International Horizon Scanning and Learning to Inform Wales' COVID-19 Public Health Response and Recovery

Report 14, 02/09/2020

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World Health Organization
Collaborating Centre on
Investment for Health and Well-being

Overview

The International Horizon Scanning and Learning work stream was initiated following and informing the evolving coronavirus (COVID-19) public health response and recovery plans in Wales. It focuses on COVID-19 international evidence, experience, measures, transition and recovery approaches, to understand and explore solutions for addressing the on-going and emerging health, wellbeing, social and economic impacts (potential harms and benefits).

The learning and intelligence is summarised in weekly reports to inform decision-making. These may vary in focus and scope, depending on the evolving COVID-19 situation and public health / policy needs.

This work is aligned with and feeding into the Welsh Government Office for Science and into Public Health Wales Gold Command. It is part of a wider Public Health Wales' systematic approach to intelligence gathering to inform comprehensive, coherent, inclusive and evidence-informed policy action, which supports the Wellbeing of Future Generations (Wales) Act and the Prosperity for All national strategy towards a healthier, more equal, resilient, prosperous and globally responsible Wales.

Disclaimer: The reports provide high-level summary of emerging evidence from country experience and epidemiology; research papers (peer-reviewed/not); and key organisations' guidance / reports, including sources of information to allow further exploration. The reports don't provide detailed or in-depth data/evidence analysis. Due to the novelty of COVID-19 virus/disease, and dynamic change in situation, studies and evidence can be conflicting, inconclusive or depending on country/other context.

In focus this week

- **COVID-19 reporting methods and public perception of risk**
- **Epidemiology update and R insight**
- **COVID-19 in the Southern Hemisphere**

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At a glance: summary of international learning on COVID-19

"If countries are serious about opening up, they must be serious about suppressing transmission and saving lives"
Dr Tedros Adhanom Ghebreyesus, WHO Director-General

COVID-19 reporting methods and public perception of risk

- Two primary reporting methods of COVID-19 cases and deaths have been used - **total (cumulative) number; and relative rate (per 100,000 population)**, with earlier reports using mostly total numbers; and latter ones using mostly relative rates
- **Many complex factors can influence COVID-19 statistics**, such as population demographics, underlying health/risk status, and response approaches among others
- **Countries across the world vary greatly** in their **reporting methods**, including disparity in the definitions of COVID-19 cases and deaths; and counting tests
- **Country comparison should be done with caution**, considering all of the above
- The **method of reporting** COVID-19 cases and deaths, in relative versus absolute terms, can have a **major impact on public perception of risk,** and **adherence and compliance to public health measures**
- **Risk perception correlates positively and significantly with an index of preventative health behaviours** such as washing hands, wearing a face mask, and physical distancing

More information is summarised on pp. 4-7

COVID-19 in the Southern Hemisphere

- There is **currently no conclusive evidence** that weather (short term variations in meteorological conditions), climate (long-term averages) or temperature have a strong influence on COVID-19 transmission and spread
- The **weather effect is minimal** and all estimates are subject to significant biases reinforcing the **need for robust public health measures**
- The hypothesis that weather can play some role in the increased spread of COVID-19 disease during winter, is based on **seasonal patterns of similar viruses** (e.g. common cold, influenza); and studies showing that **meteorological parameters can play substantial role in the transmission of respiratory infectious diseases**
- **Multiple, complex factors** appear to have played a role in the **time-lag in reporting of cases across Africa**, including: shortages in testing and lab facilities, stigma, socio-economic status and political landscape
- Time-lag in reporting does not appear in other Southern Hemisphere countries, such as Australia, which is most likely due to the organisation of the public health system
- **Risk levels for exposure vary based on four main factors**: enclosed space; duration of interaction; crowds (density of people/no social distancing); forceful exhalation (sneezing, coughing, yelling and singing)
- The most effective way to prevent infection is to avoid the **"three Cs": closed spaces, crowded places and close-contact settings**

More information is summarised on pp.11-15

COVID-19 reporting methods and public perception of risk

COVID-19 reporting methods: total vs relative

- Two primary reporting methods of COVID-19 cases and deaths have been used - **total (cumulative) number; and relative rate (per 100,000 population)** (per unit of time)
- Reported **relative rates** (per unit of time) can include: **incidence** rate (new cases per 100,000 population); **prevalence** rate (all cases per 100,000 population); **mortality**/death rate (deaths per 100,000 population); and **case fatality** (deaths per number of cases)
- The **unit of time** can be: per day (e.g. daily new cases/deaths); per specific week/month; or for the duration of the outbreak in a country/region/area (starting from the first case)
- During the pandemic both methods have been **used variably across the world**, with earlier reports using mostly total numbers; and latter ones using more relative rates
- Since late March, **relative rates have become the dominant reporting method** in the UK[1], WHO European Region[2], US CDC[3], and Africa CDC[4]

