How contagious is the coronavirus?

The average number of people that one person with a virus infects, based on the R0 scale

COVID-19: 2–2.5*

Infected person → Average people infected

H1N1: 1.2–1.6

Infected person → Average people infected

Ebola: 1.6–2

Infected person → Average people infected

SARS: 2–4

Infected person → Average people infected

MERS: 2.5–7.2**

Infected person → Average people infected

*As of February 28, 2020   **R0 calculated solely during the 2015 outbreak in South Korea

Sources: ScienceMag; WHO; Journal of the ISIRV   BUSINESS INSIDER
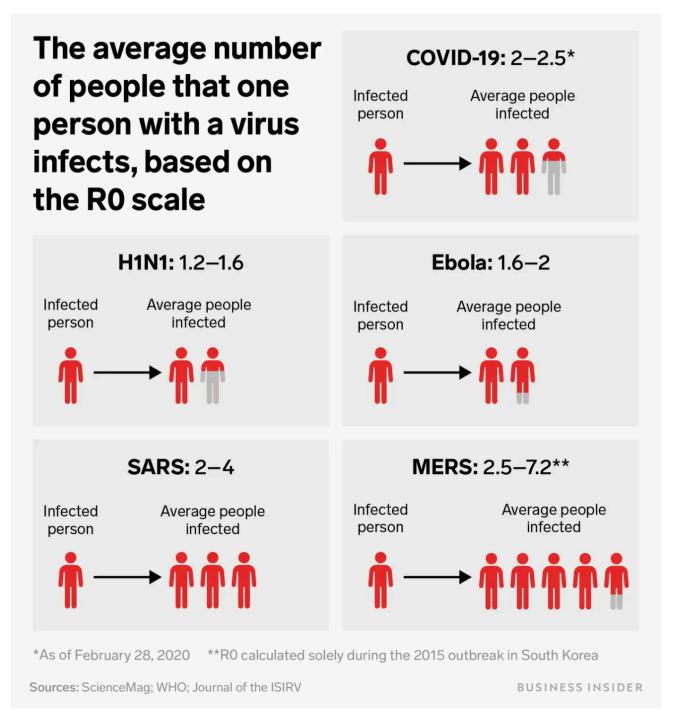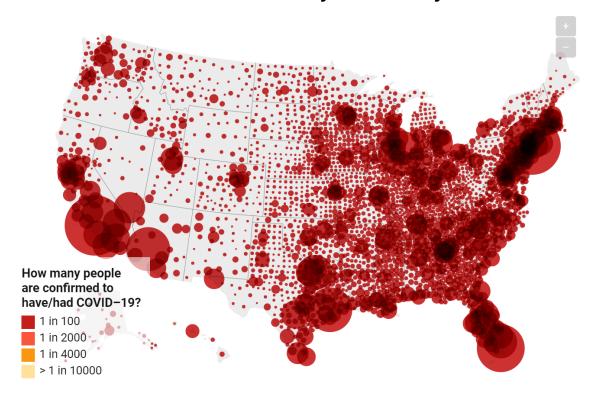
Shayanne Gal/Business Insider

Where is the epicenter of the pandemic? Which country has the largest outbreak?

COVID-19 confirmed cases by US county

How many people are confirmed to have/had COVID−19?

- 1 in 100
- 1 in 2000
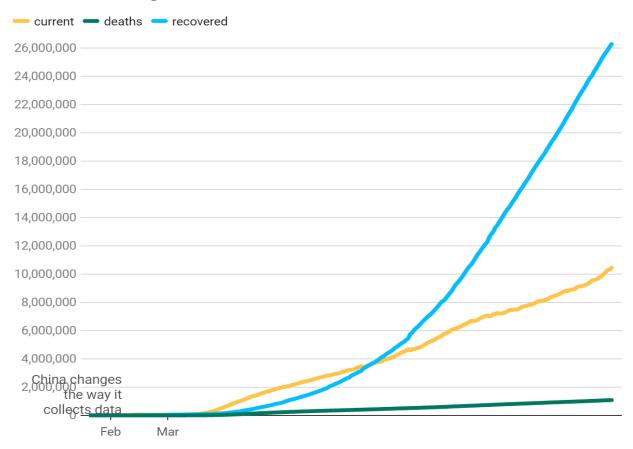- 1 in 4000
- > 1 in 10000

The map shows yesterday's number of cases. To zoom, use the zoom buttons or hold CTRL while scrolling. All cases for the five boroughs of New York City (New York, Kings, Queens, Bronx and Richmond counties) are assigned to a single area called New York City.

