

Coronavirus

- A Medical Perspective

Dr Peter Saunders
CEO of ICMDA

FIEC Pastors' Meeting
25 November 2020



CORONAVIRUS (COVID-19)



COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University (JHU)



Global Cases

53,497,593

Cases by
Country/Region/Sovereignty

10,746,996	US
8,773,479	India
5,810,652	Brazil
1,915,677	France
1,887,836	Russia
1,458,591	Spain
1,321,042	United Kingdom
1,296,378	Argentina
1,182,697	Colombia
1,107,303	Italy
997,393	Mexico
930,237	Peru
785,093	Germany



Admin0

Last Updated at (M/D/YYYY)
11/14/2020, 1:26 PM

Cumulative Cases

Active Cases

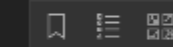
Incidence Rate

Case-Fatality Ratio

Testing Rate

191

countries/regions



Esri, FAO, NOAA

Global Deaths

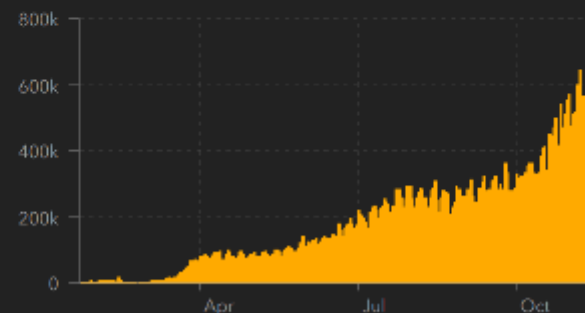
1,305,014

244,366 deaths
US164,737 deaths
Brazil129,188 deaths
India97,624 deaths
Mexico51,396 deaths
United Kingdom44,139 deaths
Italy

Global Deaths

US State Level
Deaths, Recovered33,993 deaths, 81,390
recovered
New York US19,785 deaths, 850,648
recovered
Texas US18,220 deaths, recovered
California US17,445 deaths, recovered
Florida US16,522 deaths, 39,052
recovered
New Jersey US

US Deaths, Reco...



Daily Cases

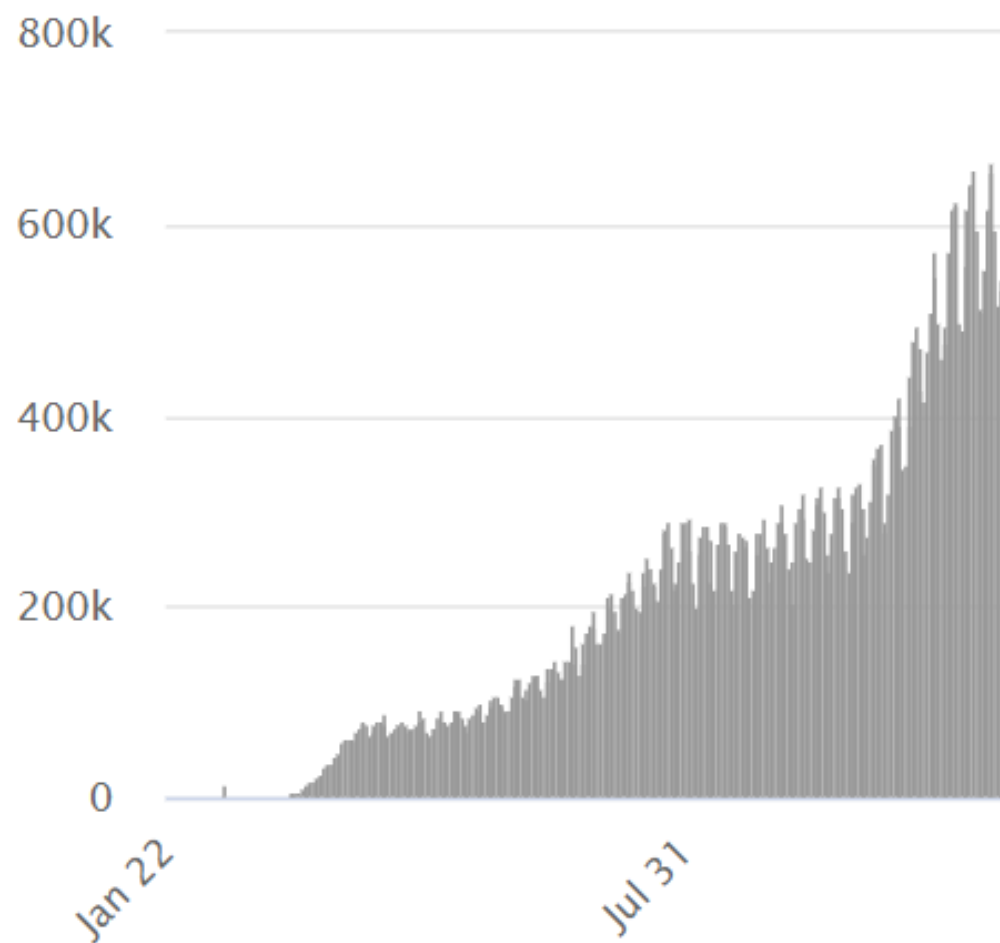


Lancet Inf Dis Article: [Here](#). Mobile Version: [Here](#). Data sources: [Full list](#). Downloadable database: [GitHub](#), [Feature Layer](#).

Lead by JHU CSSE. Technical Support: [Esri Living Atlas team](#) and [JHU APL](#). Financial Support: [JHU](#), [NSF](#), [Bloomberg Philanthropies](#) and [Stavros Niarchos Foundation](#). Resource support: [Slack](#),