Reporting variation across countries

- **Many complex factors** can **influence COVID-19 statistics**, such as population demographics (age, sex) and health indicators (underlying health status and risk factors); stage of the pandemic and infection curve; public health response and effectiveness; health and social care organisation and preparedness
- The **method of reporting** COVID-19 cases and deaths, in relative versus absolute terms, can have a **major impact on public perception of risk and understanding issues around adherence and compliance to public health measures**[5]
- **Variation in reporting** has been observed over the course of the pandemic **due to:**
  - ✓ Relative measures can be more effective than absolute ones in yielding a greater perceived severity of certain health-related situations[6]
  - ✓ While total numbers remain low, **increasing relative rates** can mislead the public into believing that risks are more pronounced than they actually are; and vice-versa[7]
  - ✓ **Reporting deaths in total numbers** tend to cause greater concern, especially when deaths are concentrated in particular settings or limited geographical space, such as hospitals, nursing homes or residences for the elderly[8]
  - ✓ **Differences in testing strategies and counting tests**, e.g. countries which test more, detect more cases, while mortality (case fatality) can remain low
  - ✓ **Disparities in the definition** of COVID-19 cases and deaths
- **Comparison** between cumulative (total) numbers of cases and deaths and relative rates (per 100,000) is presented on ***Figure 1 (page 10)*** to highlight the difference in understanding and perception of COVID-19 prevalence and risk

[1] https://www.bbc.co.uk/news/uk-england-south-yorkshire-52112102
[2] https://www.euro.who.int/__data/assets/pdf_file/0007/441808/week17-covid19-surveillance-report-eng.pdf
[3] https://www.cdc.gov/mmwr/volumes/69/wr/mm6915e4.htm
[4] https://africacdc.org/download/outbreak-brief-15-covid-19-pandemic-28-april-2020/
[5] https://link.springer.com/article/10.1007/BF02599636
[6] https://journals.sagepub.com/doi/abs/10.1177/0030222818791715
[7] https://onlinelibrary.wiley.com/doi/full/10.1046/j.1365-2044.2001.02135.x
[8] https://www.mdpi.com/1660-4601/17/9/3114/htm

Public perception of risk related to COVID-19

- **Less is known** about how the public perceives risks associated with emerging infectious diseases, compared to other risk domains, such as environmental risks
- Most of the evidence on risk perception originates from **studies during previous pandemics**, most notably the H1N1 swine flu pandemic in 2009
- **Risk perception correlates positively and significantly with an index of preventative health behaviours** such as washing hands, wearing a face mask, and physical distancing
- Perception of COVID-19 **relates to adherence to protective behaviours**, which in turn has the potential to **help reduce the virus transmission/spread**
- Public perception and related behavioural change is **especially important when there is no specific treatment or vaccine available** to stop transmission or reduce mortality

Evidence in focus

Study I: Risk perceptions of COVID-19 across ten countries[9]

Aim and methods

- To assess different risk perceptions of COVID-19 across ten countries at differing stages of the pandemic; and to assess the viability of potential predictors
- A survey (March-April 2020) with around 700 participants per country in: United Kingdom, United States, Australia, Germany, Spain, Italy, Sweden, Mexico, Japan and South Korea
- "COVID-19 Risk Perception" was measured as an index (M), covering affective, cognitive, and temporal-spatial dimensions to provide a holistic measure of risk perception

Findings:

- Significant predictors of risk perception include: personal experience with the virus; individual and social values; hearing about the virus from friends and family; trust in government, science, and medical professionals; personal knowledge of government strategy; and personal and collective efficacy
- Notably, risk perception was highest in the UK, followed by Spain, both significantly higher than all other countries
- Countries with less trust in their government include: USA, Mexico, Spain
- UK has an even distribution of scores for trust in government; and higher scores for trust in medical professionals
- Despite having relatively low average scores for trust in government, Italy and Spain present high average scores for trust in medical professionals
- Despite opting for a very different approach to dealing with the pandemic, Sweden displays a comparable distribution of trust in government, similarly to South Korea

Conclusions

- Experiential and socio-cultural factors explain most of the variation in risk perception across countries, compared to knowledge and socio-demographic characteristics
- Those who think that their government's action is not being effective, and those who say that they believe it's important for governments to intervene and take collective action all perceive a higher risk

[9] https://www.tandfonline.com/doi/full/10.1080/13669877.2020.1758193

- Health risk communication messages tend to be most effective when they include information about the effectiveness of measures designed to protect people from the disease both at a personal and at a societal level
- Overall, these findings are consistent with the "risk as analysis vs risk as feelings" theory where having had visceral contact with the virus strongly engages the affective experiential system, which is known to be more dominant in the processing of risk
- Being male was uniformly associated with perceptions of lower risk in many countries, which is consistent with other risk perception work

Study II: COVID-19 fatality risk perception in the US[10]

Aim and methods:

- To compare COVID-19 fatality risk perception of US adult residents, stratified for age, gender, and race, in mid-March 2020 (N1 = 1,182) and mid-April 2020 (N2 = 953)
- The study looked at the US population's perception as a whole but also at two subgroups defined by pre-existing medical conditions and age

Findings:

