible to investigate and control. The health capacity will be under pressure or possibly overstretched. The consequences will be a major enhancement of barrier measures and social distancing, leading perhaps to a sort of second lock-down. The risk factors to observe such a scenario are a general loosening of barrier measures and social distancing and a major re-increase of inter-regional and international travels (e.g. summer break tourism).

Scenario 4, tsunami.

This scenario describes a critical epidemic as the result of a negative evolution of the scenario 2 or 3, with a high intensity of SARS-CoV-2 circulation and a major increase of incidence rates. The health capacity will be overwhelmed and the consequence will be either a second lock-down, either a major increase of mortality rates.

Wavelet, wave or tsunami?

As it is today impossible to refine this forecast, plans and planning must be done for each scenario. However, even if the surprising factor is not there anymore, governments' and population's awareness about the possibility of a second wave is paramount all along the summer break. The keys factors for preparedness are: adapted and reinforced health surveillance, encompassing test surveillance (number and results), cases surveillance (contact, suspected, confirmed, recovered), lethality, R calculation... ; adapted and reinforced medical intelligence providing an accurate worldwide situational awareness; possibility to scale-up investigation and control measures (TTI strategy) and possibility to reinforce health capacities (staff sustainability).

The pandemic response will be a long-lasting effort, and sustainability is the key, enable by a proper re-supply this summer and mainly by the opportunity for rest and recuperation for the response staff.

Written and presented by Benjamin Queyriaux, MD, MPH, NATO ACO Pandemic Advisor.

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

Second wave prediction and preparedness

Briefers from ACO, NATO HQ, JCBRN COE and MI2 (civilian US company) give a short summary about the COVID-19 Second Wave prediction and preparedness based on facts/experiences, modelling and Simulation.

NATO HQ:

Fundamental principles:

- Circle: mitigation-preparedness- response- recovery
- The current crisis was quite unexpected.
- Rapid GIS application Development
- NATO -COVID 19 Current Situation and travel Exposure Rate
- Requests and offers for international Assistance
- Evolution of new cases
- All requests for assistance and offer are monitored

Forecast Analysis:

- Data based on research paper and a mathematical model

Outbreak analysis:

- Situation awareness; query the data and make sense of the data
- Evolution of new cases -country by country mention
- AI systems are available

MI2 civilian US company:

For 25 years mainly working with health security investigation. Influenza pandemics are the „template” of these.

Team detected the corona virus by December 30 in Wuhan. The crisis was heavily linked to the west coast by air traffic. By January 5th the first of several health risk reports were issued. Lombardian was the main focus point of example.

Nationally: Less action on case counts and more on test results. CDCs report on /100 000 population death rate.

Based on the data, the COVID related hospitalizations decreased when the riots started.

Last week of May: media reported that the relaxation caused a spike: the truth was that there was a cluster in a reservation and people coming back from Mexico.
Idaho is back to normal. The healthcare demand is constant but not overwhelmed. Population is less dense than in other areas.
Nevada: Test results are only PCR.
People are tired of restrictions.
The absence of healthcare workers absent is also a big influencer.
It is best to be prepared but most likely it will not be a 1908 scenario.

Summary

- Mathematic models are not reliable when used for biological agents or populations.
- It can be assumed that there will be a second wave, but the intent and the time is unknown.
- The most probable timeframe will be end of August until med of November
- Nations need to be well prepared for the second wave.
- Non pharmaceutical countermeasures need to be in place as long as possible.

Country in Focus

COVID 19 Crisis in Bangladesh

Bangladesh

AREA:	147.570 km2
POPULATION:	161.377.000
RELIGION:	90.5 % Islamic 8.5 % Hinduism 0.6 % Buddhism 0.4 % Christianity
CAPITAL:	Dhaka
AGE STRUCTURE:	0-14 years: 27.29% 15-24 years: 19.14% 25-54 years: 40.07% 55-64 years: 7.09% 65 years and over: 6.42%

As of June 22, 2020, Bangladesh reported 115.786 confirmed cases of COVID-19 within its borders. Among these, 16.747 have recovered and there have been 1502 deaths.