Source: Data from The New York Times, based on reports from state and local health agencies. • Get the data • Created with Datawrapper

How quickly did the coronavirus spread across the globe?

COVID-19 global cases, deaths, and recoveries

— current — deaths — recovered

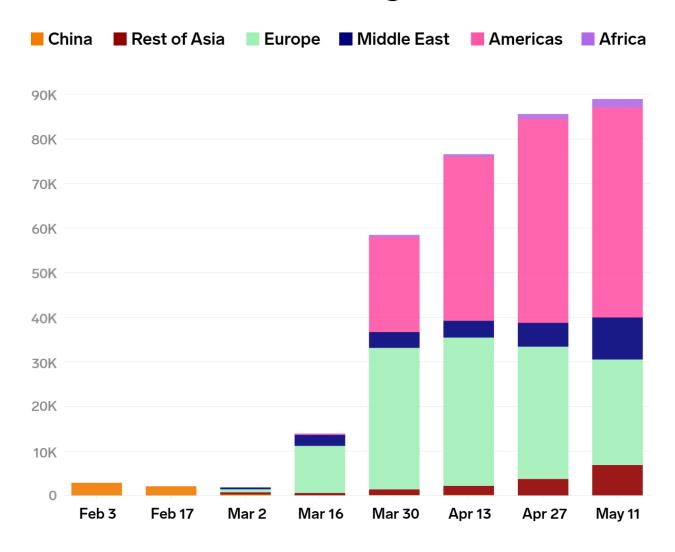|	
26,000,000	
24,000,000	
22,000,000	
20,000,000	
18,000,000	
16,000,000	
14,000,000	
12,000,000	
10,000,000	
8,000,000	
6,000,000	
4,000,000	
2,000,000	China changes
	the way it
0	collects data

Feb   Mar

The values for March 12 are interpolated because Johns Hopkins university doesn't provide reliable data for that day. This chart gets updated once a day with data by Johns Hopkins.

How many people have been infected or died in China? Are those numbers reliable?

Daily new COVID-19 cases around the globe

■ China   ■ Rest of Asia   ■ Europe   ■ Middle East   ■ Americas   ■ Africa

```
90K
80K
70K
60K
50K
40K
30K
20K
10K
0
     Feb 3   Feb 17   Mar 2   Mar 16   Mar 30   Apr 13   Apr 27   May 11
```
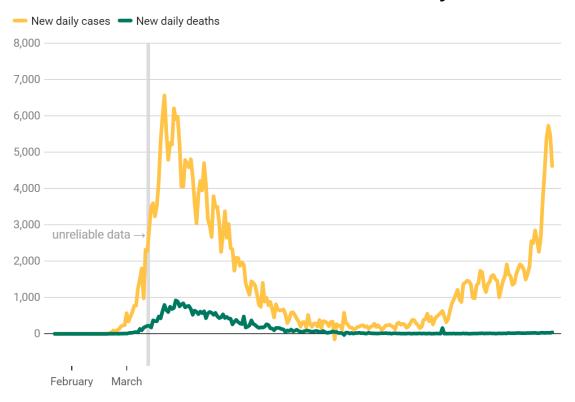
Data reflects the number of new confirmed cases for each specific date listed.

Source: WHO

INSIDER

What happened in Italy?