- The fatality risk perception has increased from March 2020 to April 2020
- Many US adult residents severely underestimate their absolute and relative fatality risk
- One in five US adults (20%) perceived their absolute risk to die from COVID-19 if infected to be around 1%, around 14% reported higher perceived risk, whereas the majority of around 67% reported lower perceived risk than the 1% benchmark
- Half of the surveyed adults (51%) reported that their own odds of dying if infected were approximately one in ten thousand or even lower, severely underestimating fatality risk
- Individuals with pre-existing medical conditions understood that their own risk of dying from COVID-19 if infected is higher than the average 1%, but they still severely underestimated their fatality risk
- Even though older US adults tended to know that their relative fatality risk is higher than 1%, they unambiguously underestimated their risk (69%)
- Slightly more than half (58% for both) of the two younger age groups severely underestimated their risk of dying of COVID-19 if infected
- 36.2% of the surveyed reported that their own fatality risk was approximately one in ten thousand or even lower

Conclusions:

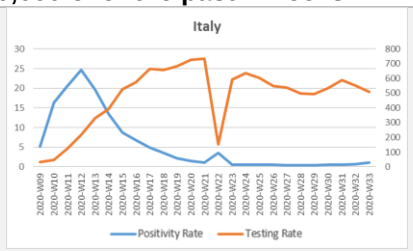
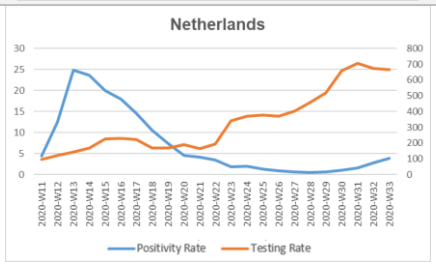
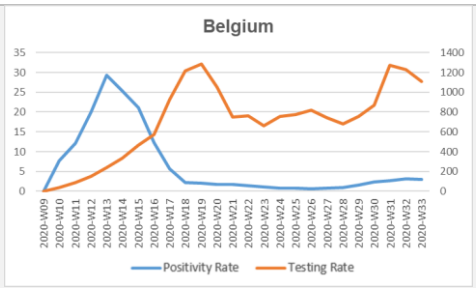
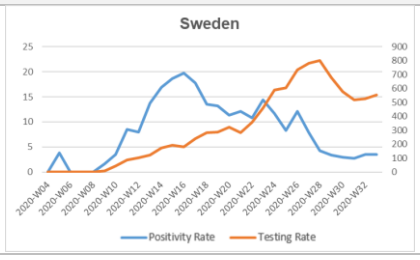
- These results are of concern due to lower risk perception, which can determine actual or intended health protective behaviour, that can reduce COVID-19 transmission rates
- An accurate perception of the risk posed by COVID-19 is an important condition if individuals are to implement behaviour change

[10] https://onlinelibrary.wiley.com/doi/abs/10.1111/bjhp.12438

Testing strategies across Europe

- The variation in testing strategies across selected European counties, including Italy, the Netherlands, Belgium, the UK and Sweden is presented in ***Table 1***
- Varying approaches to testing and reporting mean international comparison should be done with caution

Table 1. Variation in testing strategies across Europe

Country	Testing strategy	Effectiveness	Testing and positivity rates per 100,000 over the past 4 weeks[11]
Italy[1213]	Regionalised approach with different approaches: - Focus exclusively on symptomatic individuals in Piedmont and Lombardy - Blanket testing in Veneto and Tuscany	- Testing mostly symptomatic individuals can explain the high prevalence rate at the beginning of the pandemic - Containment measures considered insufficient to control the spread - Increased testing and innovative testing strategies	
Netherlands[1415]	- Initially, limited testing, with a focus on symptomatic individuals and healthcare workers - Testing limited due to a lack of lab equipment - Building testing facilities - Home testing kits are currently not part of the testing strategy	- A surge in cases, especially in the larger cities of Amsterdam and Rotterdam, has required establishing more drive through testing sites either for cars or pedestrians - All test results should be received within 24h, but this can be 48 hours in case of high demand - People are contacted by sms, email or phone to let them know the result	
Belgium[1617]	- Limited capacity to conduct tests at the beginning - Wider testing started 8th May with special attention to caregivers and people in residential settings - Testing gradually increase with 25,000 PCR tests, and a potential capacity of 45,000 tests per day	- Regional surges seen in cities such as Antwerp - Passengers flying into Brussels Airport from an area with a high-risk "red zone" will soon be able to pay to have a test on landing - Tests will be offered to tourists leaving Brussels by the beginning of September. Costs will range from €46 for passengers arriving from red zones to €67. - Results on average take nine hours to process. A rapid test taking 3 hours to process will cost €135	
Sweden[181920]	- Initial testing phase enabled the identification of asymptomatic carriers - Second phase involved introducing immunity (Antibody) testing for certain groups, including health and social care staff	- Experienced capacity issues with laboratories - Testing of symptomatic cases in the population is not done if the patient is not in need of hospital care or is not a healthcare worker	

