

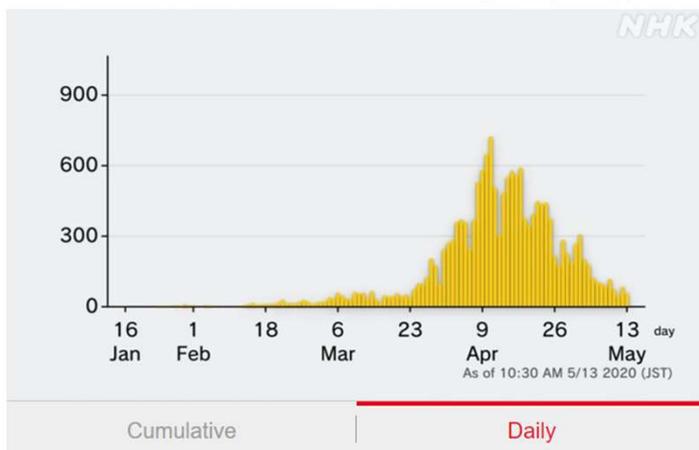
# Weekly Meeting



1. Trend (May 7th-May 14th)
2. Lifting state of emergency (?)
3. New tests (update)
4. Symptoms (update/reminder)
5. Q&A

## What is the current situation in Japan?

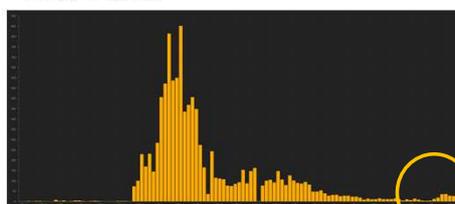
COVID-19 confirmed cases in Japan (daily)



Germany



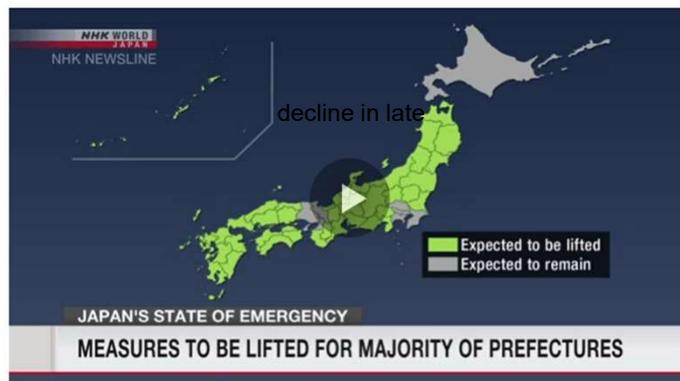
South Korea



<https://www3.nhk.or.jp/nhkworld/en/news/tags/8>

<https://gisanddata.maps.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf62/>

The Japanese government has consulted an advisory panel regarding its plan to lift the state of emergency in 39 out of the country's 47 prefectures.



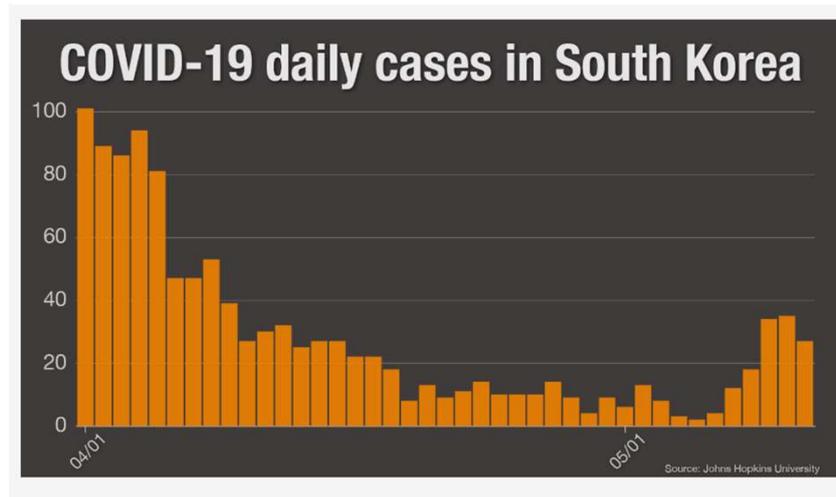
May 14<sup>th</sup> 2020

[https://www3.nhk.or.jp/nhkworld/en/news/20200514\\_19/](https://www3.nhk.or.jp/nhkworld/en/news/20200514_19/)