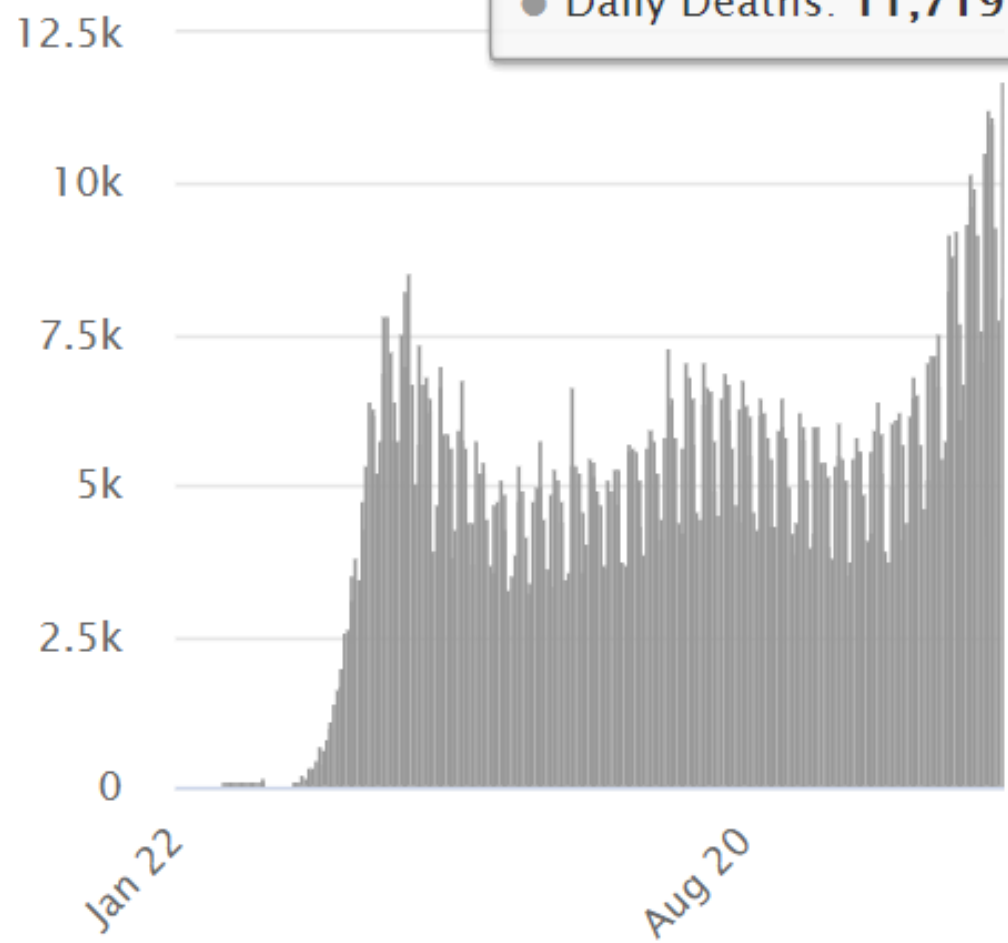
Daily New Cases

Cases per Day
Data as of 0:00 GMT+0



Daily Deaths

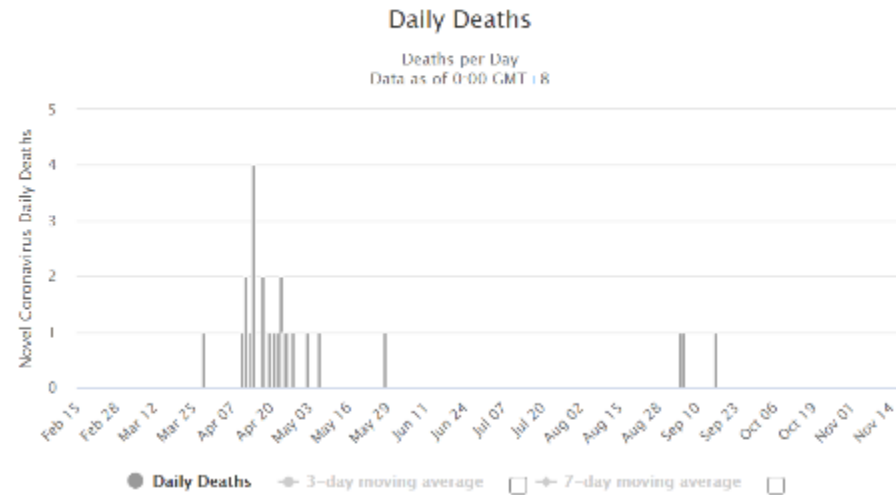
Deaths per Day
Data as of 0:00 GMT+0



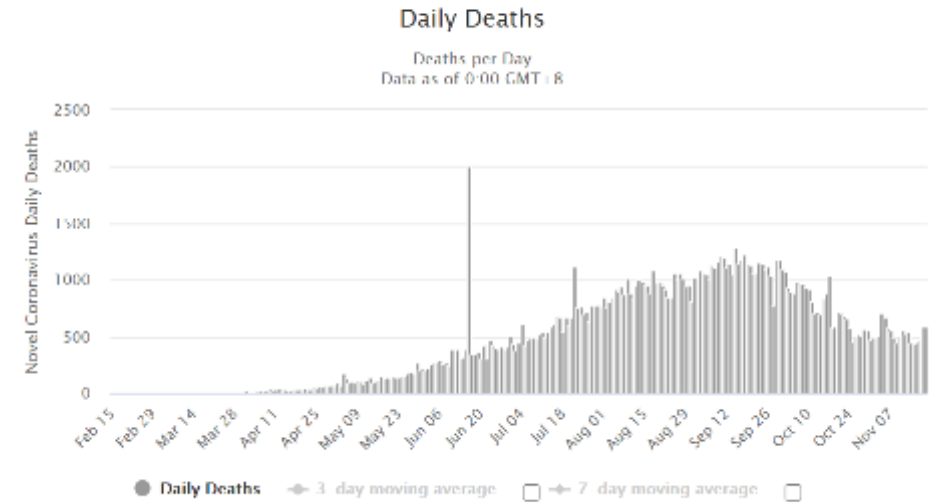
Total Deaths of Novel Coronavirus (2019-nCoV)

Date	Total Deaths	Change in Total	Change in Total (%)
Nov. 20	1,376,815	11,094	1%
Nov. 19	1,365,721	11,022	1%
Nov. 18	1,354,699	11,239	1%
Nov. 17	1,343,460	10,556	1%
Nov. 16	1,332,904	7,616	1%
Nov. 15	1,325,288	7,093	1%