[11] https://www.ecdc.europa.eu/en/publications-data/covid-19-testing
[12] https://blogs.bmj.com/bmj/2020/05/22/a-tale-of-two-testing-strategies-in-italy-for-covid-19/
[13] https://www.healtheuropa.eu/test-and-trace-can-prevent-a-second-wave-of-coronavirus/101776/
[14] https://www.rivm.nl/en/news/results-from-ggd-test-lanes
[15] https://www.dutchnews.nl/news/2020/03/the-who-says-test-test-test-so-what-is-the-dutch-strategy/
[16] https://www.covid19healthsystem.org/countries/belgium/livinghit.aspx?Section=1.5%20Testing&Type=Section
[17] https://www.politico.eu/article/brussels-airport-to-provide-on-site-coronavirus-testing/
[18] https://www.folkhalsomyndigheten.se/the-public-health-agency-of-sweden/communicable-disease-control/covid-19/
[19] https://www.government.se/articles/2020/04/strategy-in-response-to-the-covid-19-pandemic/
[20] https://www.bmj.com/content/369/bmj.m2376

Epidemiology update and R insight

COVID-19 epidemiology update across the UK, Wales and 13 selected countries is presented on ***Figure 1***.
A **comparison between cumulative (total) numbers of cases and deaths and relative rates (per 100,000)** is shown to highlight the difference in understanding and perception of COVID-19 prevalence and risk.

The comparative country analysis *(Figure 1)* shows:

- Countries may have high case number/prevalence but low mortality, such as Germany, Singapore, Iceland
- Looking at total (cumulative) numbers, some countries, such as the UK, Italy and Spain, appear to have been more severely affected by the pandemic; while Sweden, the Netherlands and Belgium less so
- Using relative rates (per 100,000) alters this perception and the impact shows to be more even across countries
- Testing definition and rates vary across countries and can influence reported numbers/rates

An insight of the **R value in Germany** and its **variation in response to implemented measures** is presented on ***Figure 2***. This is an updated analysis, following from **Report 5 / 21st May 2020**.

Going forward, there are plans for **new regulations (enhanced response) after the summer holiday season**, including:

- Anyone who returns from a high risk area should quarantine for 14 days
- A test after five days at the earliest of having entered Germany can shorten the quarantine time, if negative
- A minimum fine (50€) for violations of the mask/face covering requirement across Germany in public spaces, such as transport and shops (exception is lower Saxony-Anhalt)
- Large events where contact tracing is not possible remain prohibited until the end of the 2020 year

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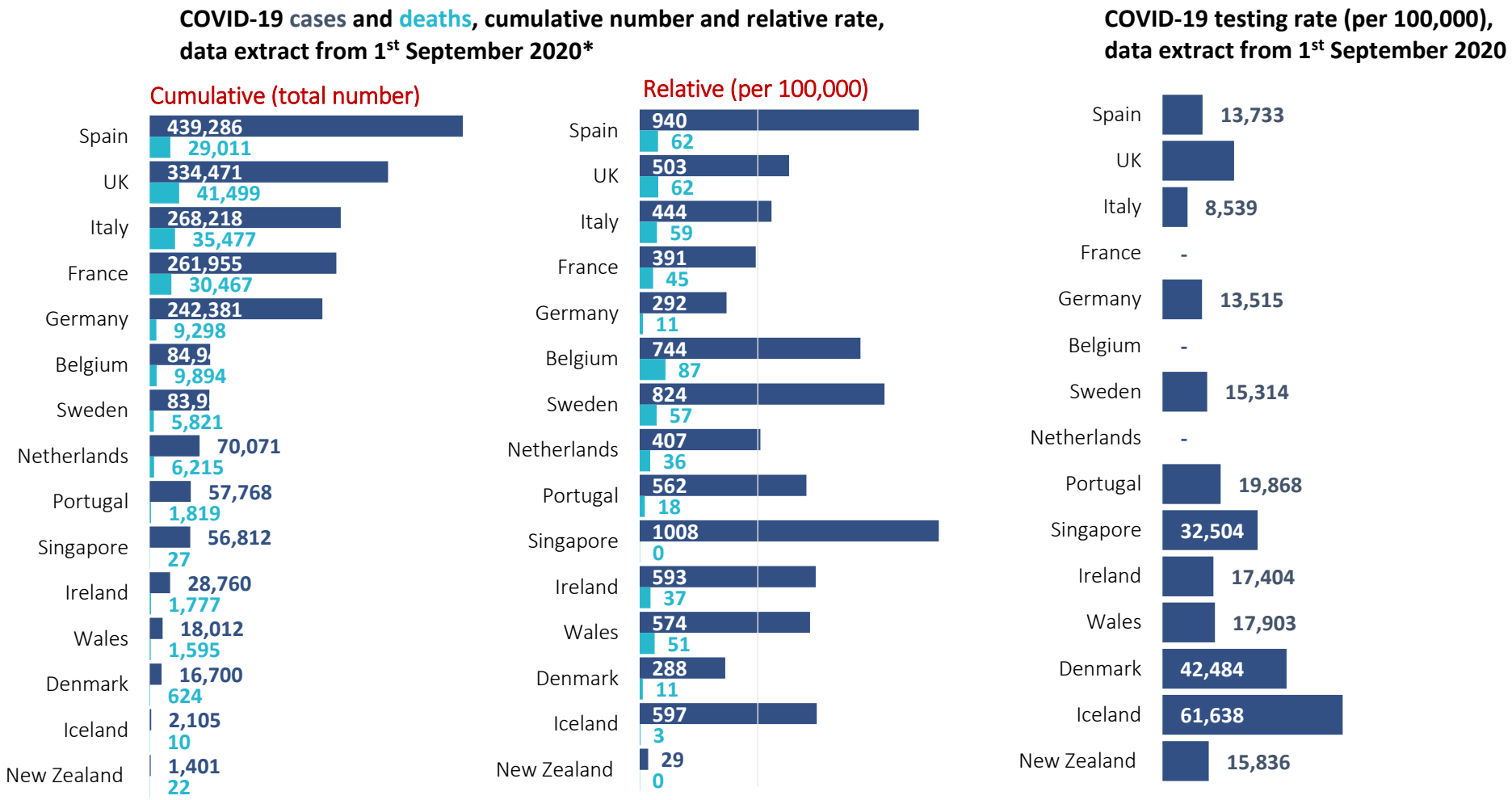
Figure 1. COVID-19 epidemiology update and comparison between selected countries