HISTORY

After the 1757 Battle of Plassey, Bengal (former name of Bangladesh) was the first region of the Indian subcontinent conquered by the British East India Company, the country became British colony. Almost 200 years later, after the Morley-Minto Reforms in the legislatures of British India, the British government promised limited provincial autonomy in 1935. The Bengal Legislative Assembly, British India's largest legislature, was established in 1937. Later, on 3 June 1947, the Mountbatten Plan outlined the partition of British India. On 20 June, the Bengal Legislative Assembly met to decide on the partition of Bengal.

The Dominion of Pakistan was created on 14 August 1947. East Bengal, with Dhaka as its capital, was the most populous province of the 1947 Pakistani federation. Ethnic and linguistic discrimination was common in Pakistan's civil and military services, in which Bengalis were under-represented.

The Bengali population was angered when the Pakistani Military prevented Prime Minister-elect Sheikh Mujibur Rahman from taking the office. The Pakistan Army arrested the prime minister and flew him away to Karachi. However, before his arrest Mujibur proclaimed the Independence of Bangladesh at midnight on 26 March which led the Bangladesh Liberation War to break out within hours. The Pakistan Army continued to massacre Bengali students, intellectuals, politicians, civil servants and military in the 1971 Bangladesh genocide, while Bengali guerrilla forces created strong resistance throughout the country. During the war, an estimated 0.3 to 3 million people were killed and several million people took shelter in neighbouring India. Global public opinion turned against Pakistan as news of the atrocities spread. The nine-months long war ended with the surrender of Pakistani armed forces to the Bangladesh-India Allied Forces on 16 December 1971. The constituent assembly adopted the constitution of Bangladesh on 4 November 1972, establishing a secular, multiparty parliamentary democracy. The Bangladesh famine of 1974 worsened the political situation, then the prime minister

introduced one-party socialist rule. He was assassinated during a coup on 15 August 1975, followed by a few other military coups in Bangladesh. After the 1991 general election, the twelfth amendment to the constitution restored the parliamentary republic and Begum Khaleda Zia became Bangladesh's first female prime minister. Zia led a BNP government from 1990 to 1996. In 1991 her finance minister, Saifur Rahman, began a major program to liberalise the Bangladeshi economy. Due to strong domestic demand, Bangladesh emerged as one of the fastest-growing economies in the world. However, human rights abuses increased under the administration, particularly enforced disappearances. Between 2016 and 2017, an estimated 1 million Rohingya refugees took shelter in south-eastern Bangladesh amid a military crackdown in neighbouring Myanmar.

Source: Wikipedia

GOVERNMENT RESTRICTIVE MEASURES

The Government of Bangladesh announced a general holiday period from March 26 – May 30 during which most Bangladeshi government offices and private sector organizations were closed. The Government of Bangladesh has made wearing masks mandatory when outside the home. No one were allowed outdoors from 8 p.m. to 6 a.m. Stores can remain open between 10.00-16.00.

On the last week recorded the highest single-day fatality and case numbers of COVID-19. Therefore, Bangladesh is going to impose lockdown once again due to the rising trend of infections for the last couple of days. Earlier, the country observed a 66-day nationwide lockdown since March 26 that was later eased before the holy Eid-al-Fitr, citing economic interests and people's sufferings.

IMPACT OF RESTRICTIONS

Social distancing cannot be interpreted in terms of Bangladeshi society and culture. Even if people want to follow the guidelines, as in other countries, social distancing is a privilege of the rich and middle class in Bangladesh. Most Bangladeshis live in close proximity to each other. Families are large and live in small and cramped settlements, with several families sharing a single tap and toilet. This is even more pronounced in the refugee camps in Chittagong, where around a million Rohingya refugees live in crowded and temporary shelters and access to health and other facilities is even lower than in the rest of Bangladesh.