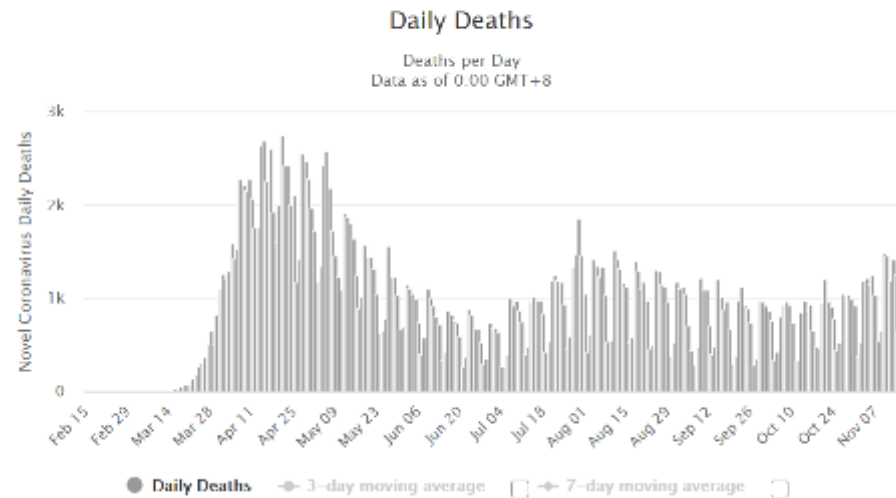
Daily New Deaths in New Zealand



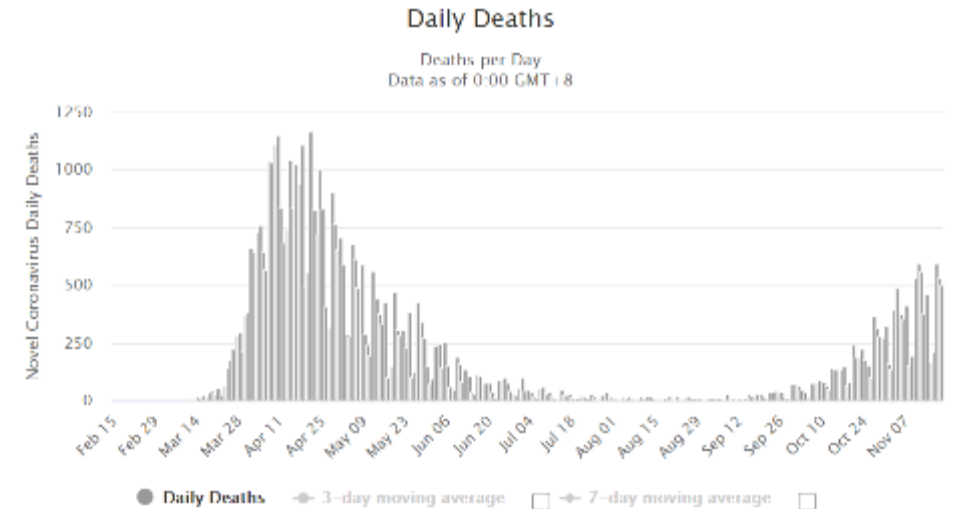
Daily New Deaths in India



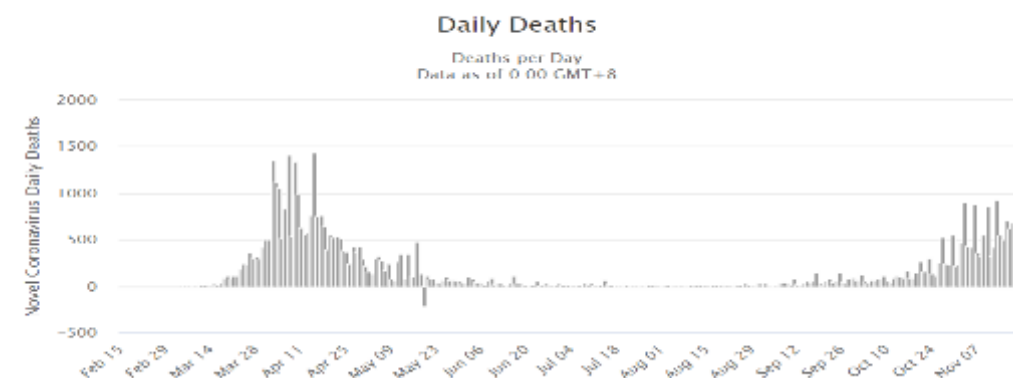
Daily New Deaths in the United States



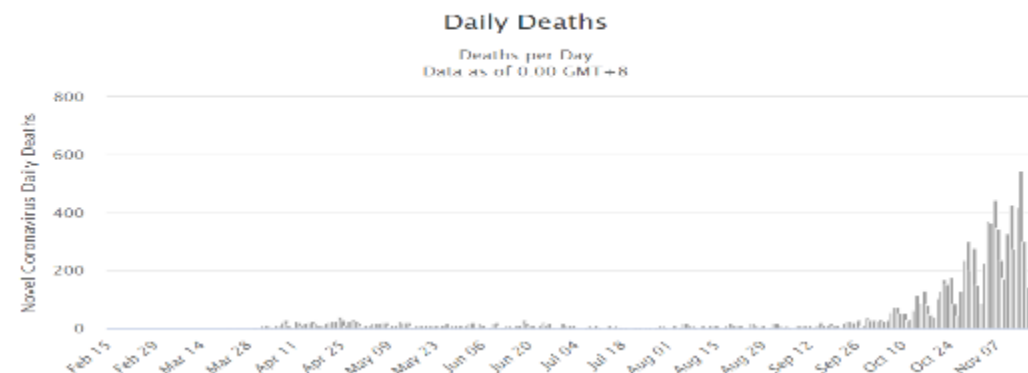
Daily New Deaths in the United Kingdom



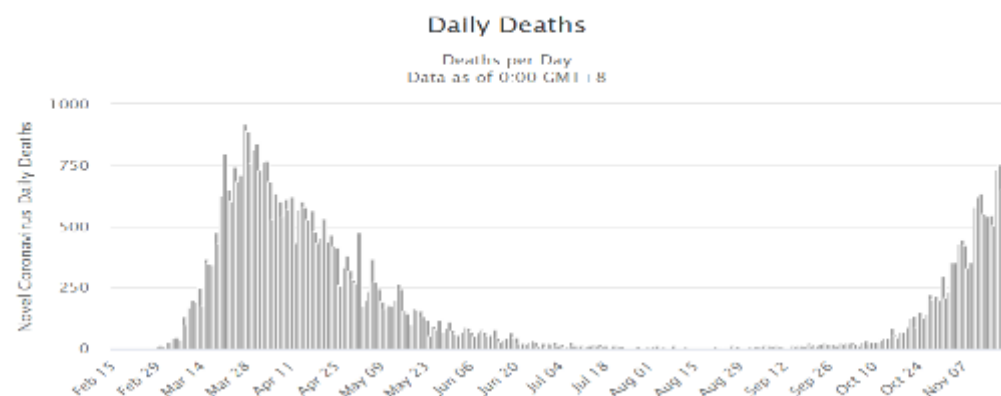
Daily New Deaths in France



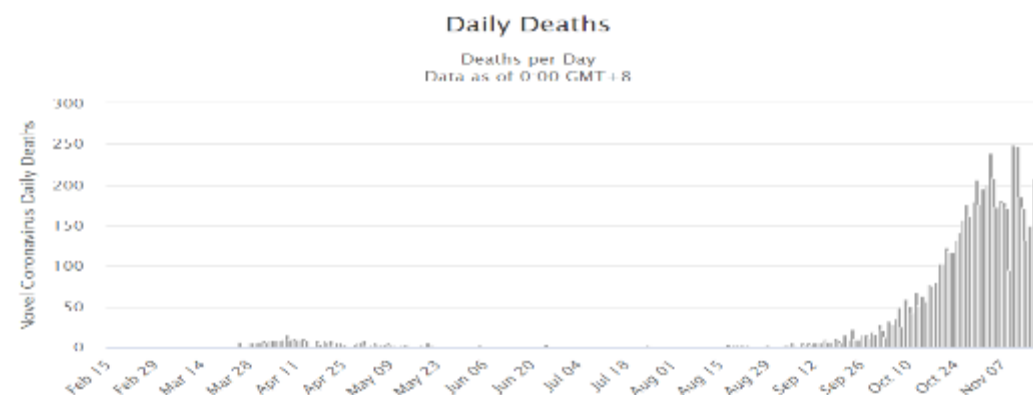
Daily New Deaths in Poland



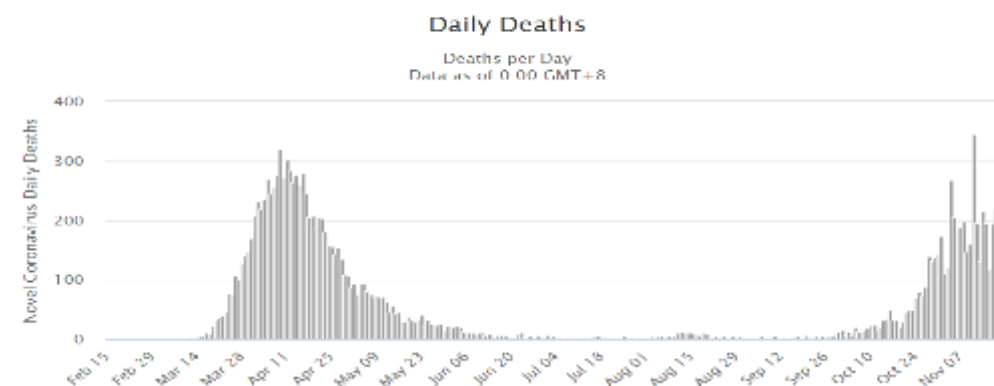
Daily New Deaths in Italy



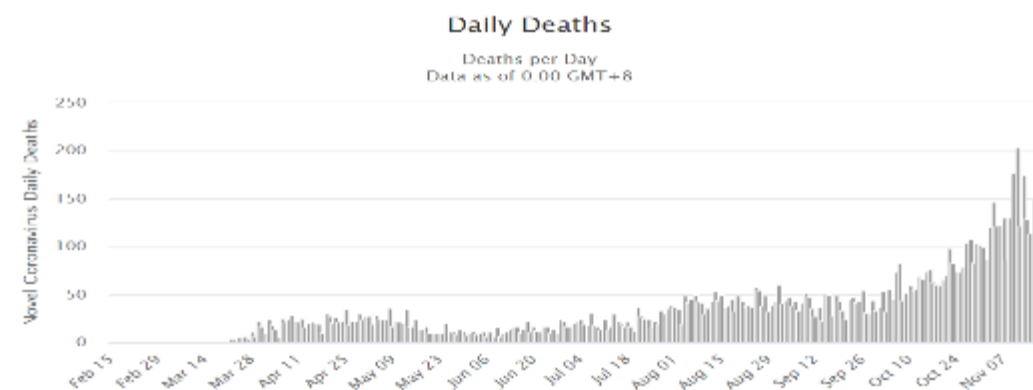
Daily New Deaths in Czechia



Daily New Deaths in Belgium

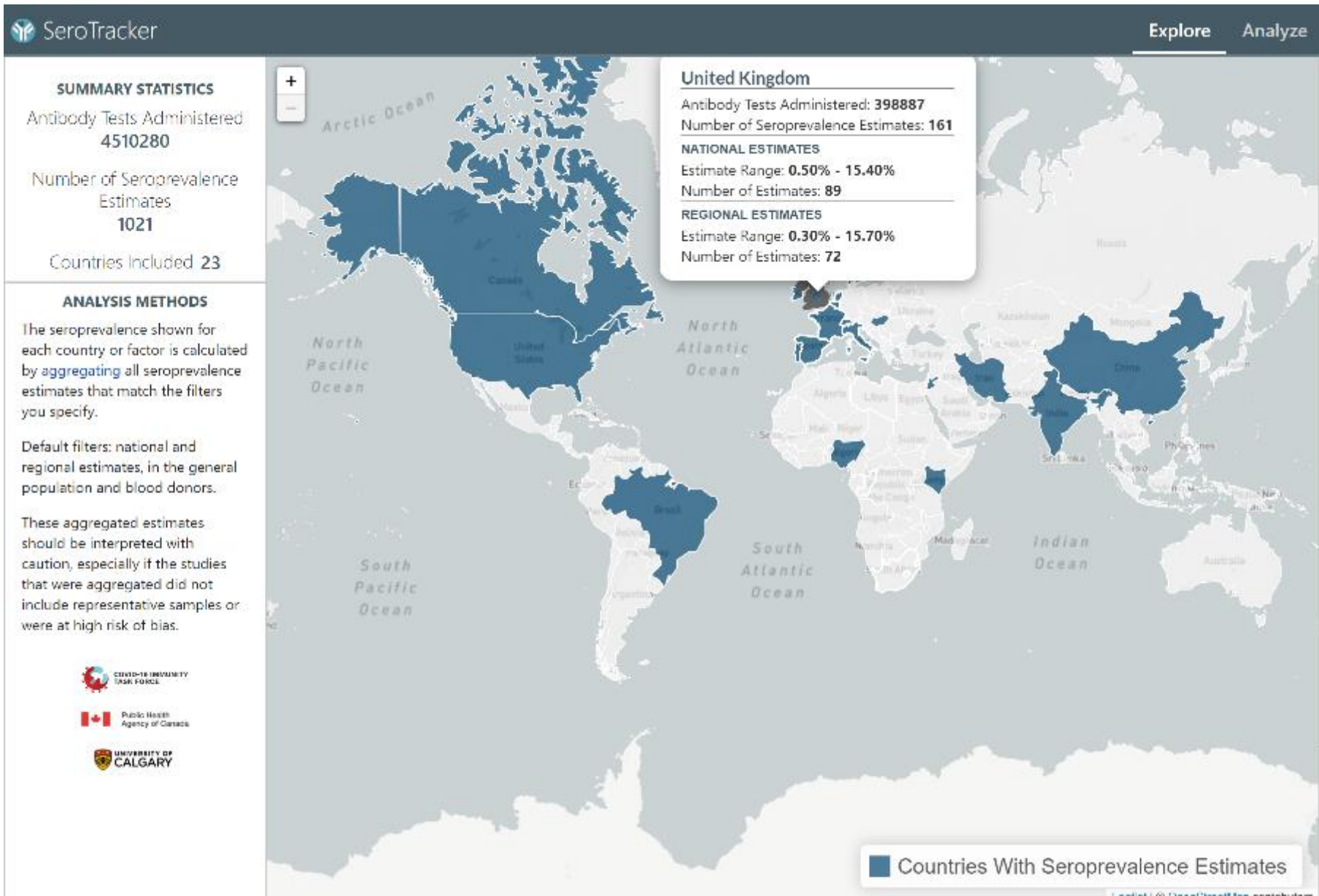


Daily New Deaths in Romania



#	Country, Other	Total Cases	New Cases	Total Deaths	New Deaths	Total Recovered	Active Cases	Serious, Critical	Tot Cases/ 1M pop	Deaths/ 1M pop	Total Tests	Tests/ 1M pop	Population
	World	57,235,638	+656,736	1,364,941	+10,771	39,727,860	16,142,837	101,812	7,343	175.1			
1	USA	12,073,250	+192,240	258,333	+2,065	7,243,488	4,571,429	22,469	36,392	779	174,984,245	527,452	331,753,930