## South Korea braces for possible second wave of coronavirus infections

- South Korea's numbers began to decline in late March. By the end of April, the daily figures were in the single digits.
- The government relaxed social distancing measures on May 6th, allowing previously closed, such as museums, parks, and libraries, to reopen.
- Thousands of people reportedly visited clubs and bars in Seoul's popular Itaewon neighborhood, a well-known nightlife.
- As of May 12th, there have been over 100 confirmed cases linked to the 29-year-old man, with over 60 in Seoul.

<https://www3.nhk.or.jp/nhkworld/en/news/backstories/1085/>



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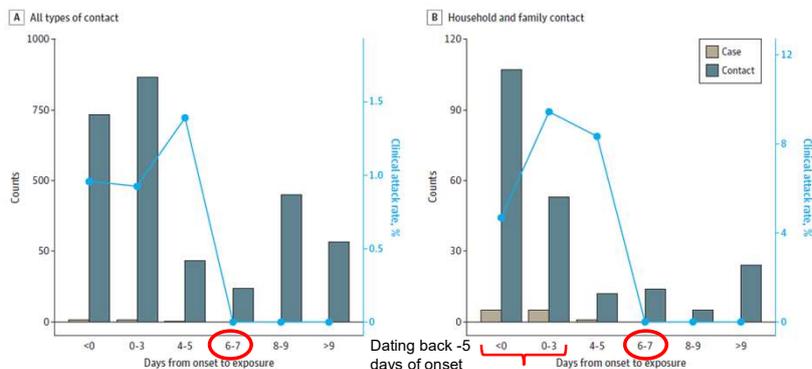
## Germany keeps its foot on the brake

- The country lowered the number of new infections per day to under 1,000 before lifting certain restrictions.
- Shops can now fully reopen with increased hygiene and physical distancing measures, schools have been partially reopened, Bundesliga soccer matches will resume this weekend and members of two different households can meet together.
- German Chancellor Angela Merkel said last week that an "emergency brake" will be applied if a spike in new COVID-19 infections happens anywhere in the country.

<https://www.cbc.ca/news/health/south-korea-germany-lessons-lifting-lockdown-1.5566485>

JAMA Internal Medicine | Original Investigation

### Contact Tracing Assessment of COVID-19 Transmission Dynamics in Taiwan and Risk at Different Exposure Periods Before and After Symptom Onset

Published on May 1<sup>st</sup> 2020

- In a careful study from the Taiwan CDC, among 100 confirmed patients and their 2,761 close contacts, the overall secondary clinical attack rate was 0.7%, and 0 secondary cases occurred in 892 contacts beyond 5 days from symptom onset.
- Because the onset of overt clinical symptoms, such as fever, dyspnea, and signs of pneumonia, usually occurred 5 to 7 days after initial symptom onset, the infection might well have been transmitted at or before the time of detection.
- None of the 9 asymptomatic case patients transmitted a secondary case.

## New Tests

### US FDA Approval saliva test

<https://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-update-fda-authorizes-first-diagnostic-test-using-home-collection-saliva>

### US FDA Approval Antigen test

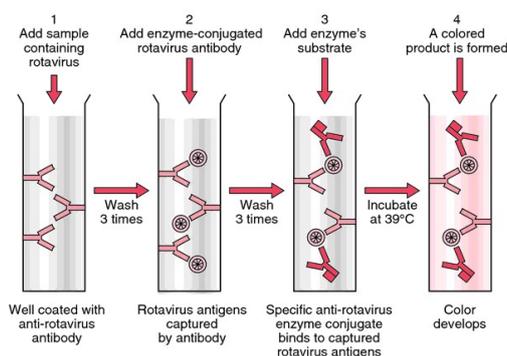
<https://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-update-fda-authorizes-first-antigen-test-help-rapid-detection-virus-causes>

### Japan Antibody Test to be approved on May 13th 2020

<https://asia.nikkei.com/Spotlight/Coronavirus/Japan-targets-400-000-coronavirus-antigen-tests-weekly>

## Antigen Test

- The antigen(s) detected are expressed only when the virus is actively replicating; therefore, such tests are best used to identify acute or early infection.