COVID-19 new cases and deaths in Italy

— New daily cases — New daily deaths

8,000

7,000

6,000

5,000

4,000

3,000

unreliable data →

2,000

1,000

0

February   March
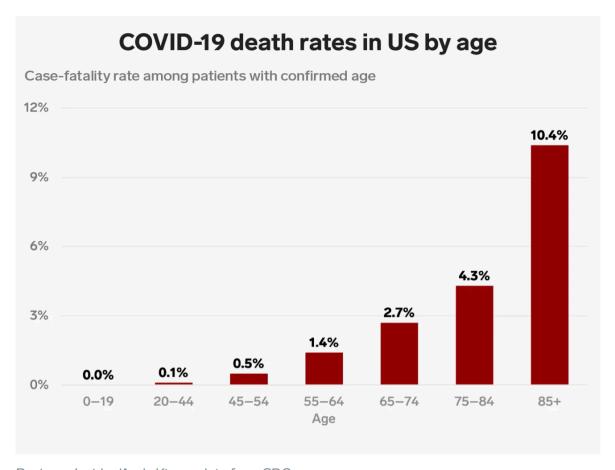
This chart gets updated once per day with data by Johns Hopkins. Johns Hopkins university doesn't provide reliable data for March 12 and March 13.

Source: Johns Hopkins CSSE • Get the data • Created with Datawrapper

COVID-19 infections overwhelmed Italy's healthcare system in March, forcing healthcare workers to make difficult choices about who to save.

Who is most at risk of death from the coronavirus?

COVID-19 death rates in US by age

Case-fatality rate among patients with confirmed age

Age	Rate
0–19	0.0%
20–44	0.1%
45–54	0.5%
55–64	1.4%
65–74	2.7%
75–84	4.3%
85+	10.4%
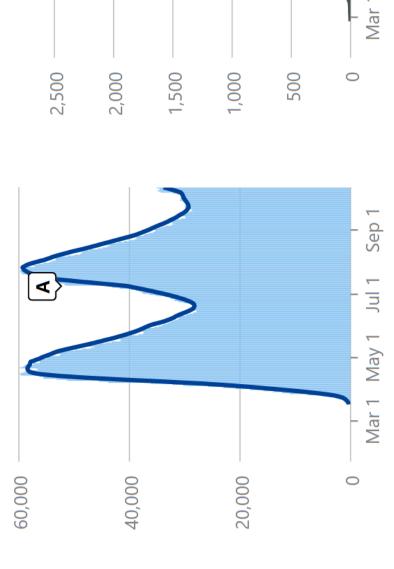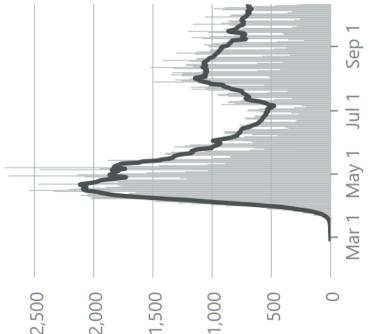
Death rates for older patients are much higher.

National 7-day average

New deaths (Calculated).

2,500	
2,000	
1,500	
1,000	
500	
0	Mar 1 May 1 Jul 1 Sep 1

Current hospitalizations (Notes)

A

60,000	
40,000	
20,000	
0	Mar 1 May 1 Jul 1 Sep 1

The COVID
Tracking Project

Full range

New tests (Calculated).
Total test results (mixed units)