2	Brazil	5,983,089	+35,686	168,141	+644	5,407,498	407,450	8,318	28,071	789	21,900,000	102,748	213,143,502
3	India	9,004,325	+46,182	132,202	+584	8,427,016	445,107	8,944	6,500	95	128,508,389	92,770	1,385,234,229
4	Mexico	1,015,071	+3,918	99,528	+502	762,025	153,518	2,852	7,841	769	2,632,675	20,337	129,454,537
5	UK	1,453,256	+22,915	53,775	+501	N/A	N/A	1,430	21,364	791	39,858,046	585,940	68,024,125
6	Italy	1,308,525	+36,173	47,870	+653	498,987	761,668	3,712	21,655	792	19,724,527	326,418	60,427,162
7	France	2,086,288	+21,150	47,127	+429	147,569	1,891,592	4,653	31,935	721	19,339,461	296,029	65,329,622
8	Iran	815,117	+13,223	43,417	+476	583,704	187,996	5,722	9,657	514	5,626,631	66,661	84,406,036
9	Spain	1,574,063	+16,233	42,291	+252	N/A	N/A	3,125	33,661	904	20,742,051	443,568	46,761,826
10	Argentina	1,349,434	+10,097	36,532	+185	1,167,514	145,388	4,292	29,752	805	3,585,077	79,044	45,355,747
11	Peru	943,917	+1,966	35,446	+44	871,534	36,937	973	28,476	1,069	4,874,713	147,059	33,148,120
12	Russia	2,015,608	+23,610	34,850	+463	1,526,656	454,102	2,300	13,809	239	70,653,231	484,063	145,958,815