<https://medical-dictionary.thefreedictionary.com/Antigen+test>

### How well the tests work depends on several factors

1. The time from onset of illness
2. The concentration of virus in the specimen
3. The quality of the specimen collected from a person
4. How it is processed
5. The precise formulation of the reagents in the test kits.

<https://www.who.int/news-room/commentaries/detail/advice-on-the-use-of-point-of-care-immunodiagnostic-tests-for-covid-19>

## Rapid diagnostic tests based on antigen detection

- **The sensitivity of these tests might vary from 34% to 80%**  
**In the US, false negative results have been occurring in up to 25%-50% of tests on the point-of-care platform.**
  1. False-negative → Half or more of COVID-19 infected patients might be missed
  2. False-positive → The test strip also recognize antigens of viruses other than COVID-19, such as from human coronaviruses that cause the common cold.
- **WHO does not currently recommend the use of antigen-detecting rapid diagnostic tests for patient care**, although research into their performance and potential diagnostic utility is highly encouraged.

<https://www.who.int/news-room/commentaries/detail/advice-on-the-use-of-point-of-care-immunodiagnostic-tests-for-covid-19>

## Seropositivity Test (Antibody Testing)

- Population seroprevalence rates of less than 5% in many European countries' and U.S. cities' data speak against widespread induction of herd immunity.
- This supports slow, staged release of mitigation measures to ensure a capable health care system response.

<https://www.medrxiv.org/content/10.1101/2020.04.14.20062463v2.full.pdf>

- CDC does not recommend using antibody testing to diagnose acute infection. It is recommended to use a viral (nucleic acid or antigen) test to diagnose acute infection.

<https://www.cdc.gov/coronavirus/2019-nCoV/hcp/clinical-criteria.html>

Nature: April 30, 2020

*“No test is Better than a bad test”*

- Test the tests
- Timing is critical
- Infection doesn't equal immunity

The world this week

### News in focus



Antibody tests have been promoted as a way to get people back to work — but the reliability of their results is unknown.

#### WILL CORONAVIRUS ANTIBODY TESTS REALLY CHANGE EVERYTHING?

The rapidly developed tests have been touted as society's way out of widespread lockdowns, but scientists say it will be a while before they are as useful as hoped.

**By Benoit Mallepaty**

British Prime Minister Boris Johnson called them a “game changer”. Antibody tests have captured the world's attention for their potential to help life return to normal by revealing who has been exposed, and might now be immune, to the new coronavirus.

Dozens of biotechnology companies and research laboratories have rushed to produce the blood tests. And governments around the world have bought millions of kits, in the hope that they could guide decisions on when to relax social distancing measures and get people back to work. Some have even suggested that the tests could be used as an “immunity passport”, giving the owner clearance to interact with others again.

Many scientists share this enthusiasm. The immediate goal is a test that can tell health care and other essential workers whether they are still at risk of infection, says David Smith, a clinical virologist at the University of Western Australia in Perth. In the future, the tests could assess whether vaccine candidates give people immunity.

But as with most new technologies, there are signs that the premises of COVID-19 antibody tests have been oversold, and their challenges underestimated. Kits have flooded the market, but most aren't accurate enough to confirm whether an individual has been exposed to the virus.

And even if tests are reliable, they can't indicate whether someone is immune to reinfection, say scientists. It will be weeks before kits are as useful as hoped, says Smith.