New cases (Calculated).
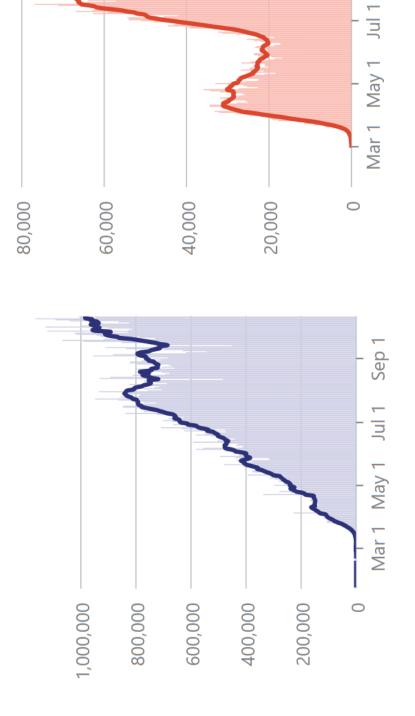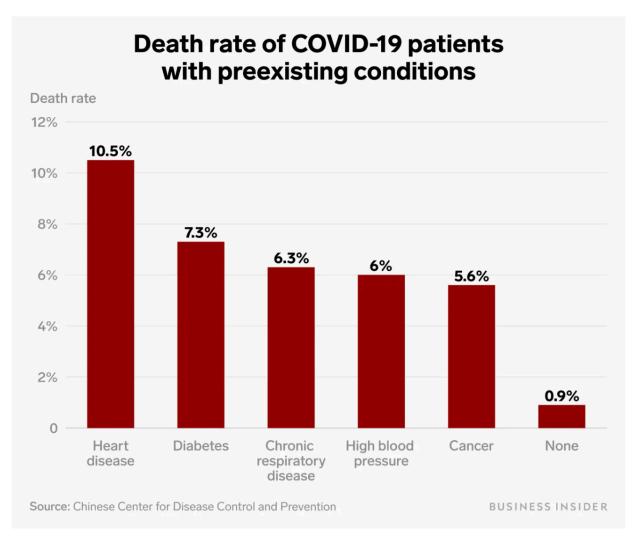
Chart information and data ↓

How does the virus affect people with underlying health conditions?

Death rate of COVID-19 patients with preexisting conditions

Death rate

- 10.5% — Heart disease
- 7.3% — Diabetes
- 6.3% — Chronic respiratory disease
- 6% — High blood pressure
- 5.6% — Cancer
- 0.9% — None

Source: Chinese Center for Disease Control and Prevention

BUSINESS INSIDER

Ruobing Su/Business Insider

Coronavirus patients with underlying health problems are more likely to die than otherwise healthy people.

How does COVID-19 compare to SARS?

2019 novel coronavirus compared to other major viruses

VIRUS	YEAR IDENTIFIED	CASES	DEATHS	FATALITY RATE	NUMBER OF COUNTRIES
Ebola	1976	33,577	13,562	40.4%	9
Nipah	1998	513	398	77.6%	2
SARS	2002	8,096	774	9.6%	29
MERS*	2012	2,494	858	34.4%	28
COVID-19**	2020	5,128,492	333,489	6.5%	188

Sources: Johns Hopkins, CDC, World Health Organization, New England Journal of Medicine, Malaysian Journal of Pathology, CGTN

*As of November 2019 **As of May 22, 2020

BUSINESS INSIDER

The total number of COVID-19 cases and deaths have far surpassed those of the SARS outbreak of 2003.