Time period for cases and deaths is from the start of the pandemic in respective country to the latest data available on 1st September 2020

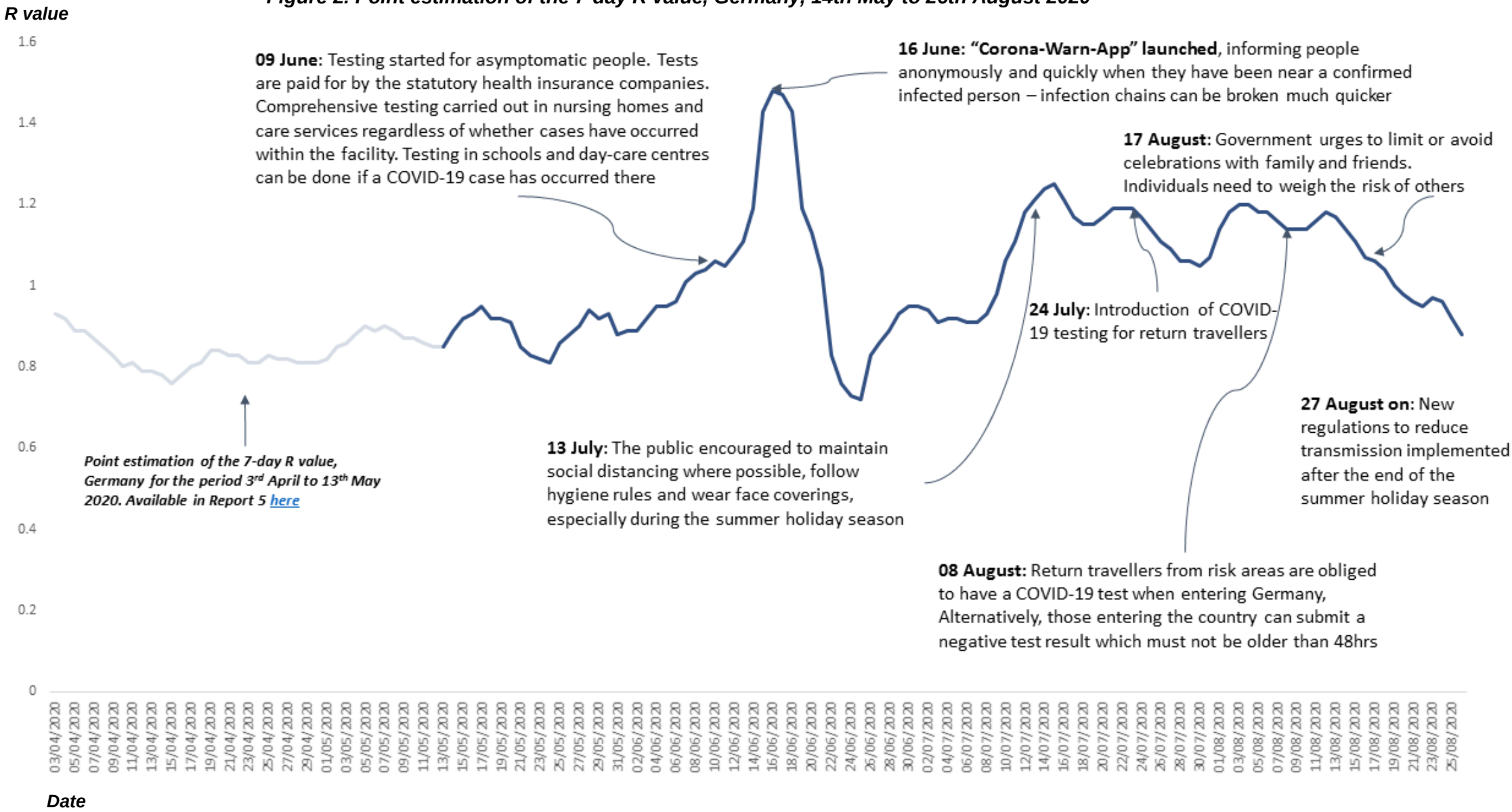
Sources:

Cases/deaths: *WHO Coronavirus Disease (COVID-19) Dashboard (https://covid19.who.int/); Public Health Wales Rapid COVID-19 surveillance (https://public.tableau.com/profile/public.health.wales.health.protection#!/vizhome/RapidCOVID-19virology-Public/Headlinesummary)*