13	Colombia	1,225,490	+7,487	34,761	+198	1,132,393	58,336	2,376	23,986	680	5,903,975	115,556	51,091,761
14	South Africa	759,658	+2,514	20,671	+115	702,544	36,443	546	12,747	347	5,214,036	87,490	59,596,073
15	Indonesia	483,518	+4,798	15,600	+97	406,612	61,306		1,761	57	5,219,471	19,005	274,637,629
16	Belgium	545,787	+5,182	15,025	+186	34,249	496,513	1,356	47,013	1,294	5,560,958	479,014	11,609,176
17	Chile	536,012	+1,454	14,955	+58	511,874	9,183	715	27,947	780	4,938,248	257,475	19,179,536
18	Germany	878,209	+23,676	13,788	+296	562,700	301,721	3,561	10,469	164	26,456,866	315,384	83,887,916
19	Ecuador	183,246	+996	13,073	+21	160,639	9,534	372	10,326	737	608,521	34,291	17,745,727
20	Poland	796,798	+23,975	12,088	+637	361,886	422,824	2,080	21,062	320	5,802,239	153,375	37,830,455

COVID-19 Seroprevalence



The Majority of Infections are Mild

Seriousness of symptoms

80.9%



MILD

Like flu, stay at home

13.8%



SEVERE

Hospitalization

4.7%



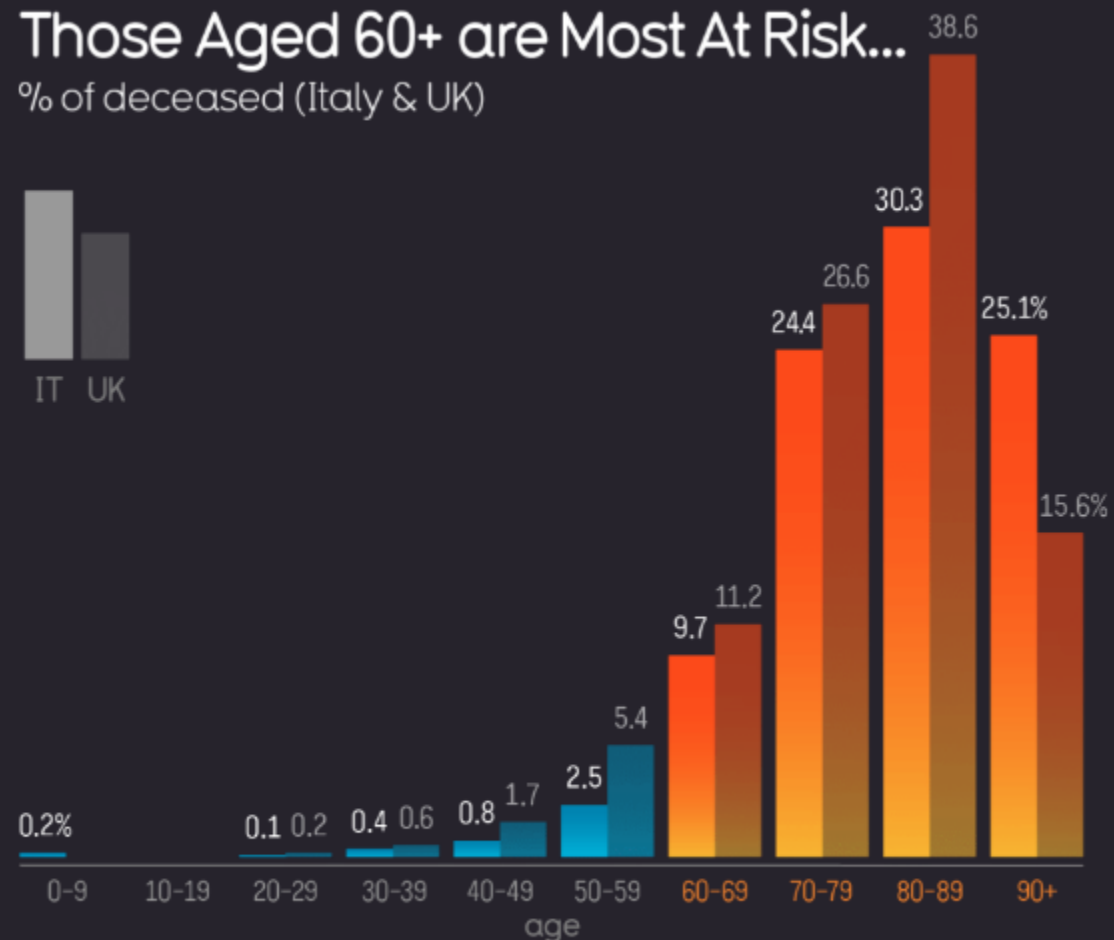
CRITICAL

Intensive care

study of 44,672 confirmed cases in Mainland China
sources: China Center for Disease Control & Prevention

Those Aged 60+ are Most At Risk...