COVID-19 spread globally

	CONFIRMED CASES	DEATHS
Global	37,801,526	1,080,680
United States	7,804,047	215,082
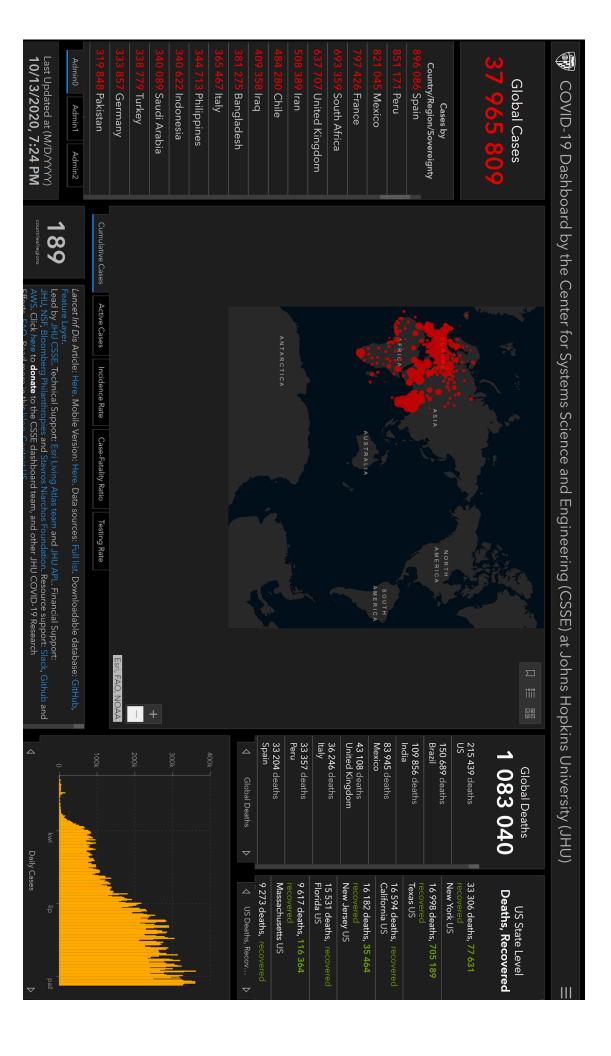
Last updated 14 hours ago using data from JHU CSSE
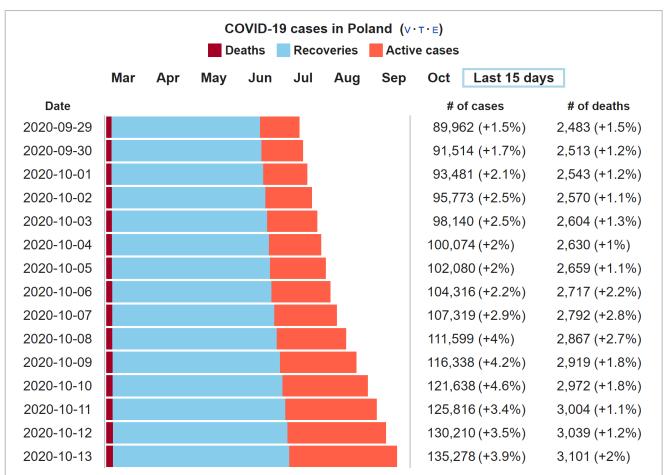
What are the symptoms of COVID-19?

COVID-19 compared to other common conditions

SYMPTOM	COVID-19	COMMON COLD	FLU	ALLERGIES
Fever	Common	Rare	Common	Sometimes
Dry cough	Common	Mild	Common	Sometimes
Shortness of breath	Common	No	No	Common
Headaches	Sometimes	Rare	Common	Sometimes
Aches and pains	Sometimes	Common	Common	No
Sore throat	Sometimes	Common	Common	No
Fatigue	Sometimes	Sometimes	Common	Sometimes
Diarrhea	Rare	No	Sometimes*	No
Runny nose	Rare	Common	Sometimes	Common
Sneezing	No	Common	No	Common

*Sometimes for children

Sources: CDC, WHO, American College of Allergy, Asthma and Immunology

Shayanne Gal/Business Insider

Global Cases
37 965 809

Cases by Country/Region/Sovereignty

896 086	Spain
851 171	Peru
821 045	Mexico
797 426	France
693 359	South Africa
637 707	United Kingdom
508 389	Iran
484 280	Chile
409 358	Iraq
381 275	Bangladesh
365 467	Italy
344 713	Philippines
340 622	Indonesia
340 089	Saudi Arabia
338 779	Turkey
333 857	Germany
319 848	Pakistan

189 countries/regions

Cumulative Cases | Active Cases | Incidence Rate | Case-Fatality Ratio | Testing Rate

Esri, FAO, NOAA

Global Deaths
1 083 040

215 439 deaths	US
150 689 deaths	Brazil
109 856 deaths	India
83 945 deaths	Mexico
43 108 deaths	United Kingdom
36 246 deaths	Italy
33 357 deaths	Peru
33 204 deaths	Spain