Population data: *the World Bank (https://datacatalog.worldbank.org/population-total); Population estimates for the UK: provisional statistical bulletins, Office for National Statistics (https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/previousReleases)*

Testing data *extracted from 'Ministry of Health' websites for the respective country.* ***Please note:*** *Testing data should be interpreted with the caution. Definition of "a test" counted varies from country to country - some countries count tests based on swabs used (e.g. sending out home toolkits); others only count a test when a swab is analysed in a laboratory*

Figure 2. Point estimation of the 7-day R value, Germany, 14th May to 26th August 2020



COVID-19 in the Southern Hemisphere

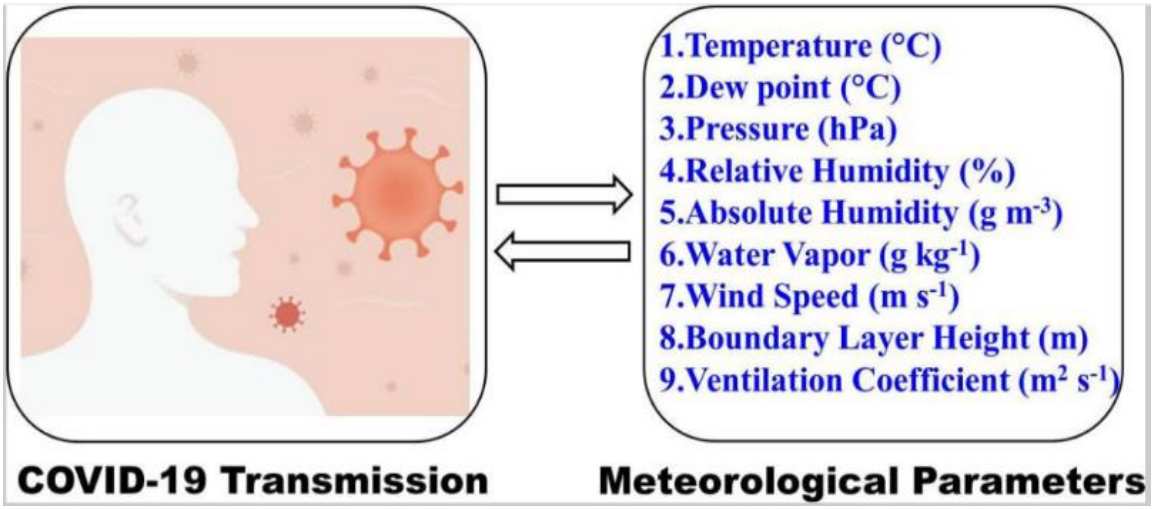
COVID-19 transmission and meteorological parameters

- There is **currently no conclusive evidence** that weather (short term variations in meteorological conditions), climate (long-term averages) or temperature have a strong influence on COVID-19 transmission and spread[21][22]
- The **weather effect is minimal** and all estimates are subject to significant biases, reinforcing the need for **robust public health measures**[23]
- Temperature and weather conditions can determine **where people gather**, seasons influence that **behaviour**
- Key arguments suggesting the **hypothesis that weather can play some role in the increased spread of COVID-19 disease during winter** include:
  - ✓ Seasonal patterns of similar viruses (e.g. common cold, influenza) show they spread more during cold months[24], but people can still become ill during other months
  - ✓ Meteorological parameters can play substantial role in the transmission of infectious diseases, such as Middle East Respiratory Syndrome (MERS), Severe Acute Respiratory Syndrome (SARS), and Influenza (Flu) *(Figure 4)*
  - ✓ Meteorological conditions can influence the viability and concentration of COVID-19 virus, including temperature, humidity and the environmental circumstances the virus lives in, such as in aerosols or on various surfaces
  - ✓ Particulate matter, such as droplets, can last longer in cold and less humid environments[56]
  - ✓ Population behaviour shows that people tend to gather more in closed spaces during colder months, which facilitates transmission and spread of the virus[25]
  - ✓ Low winter temperatures can make human body more vulnerable to infections[26]
  - ✓ Circulation of other viruses can negatively affect people's immunity; however, individuals recently recovered from a viral infection show strengthened immune systems, which might help to prevent subsequent infections[27]
  - ✓ Coronaviruses are more stable at low temperatures and low humidity, which may facilitate community transmission in subtropical areas (such as Hong Kong) during spring and in air-conditioned environments[28]
- Activities can be categorised according to the **level of risk for each setting, based on four main factors: enclosed space; duration of interaction; crowds; forceful exhalation** *(Figure 3)*[29]
- The most effective way to prevent infection is to avoid the **"three Cs": closed spaces, crowded places and close-contact settings**[30]