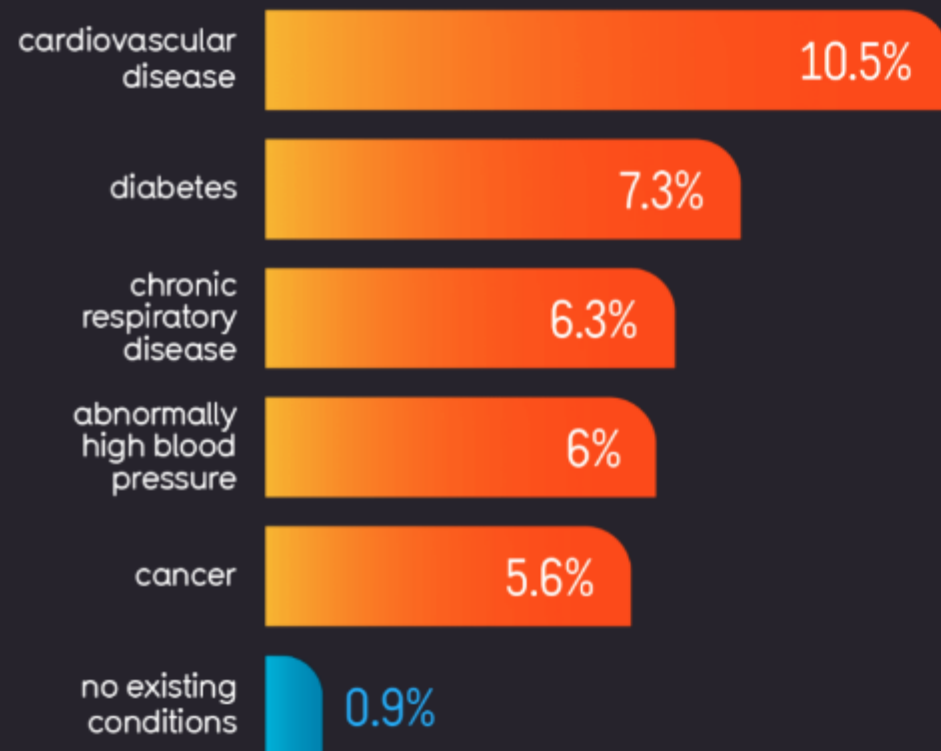
% of deceased (Italy & UK)



study of 3,372 death cases in UK & 21,551 deaths in Italy
sources: Italian Portal of Epidemiology for Public Health, UK Office of National Statistics

Especially Those with Existing Conditions

% of deceased with serious ailments

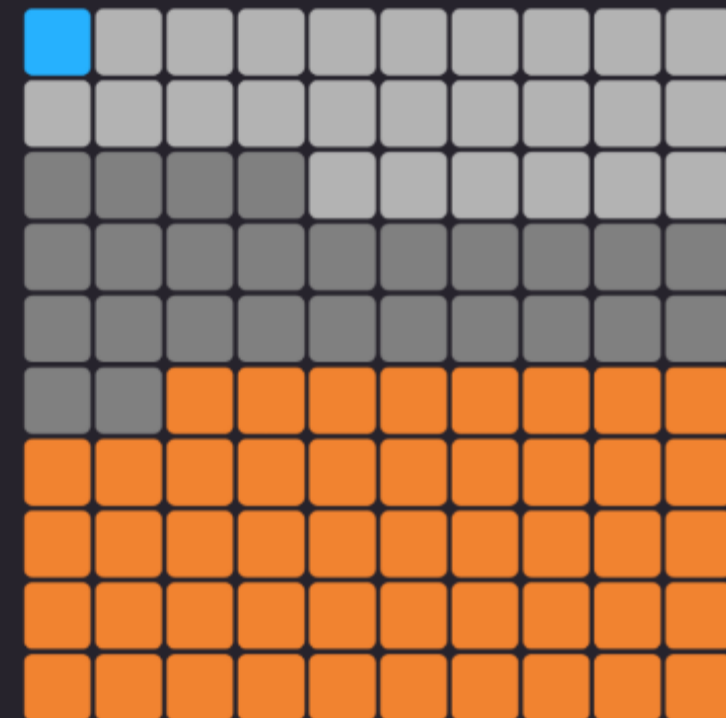


study of 44,672 confirmed cases in Mainland China
sources: China Center for Disease Control & Prevention, Statista

Multiple Conditions Increase Risk

Serious conditions present in those who have died

1% no conditions



average age of victim
in this analysis was 79

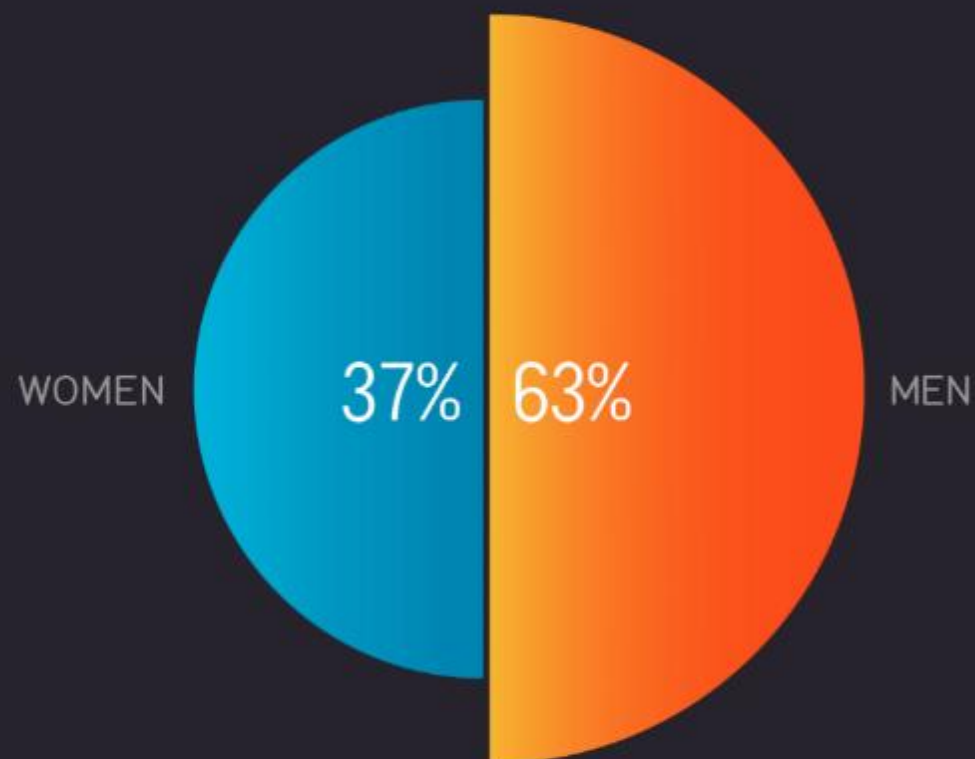
having these conditions
does not mean you will
die of the disease -
they are just risk factors

Active cancer, Atrial fibrillation, Chronic Obstructive Pulmonary Disease (COPD)
Dementia, Diabetes, Heart disease, Hypertension, Liver disease (chronic),
Renal failure (chronic), Stroke

study of 355 deaths from 16,925 confirmed cases in Italy
source: Italian Portal of Epidemiology for Public Health