Global Deaths

US State Level
Deaths, Recovered

33 306 deaths,	77 631	recovered
New York US		
16 998 deaths,	705 189	recovered
Texas US		
16 594 deaths,	recovered	
California US		
16 182 deaths,	35 464	recovered
New Jersey US		
15 531 deaths,	recovered	
Florida US		
9 617 deaths,	116 364	recovered
Massachusetts US		
9 273 deaths,	recovered	

US Deaths, Recov...

kwi | lip | paź

Daily Cases

COVID-19 cases in Poland (V · T · E)

■ Deaths   ■ Recoveries   ■ Active cases

Mar   Apr   May   Jun   Jul   Aug   Sep   Oct | Last 15 days |

Date	# of cases	# of deaths
2020-09-29	89,962 (+1.5%)	2,483 (+1.5%)
2020-09-30	91,514 (+1.7%)	2,513 (+1.2%)
2020-10-01	93,481 (+2.1%)	2,543 (+1.2%)
2020-10-02	95,773 (+2.5%)	2,570 (+1.1%)
2020-10-03	98,140 (+2.5%)	2,604 (+1.3%)
2020-10-04	100,074 (+2%)	2,630 (+1%)
2020-10-05	102,080 (+2%)	2,659 (+1.1%)
2020-10-06	104,316 (+2.2%)	2,717 (+2.2%)
2020-10-07	107,319 (+2.9%)	2,792 (+2.8%)
2020-10-08	111,599 (+4%)	2,867 (+2.7%)
2020-10-09	116,338 (+4.2%)	2,919 (+1.8%)
2020-10-10	121,638 (+4.6%)	2,972 (+1.8%)
2020-10-11	125,816 (+3.4%)	3,004 (+1.1%)
2020-10-12	130,210 (+3.5%)	3,039 (+1.2%)
2020-10-13	135,278 (+3.9%)	3,101 (+2%)

Sources: Polish Ministry of Health via official press conferences, official tweets 🗗, and website 🗗; see the tables for detailed references.

SARS-CoV-2 cases and COVID-19 deaths in Poland

Daily lab-confirmed SARS-CoV-2 cases and U07.1 COVID-19 deaths in Poland. The value of 0 per day is displayed as 1 per day.
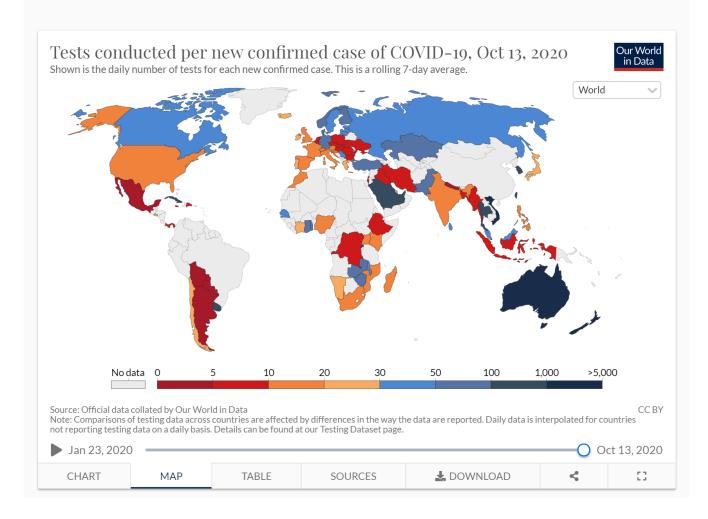
The positive rate: A crucial metric for understanding the pandemic

The share of COVID-19 tests that are positive, Oct 13, 2020
The daily positive rate, given as a rolling 7-day average.

World

No data	0%	0.1%	1%	2%	3%	5%	10%	20%	>50%

Source: Official data collated by Our World in Data
Note: Comparisons of testing data across countries are affected by differences in the way the data are reported. Daily data is interpolated for countries not reporting testing data on a daily basis. Details can be found at our Testing Dataset page

CC BY

▶ Jan 8, 2020   Oct 13, 2020

| CHART | MAP | TABLE | SOURCES | ⬇ DOWNLOAD | ⬦ | ⤢ |

How many **tests** are performed **each day**?