IMPACT OF RELIGION

Religious gatherings have been an important vector in spreading the new coronavirus in several countries in Asia. Since religious beliefs are strong among a significant section in Bangladesh and clerics wield more influence than the government over the thinking and actions of these people, the government has been apprehensive that such gatherings will dramatically increase the already rising number of coronavirus infections in the country. Since early March, the government has been cautioning the public against gathering in large numbers, advising people to remain indoors. and on March 26 a have been imposed.

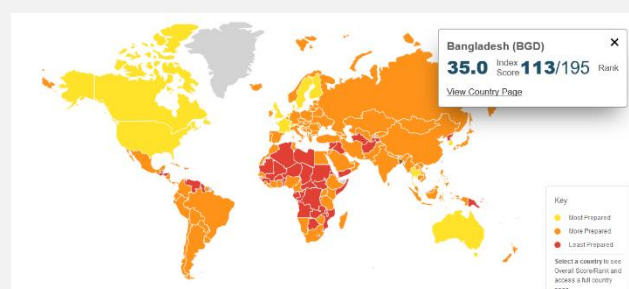
Despite the imposed nationwide lockdown, on April 18 around 100,000 people gathered at the Rahmania Madrassa in Bertola village in Bangladesh to participate in the funeral of Maulana Jubayer Ahmed Ansari, a popular Islamic teacher. Only a month earlier, some 25,000 people congregated at Raipur in Lakshmipur district for a mass prayer, which they believed would protect them from being infected by the coronavirus.

Millions of people expected to flock to mosques and markets during Ramadan (Islam's holy month) therefore additional rules have been put in place. These disallow the presence of more than 12 people, including clerics and mosque officials, in places of worship during Ramzan prayers. The government has also banned iftar (evening meals that mark the breaking of the fast) gatherings. The question is whether authorities will be able to enforce lockdown rules during a period of important religious events.