Biological Sex is also a Risk-Factor

% of COVID-19 deaths

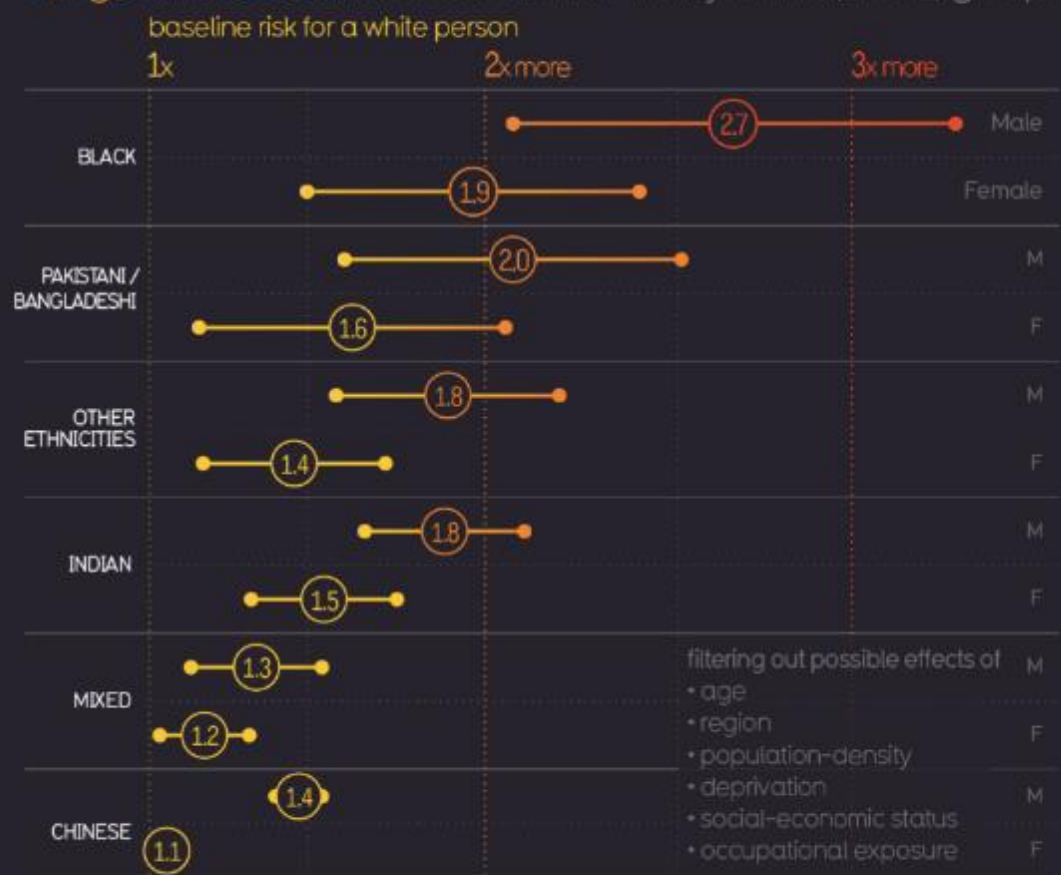


source: studies of 24,922 deaths in UK & Italy

Italian Portal of Epidemiology for Public Health, UK Office of National Statistics

Ethnicity is Another Risk Factor For Deaths

Range of increased risk Black, Asian & Minority Ethnic (BAME) groups

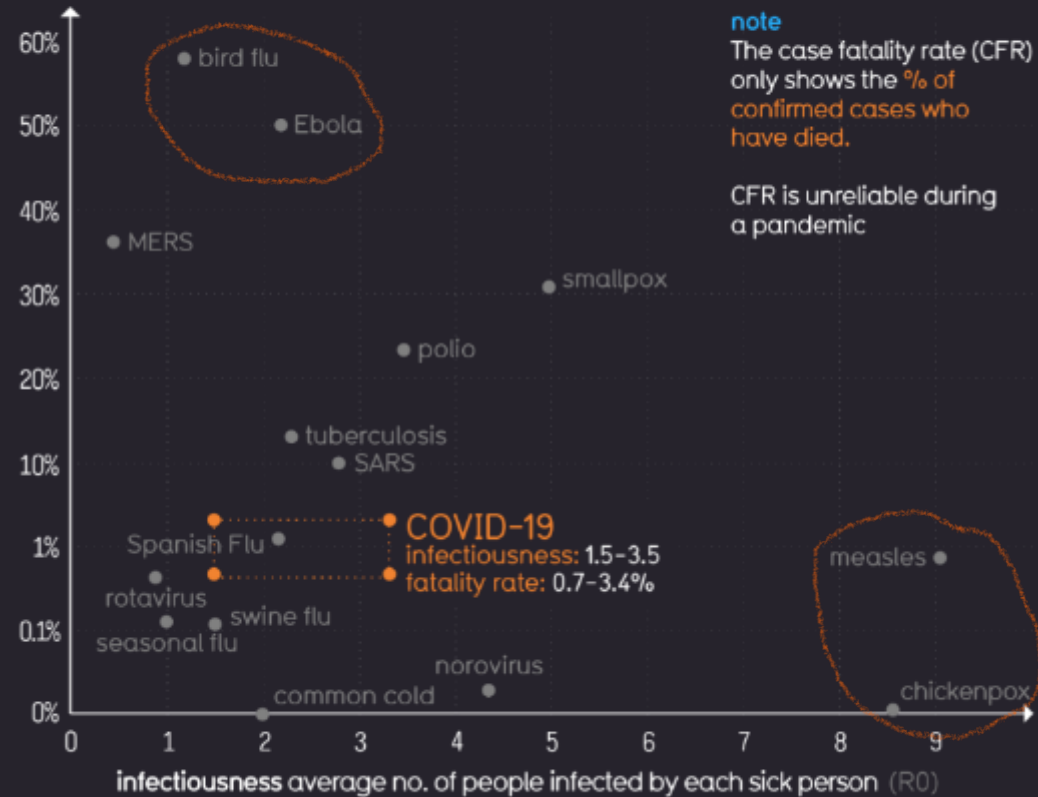


sources: UK Office of National Statistics, study of 33,630 UK deaths

How Contagious & Deadly is It?

We don't fully know yet but it's in **this range**

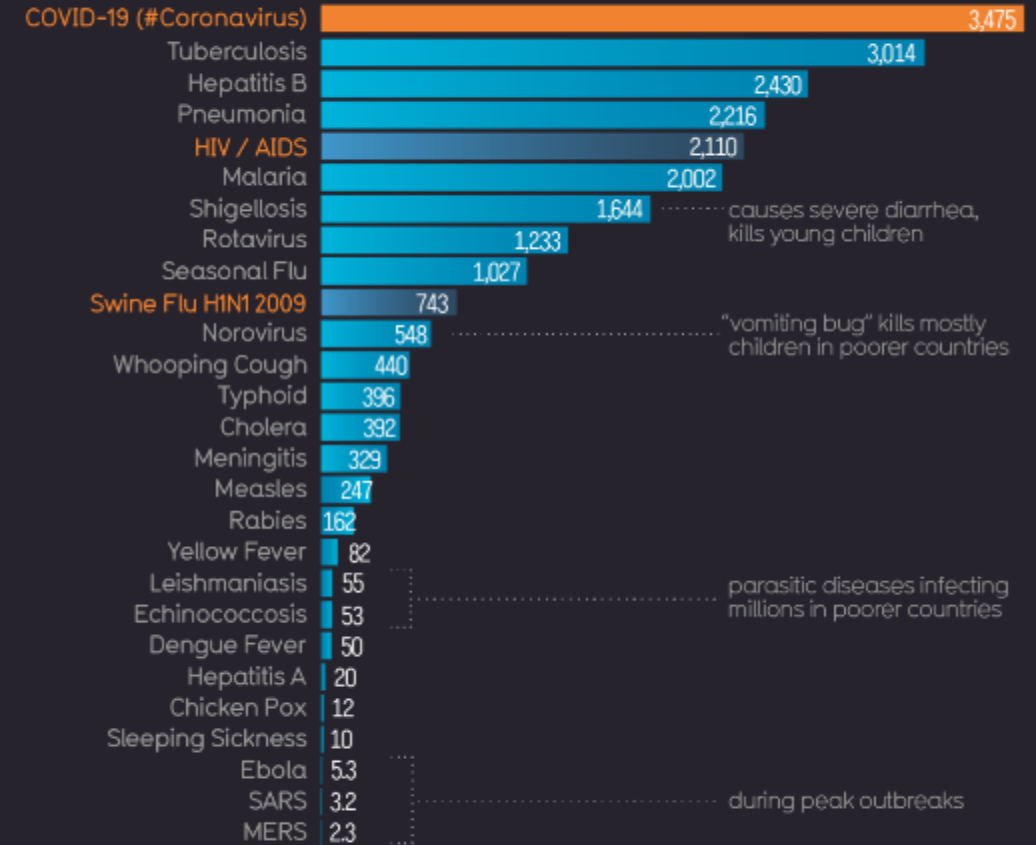
% who die (CASE FATALITY RATE)