Daily COVID-19 tests per thousand people, Oct 13, 2020
The figures are given as a rolling 7-day average.

Our World in Data

World ⌄

No data | 0 | 0.5 | 1 | 1.5 | 2 | 2.5 | >3

Source: Official data collated by Our World in Data   CC BY
Note: Comparisons of testing data across countries are affected by differences in the way the data are reported. Daily data is interpolated for countries
not reporting testing data on a daily basis. Details can be found at our Testing Dataset page.

▶ Jan 8, 2020 ————————————————————○ Oct 13, 2020

CHART | MAP | TABLE | SOURCES | ⬇ DOWNLOAD | ⬍ | ⤢

This chart shows the number of *daily* tests per thousand people. Because the number of tests is often
volatile from day to day, we show the figures as a seven-day rolling average.
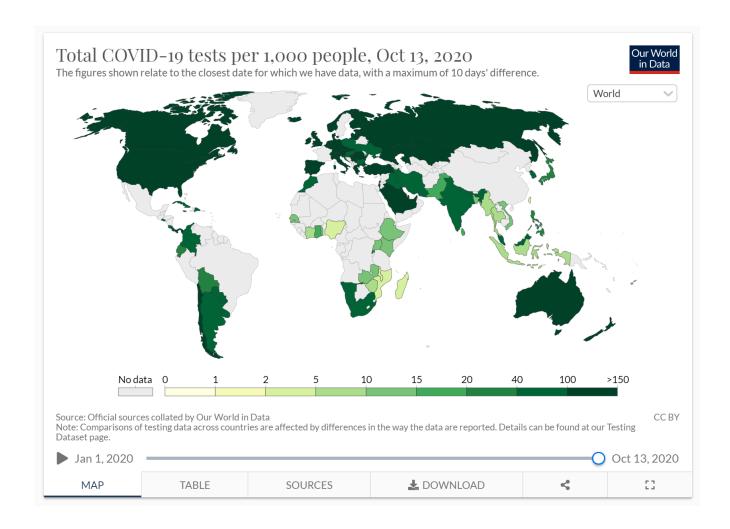
Tests per confirmed case

Tests conducted per new confirmed case of COVID–19, Oct 13, 2020
Shown is the daily number of tests for each new confirmed case. This is a rolling 7-day average.

World

| No data | 0 | 5 | 10 | 20 | 30 | 50 | 100 | 1,000 | >5,000 |

Source: Official data collated by Our World in Data
Note: Comparisons of testing data across countries are affected by differences in the way the data are reported. Daily data is interpolated for countries not reporting testing data on a daily basis. Details can be found at our Testing Dataset page.

CC BY

▶ Jan 23, 2020 ⟶ ◯ Oct 13, 2020

| CHART | MAP | TABLE | SOURCES | ⬇ DOWNLOAD | ◁ | ⌞⌝ |

Another way of looking at the extent of testing relative to the scale of the outbreak is to ask: **How many tests does a country do to find one COVID-19 case?**
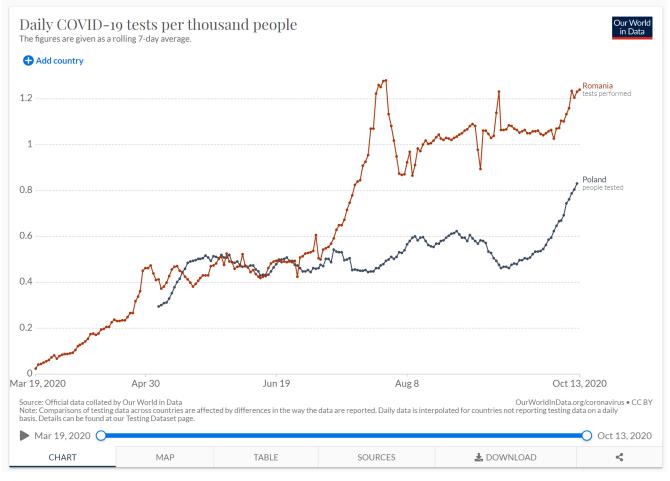
It is simply the inverse of our data on the positive rate.