[21] https://www.who.int/news-room/q-a-detail/q-a-on-climate-change-and-covid-19
[22] https://www.cdc.gov/coronavirus/2019-ncov/faq.html
[23] https://www.cebm.net/covid-19/do-weather-conditions-influence-the-transmission-of-the-coronavirus-sars-cov-2/
[24] https://www.bbc.com/mundo/noticias-51705064
[25] https://www.clima.com/noticias/como-afectara-el-invierno-en-argentina-al-coronavirus
[26] https://www.mdpi.com/1660-4601/17/5/1633/htm?luicode=10000011&lfid=231522type%3D1%26t%3D10%26q%3D%23%E4%B8%96%E5%8D%AB%E7%BB%84%E7%BB%87%E5%B7%A5%E4%BD%9C%E4%BA%BA%E5%91%98%E5%9C%A8%E4%BC%8A%E6%9C%97%E6%84%9F%E6%9F%93%E6%96%B0%E5%86%A0%E7%97%85%E6%AF%92%23&featurecode=newtitle%E7%9C%8B%E8%B5%B7&u=https%3A%2F%2Fwww.mdpi.com%2F1660-4601%2F17%2F5%2F1633%2Fhtm
[27] https://www.theguardian.com/world/2020/mar/17/what-effect-will-winter-have-on-coronavirus-in-australia
[28] https://www.hindawi.com/journals/av/2011/734690/
[29] https://twitter.com/SaskiaPopescu/status/1279133758965248000
[30] https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---31-august-2020

Figure 3. COVID-19 Acitivy Risk Index

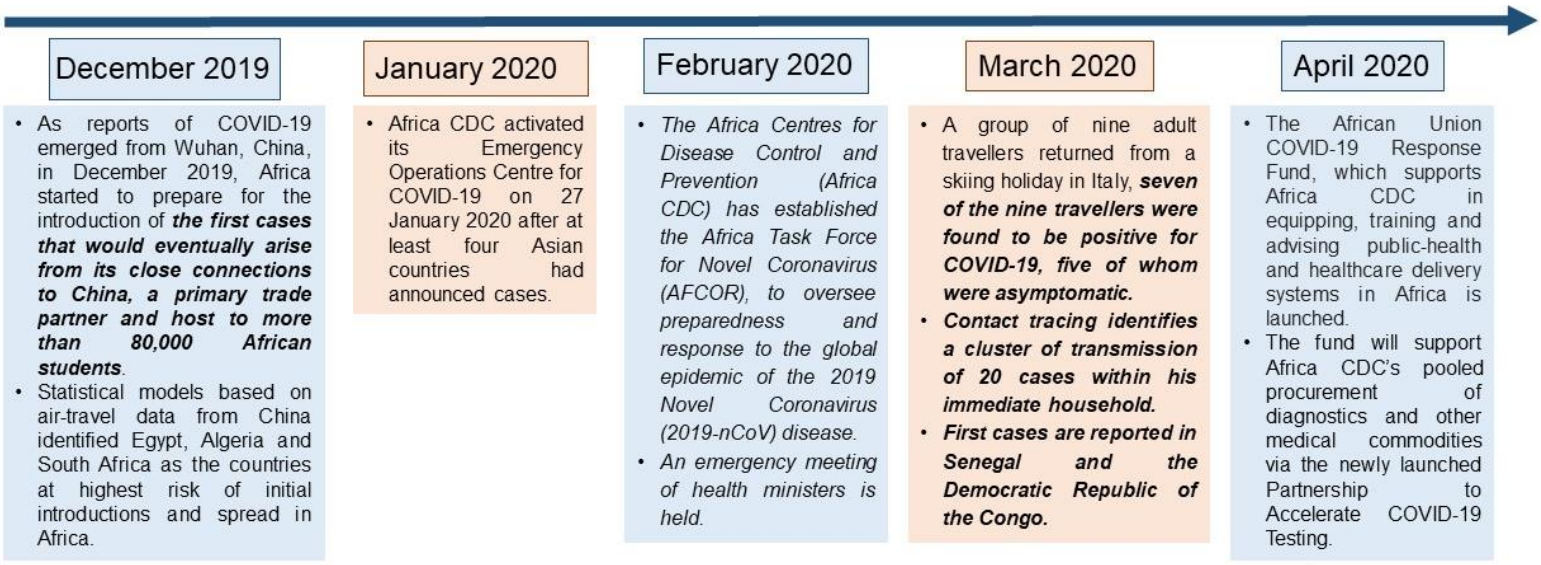
Figure 4: Meteorological parameters, which can influence COVID-19 transmission



COVID-19 in Africa

- In parallel with other continents, the approach to tackling the COVID-19 pandemic has varied across the African nations. *Figure 5* shows a brief timeline of events.
- **Multiple, complex factors** appear to have played a role in the time-lag in reporting of cases across Africa, including: shortages in testing and lab facilities, stigma, socio-economic status and political landscape
- The time-lag in reporting does not appear to have been a factor in other Southern Hemisphere countries, such as Australia, which is most likely due to the organisation and strength of the public health system
- **Public Health strategies include[31,32,33,34,35]:**
  - ✓ Implementation of the **continental African strategy**, led by the African Task Force for Coronavirus. The task force has harnessed and leveraged existing continental expertise through technical working groups aligned to priority areas
  - ✓ **Technical working groups** that review the latest evidence and best practice, adapting them into policies and recommendations **to inform public health action** and to foster **coordinated preparedness and response** across the continent
  - ✓ The African CDC introduced the **Partnership to Accelerate COVID-19 Testing (PACT)** at the beginning of June. This included increasing the supply chains of testing kits, and recommendations such as pooling samples for testing.