Source: BBC News

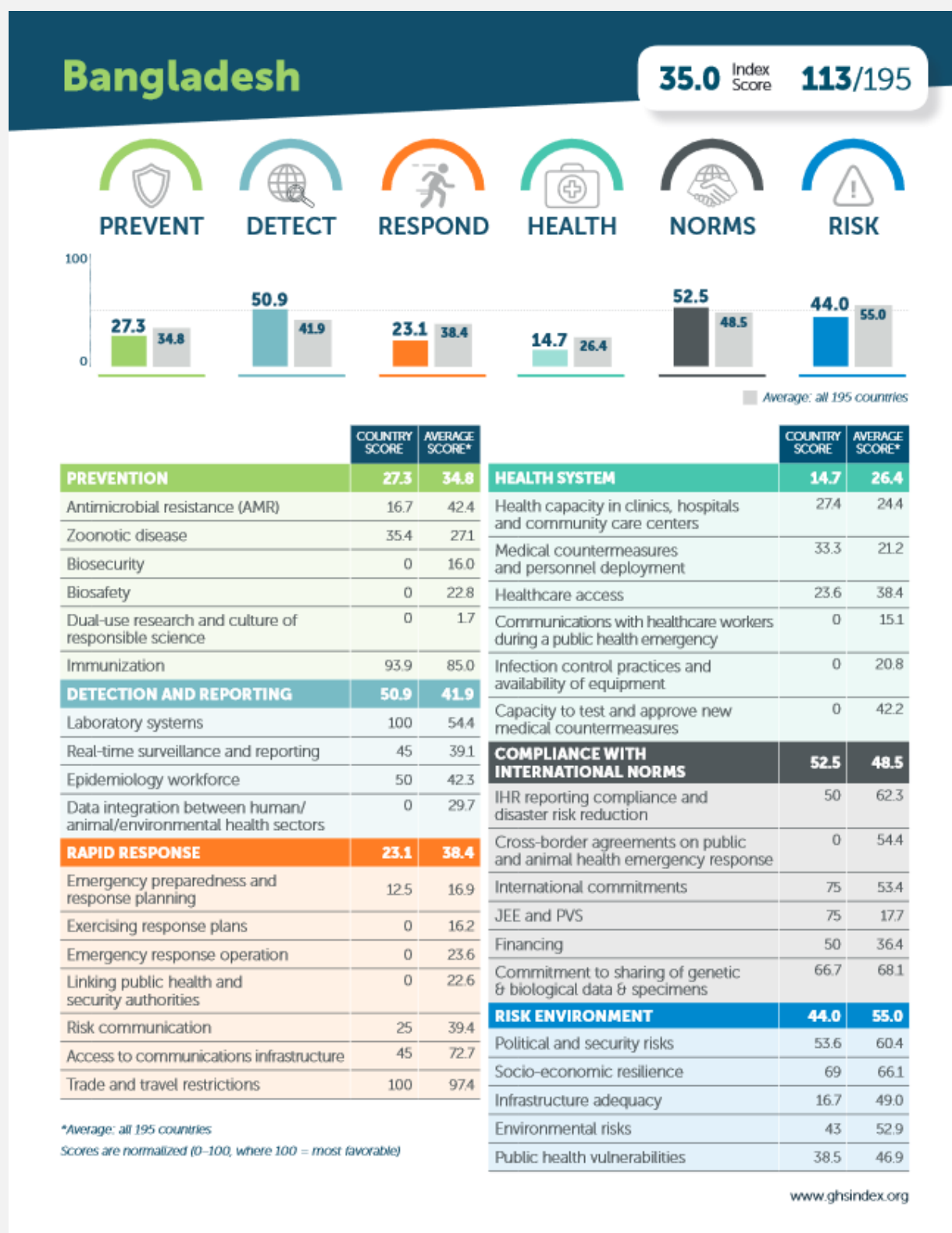
HEALTH SYSTEM

Bangladeshi physicians are now the foremost victims of the disease as frontline workers dedicated to the treatment of COVID-19 patients. As of Sunday, around 1,200 doctors had tested positive and at least 36 doctors have died from the disease in the past two months alone. The country is losing senior doctors of the country, which is an



irreparable loss for the health sector. According to the Bangladeshi Doctors Foundation (BDF) out of the 100,000 registered physicians, nearly 80,000 are dealing with COVID-19 patients, increasing their chances of contracting the virus. The reasons of the high fatality rate of the medical personnel are among others the lack of testing facilities in the early stages of the pandemic, scarcity of personal protective equipment (PPE) and lack of doctors' familiarity with PPE use and disposal. In many cases patients hide their symptoms, which invariably impacts the physicians.

Source: Arab News



Recommendations

Recommendation for international business travellers

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>
- A medical mask is not required if exhibiting no symptoms, as there is no evidence that wearing a mask – of any type – protects non-sick persons. 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

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. - Appropriate to the global trend of transmission of SARS-CoV-2 an extensive circulation of the virus is expectable. At this moment of time, 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	ECDC assessment for EU/EEA, UK as of 11 June 2020: Risk of COVID-19 to the general population currently assessed: Low in areas where community transmission has been reduced and/or maintained at low levels and where there is extensive testing showing very low detection rates. Moderate in areas where there is substantial ongoing community transmission and where appropriate physical distancing measures are not in place. Risk of COVID-19 to the population with defined factors associated with severe disease outcome currently assessed: Moderate in areas where community transmission has been reduced and/or maintained at low levels and where there is extensive testing showing very low detection rates. Very high in areas where there is substantial ongoing community transmission and where appropriate physical distancing measures are not in place. Risk of COVID-19 incidence rising to a level that may require the re-introduction of stricter control measures is currently assessed as: Moderate if measures are phased out gradually, when only sporadic or cluster transmission is reported, and when appropriate monitoring systems and capacities for extensive testing and contact tracing are in place. High if measures are phased out when there is still ongoing community transmission, and no appropriate monitoring systems and capacities for extensive testing and contact tracing are in place.

References:

- European Centre for Disease Prevention and Control www.ecdc.europe.eu
- World Health Organization WHO; www.who.int
- Centres for Disease Control and Prevention CDC; www.cdc.gov
- Our World in Data; <https://ourworldindata.org/coronavirus>

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