Countries that do very few tests per confirmed case are unlikely to be testing widely enough to find all cases. The WHO has suggested around 10 – 30 tests per confirmed case as a general benchmark of adequate testing.2

World map: total tests performed relative to the size of population

Total COVID-19 tests per 1,000 people, Oct 13, 2020
The figures shown relate to the closest date for which we have data, with a maximum of 10 days' difference.

No data   0   1   2   5   10   15   20   40   100   >150

Source: Official sources collated by Our World in Data
Note: Comparisons of testing data across countries are affected by differences in the way the data are reported. Details can be found at our Testing Dataset page.

CC BY

Jan 1, 2020 ——————————————————————————————— Oct 13, 2020

MAP   TABLE   SOURCES   ⬇ DOWNLOAD

This map shows you how the total number of tests per thousand people compares across all countries in our dataset.

How recent is the latest testing data for each country? Last update, Oct 13, 2020

Because countries update their testing data at different frequencies, the latest data refer to different dates.
Here we show for each country the date of the latest testing data in the the Our World in data COVID-19 Testing dataset, relative to the when the dataset was last updated.

World

No data   Same day   1 day old   2-3 days old   4-7 days old   >7 days old

MAP   TABLE   SOURCES   ⬇ DOWNLOAD   ⟨

Daily COVID-19 tests per thousand people

The figures are given as a rolling 7-day average.

⊕ Add country

1.2

1

0.8

0.6

0.4

0.2

0

Romania
tests performed

Poland
people tested

Mar 19, 2020   Apr 30   Jun 19   Aug 8   Oct 13, 2020

Note: Comparisons of testing data across countries are affected by differences in the way the data are reported. Daily data is interpolated for countries not reporting testing data on a daily basis. Details can be found at our Testing Dataset page.

▶ Mar 19, 2020   ○━━━━━━━━━━━━━━━━━━━━○   Oct 13, 2020

CHART   MAP   TABLE   SOURCES   ⬇ DOWNLOAD   ⟨

THE MATH BEHIND SOCIAL DISTANCING

Social distancing measures can play a critical role in controlling the spread of pandemics, but only if carried out properly.

WHAT IS IT?

Keep at least **6ft (2m)** apart from others

Avoid non-essential gatherings and crowds

Limit contact with those at higher risk

WHAT CAN YOU DO?

Work from home whenever possible

Greet with a wave, not handshakes or hugs

Avoid going out, except for essentials

Source: Government of Canada

Scientists measure the intensity of an infectious disease by its reproduction number (R_0).

R_0: the average number of people a sick person will infect

For **COVID-19**, this has been estimated at **2.5**

Source: ISGlobal

To illustrate the potential of social distancing, **the following assumptions are made:**

There is a direct linear correlation between **social exposure** and R_0

5 Days
The median incubation period of **COVID-19** is approximately five days—after this period, a person will experience symptoms and self quarantine

---

With these in mind, here's how distancing measures can control the spread of the disease:

REDUCING SOCIAL EXPOSURE BY 75%

DAY 1

INFECTS

1 Person

DAY 5

0.625 People
INFECTED

DAY 30

2.5 People
INFECTED

As scientists and healthcare professionals rush to develop a vaccine for **COVID-19,** social distancing can be thought of as the first line of defense.

However, for these measures to be as effective as possible, it's important to remember that **we all have a part to play.**

REDUCING SOCIAL EXPOSURE BY 50%

DAY 1

INFECTS

1 Person

DAY 5

**1.25 People
INFECTED**

DAY 30

**15 People
INFECTED**

NO SOCIAL DISTANCING MEASURES IN PLACE

DAY 1

INFECTS

1 Person

DAY 5

**2.5 People
INFECTED**

**406 People
INFECTED
IN 30 DAYS**

Estimates only; these
results are intended to
illustrate the potential of
social distancing measures.

Source: Signer Laboratory,
University of Massachusetts Amherst