Figure 5. Timeline of the initial outbreak in Africa[31,33]



[31] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7303625/
[32] https://retrovirology.biomedcentral.com/articles/10.1186/s12977-014-0069-9
[33] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7195296/
[34] http://www.statssa.gov.za/?p=12075
[35] https://www.nature.com/articles/s41591-020-0961-x

Case studies

The following case studies highlight the challenges faced by countries in sub-Saharan Africa, showing how multiple complex factors can have accounted for a lag in reporting.

1. The impact of lockdown, South Africa[36][37]

- South Africa quickly introduced one of the strictest lockdowns globally, including an alcohol ban
- The lockdown has since been eased twice due to public unrest
- More than 40% of South Africans live below the poverty line, working in low-paid informal sectors, making adherence to lockdown extremely challenging
- Lockdown has negatively impacted HIV diagnosis and infection rates, with transmission reportedly increasing among lower-socioeconomic groups and young women. Resources, such as antiviral medication, are limited
- More than 1000 children aged younger than 9 years have tested positive for COVID-19, including new-borns and infants
- A correlation between sunlight and the rate of recovery has been reported; suggesting that sunlight exposure increases the rate of recoveries in patients with COVID-19

2. Social stigma, Burkina Faso[38]

- COVID-19 pandemic has triggered reactions among some Ouagadugou, Burkina Faso residents, complicating the facilitation of a timely response. These include:
  - ✓ Hesitancy to get tested
  - ✓ Avoidance of contact tracers
  - ✓ Wariness of neighbour's perceptions
- The fear of the unknown has driven stigma about the disease and resulted in individuals hiding their illness, not seeking treatment or observing preventive measures
- Patients and health workers have been the subject of stigmatization. Those working in COVID-19 treatment centres have been shunned by their communities due to fear of contracting the virus.
- These issues make accurate reporting challenging.

3. Political challenges, Tanzania[39][40][41][42][43][44][45][46]

- Tanzanian authorities stopped reporting case numbers in May. At the last report, the number of: confirmed cases stood at 509; recovered patients 183; and 21 deaths
- On 4 May, the President of Tanzania suspended the Head of Testing at the National Health Laboratory after the lab allegedly returned "false positive" test results. This claim has been denied by WHO Africa
- On 8 June, Tanzania declared itself free of COVID-19. Several test centres shut down following the announcement, and patients displaying symptoms have been denied testing
- The US Embassy in Tanzania released a Health Alert on the 13th of May stating that the risk of contracting COVID-19 in Dar es Salaam was extremely high. This alert was reiterated by the embassy on the 7th of August 2020
- Countries bordering Tanzania have seen increased cases at their borders, with Kenya increasing mobile laboratories on their Tanzanian border to incoming heavy-goods drivers

[36] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7303625/
[37] https://pubmed.ncbi.nlm.nih.gov/32361458/
[38] https://www.afro.who.int/news/tackling-covid-19-fear-and-stigma
[39] https://tz.usembassy.gov/health-alert-u-s-embassy-dar-es-salaam-august-7-2020/
[40] https://tz.usembassy.gov/health-alert-u-s-embassy-dar-es-salaam-may-13-2020/
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[46] https://www.health.go.ke/government-plans-to-instal-mobile-lab-at-namanga-border-nairobi-wednesday-may-13-2020/

4. Reporting of infections and national testing strategies[47][48][49]

- The Africa Centres for Disease Control and Prevention (Africa CDC) reported in mid-May that 1.3 million tests had been conducted across the continent which is a continental average of one test per 1,000 people. There are, however, huge discrepancies between countries
- A lack of materials to test for the virus has forced several countries to work with vague and sometimes misleading estimates and has led to the under-reporting of COVID-19 cases
- There is a continued lag behind the global curve for cases and deaths
- *Table 2* outlines a sample of national testing strategies and their effectiveness

Table 2. National testing strategies[50][51][52][53][54][55][56][57]

Country	Strategy	Effectiveness
Ghana	- One of the highest testing rates on the continent - Using Africa CDC recommended strategies, such as pooling samples in testing to increase the speed at which tests are completed	- Cases appear to be rising - Pooling appears to be leading to a lag in positive results, due to the additional testing required to identify positive individuals
Kenya	- Testing capacity has been scaled up from 2 labs in Nairobi to 20 labs in 10 counties - The focus now is on targeted testing, increasing lab capacity, travel restrictions, psychosocial support and establishment of functional quarantine and isolation facilities	- At the end of May, the Ministry of Health reported a rise in cases, thought to be due to an increase in testing
Nigeria	- One of the lowest testing rates on the continent (~0.02 daily tests per thousand population) - Despite the recommendations of the African CDC, Nigeria is not pooling tests	- Whilst not pooling testing, this has avoided a delaying in positive tests - Therefore Nigeria has not seen an increase in positive cases per test
South Africa (SA)	- Community screening and testing (CST) programmes in April 2020. These were discontinued in May. - Attempted ambitious large scale community screening and testing but faced criticism over massive backlogs and a two week turnaround time for results	- A new testing strategy was implemented in June, prioritising vulnerable segments of the population, such as the elderly - This shift in focus may contribute to the increased number of positive tests seen

[47] https://www.bbc.co.uk/news/world-africa-52801190
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