The UK government learnt about this the hard way after it ordered 1.2 million tests from several companies in late March, only to discover later that none of these tests

Nature | Vol 580 | 30 April 2020 | 871

<https://media.nature.com/original/magazine-assets/d41586-020-01115-z/d41586-020-01115-z.pdf>

## CDC updated the list of symptoms for COVID19 on April 28th

Major symptoms:

- Cough
- Shortness of breath or difficulty breathing

Or at least two of these symptoms:

- Fever
- Chills
- Repeated shaking with chills
- Muscle pain
- Headache
- Sore throat
- New loss of taste or smell

<https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>  
<https://www.nejm.org/doi/full/10.1056/NEJMoa2008457>

## What about children?

Typical symptoms for children with COVID19

- Runny nose
- Congestion
- Cough
- Temperature 37.5c or over
- Vomit/diarrhea

Children are primarily infected via infected family members

A household study in China and observations in a limited number of contact investigations in Germany have suggested that children are infected by SARS-CoV-2 at a rate that may not be different from that of adults.

## THE LANCET

Estimating excess 1-year mortality associated with the COVID-19 pandemic according to underlying conditions and age: a population-based cohort study

Published online May 12, 2020 [https://doi.org/10.1016/S0140-6736\(20\)30854-0](https://doi.org/10.1016/S0140-6736(20)30854-0)

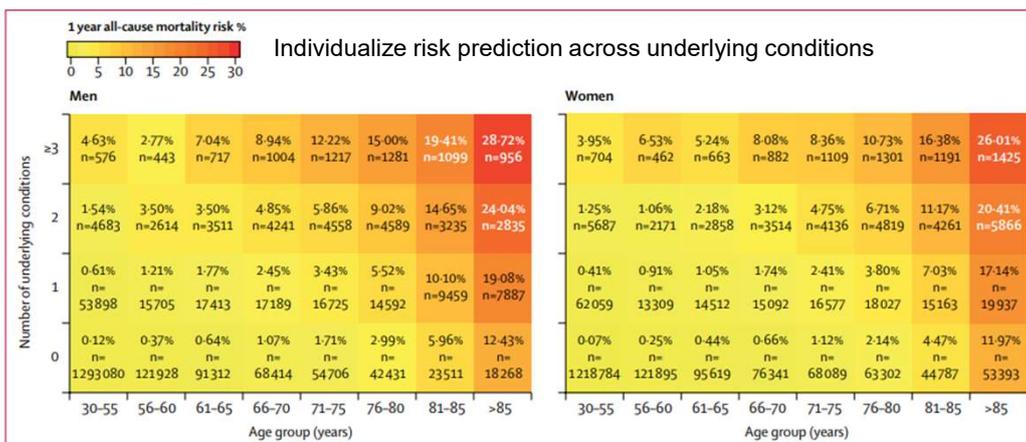


Figure 3: Baseline 1-year mortality in England according to number of underlying conditions, age category, and sex (n=3 862 012)

## IMPORTANT POINTS

- There is no established treatment for COVID19 ...yet
- COVID19 kills 3-15% of aged over 75 years old if infected
- The sensitivity of tests vary from 34% to 80%....
- ✓ Social distancing & Self-isolating is still utmost necessity!
- ✓ Continued “on-off” lockdowns needed!

(Epidemiologists' estimates)

## How do we tackle this?

- Social distancing / self-monitor
- Telemedicine
- Prevention of other preventable diseases (Routine vaccine/Flu vaccine)
- Maintaining good control of underlining medical condition
- Medication?
  - Emergency Use Authorization (EUA): Remdesivir
  - Favipiravir (Avigan®) ? Hydrochloroquine X
- Immune Substance? (=Passive Immunity)
  - Kitazato University (Japan)
- Vaccine? (=Active Immunity)
  - UK Oxford University Trial started in April
  - Osaka University Trail to start in July (?)
  - .....(over 70 candidates according to WHO)
- Herd immunity? Immunity Test??

NIH (US) says:  
**There are insufficient data to recommend either for or against any antiviral or immunomodulatory therapy in patients with COVID-19 with mild illness**

**Thank you for joining!  
See you next week!**

**Schedules are available from  
[www.adachiclinic.org](http://www.adachiclinic.org)**