sources: US Centers for Disease Control & Prevention, WHO, New York Times

updated 1st Sep 2020

Average Disease Deaths per Day Worldwide



pandemic (global outbreak) **endemic** (always around)

sources: US Centres for Disease Control, WHO, The Lancet

Coronavirus Drug and Treatment Tracker

By Jonathan Corum, Katherine J. Wu and Carl Zimmer Updated November 11, 2020

[Leer en español](#)

The Covid-19 pandemic is one of the greatest challenges modern medicine has ever faced. Doctors and scientists are scrambling to find treatments and drugs that can save the lives of infected people and perhaps even prevent them from getting sick in the first place.

Below is an updated list of **22 of the most-talked-about treatments for the coronavirus**. While some are accumulating evidence that they're effective, most are still at early stages of research. We also included a warning about a few that are just bunk.

We are following **22 coronavirus treatments** for effectiveness and safety:



There is no cure yet for Covid-19. Only one treatment, a drug called [remdesivir](#), has been approved by the F.D.A. for the disease, and research suggests it may provide only a modest benefit to patients.

PROMISING EVIDENCE

Dexamethasone

This cheap and widely available steroid blunts many types of immune responses. Doctors have long used it to treat allergies, asthma and inflammation. In June, it became the first drug shown to [reduce Covid-19 deaths](#). That [study](#) of more than 6,000 people, which in July was published in the New England Journal of Medicine, found that dexamethasone reduced deaths by one-third in patients on ventilators, and by one-fifth in patients on oxygen. It

PROMISING EVIDENCE

EMERGENCY USE AUTHORIZATION

Remdesivir

[Remdesivir](#), made by Gilead Sciences, was the first drug to get emergency authorization from the F.D.A. for use on Covid-19. It stops viruses from replicating by inserting itself into new viral genes. Remdesivir was originally tested as an antiviral against

WIDELY USED

Prone positioning

The simple act of flipping Covid-19 patients onto their bellies [opens up the lungs](#). The maneuver has become commonplace in hospitals around the world since the start of the pandemic. It might help some individuals avoid the need for ventilators entirely. The

WIDELY USED

EMERGENCY USE AUTHORIZATION

Ventilators and other respiratory support devices

Devices that help people breathe are an essential tool in the fight against deadly respiratory illnesses. Some patients do well if they get an extra supply of oxygen through the nose or via a mask connected to an oxygen machine. Patients in severe respiratory

HEALTHCARE & PHARMACEUTICALS NOVEMBER 12, 2020 / 10:18 PM / UPDATED 8 DAYS AGO

COVID-19 fatality rate down 30% since April, study finds

By Deena Beasley

3 MIN READ



(Reuters) - The likelihood that a coronavirus infection will prove fatal has dropped by nearly a third since April due to improved treatment, researchers at the University of Washington's Institute for Health Metrics and Evaluation (IHME) said on Thursday.

Covid vaccine tracker: when will a coronavirus vaccine be ready?

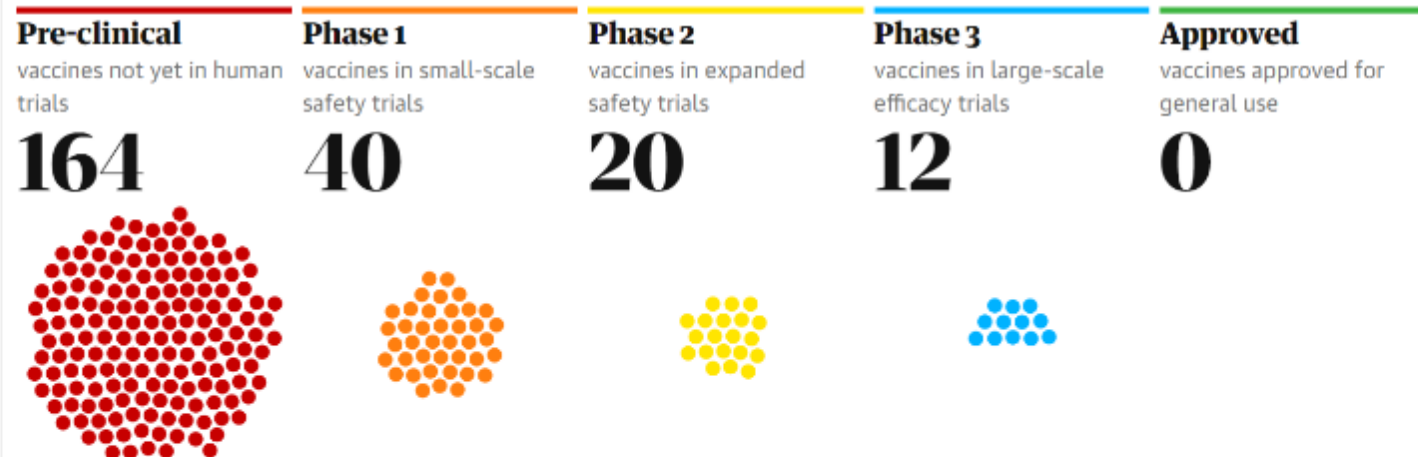
More than 170 teams of researchers are racing to develop a safe and effective vaccine. Here is their progress

Niko Kommenda and Frank Hulley-Jones

Tue 10 Nov 2020 09:51 GMT



49



Source: WHO. Last updated 16 Nov

Researchers around the world are racing to develop a vaccine against Covid-19, with **more than 170 candidate vaccines now tracked** by the World Health Organization (WHO).

How Effective Are The Covid-19 Vaccine Candidates?

Estimated effectiveness at Covid-19 prevention based on interim data from late-stage clinical trials*



* As of November 17, 2020. The findings have not yet been peer-reviewed and trials are not complete.

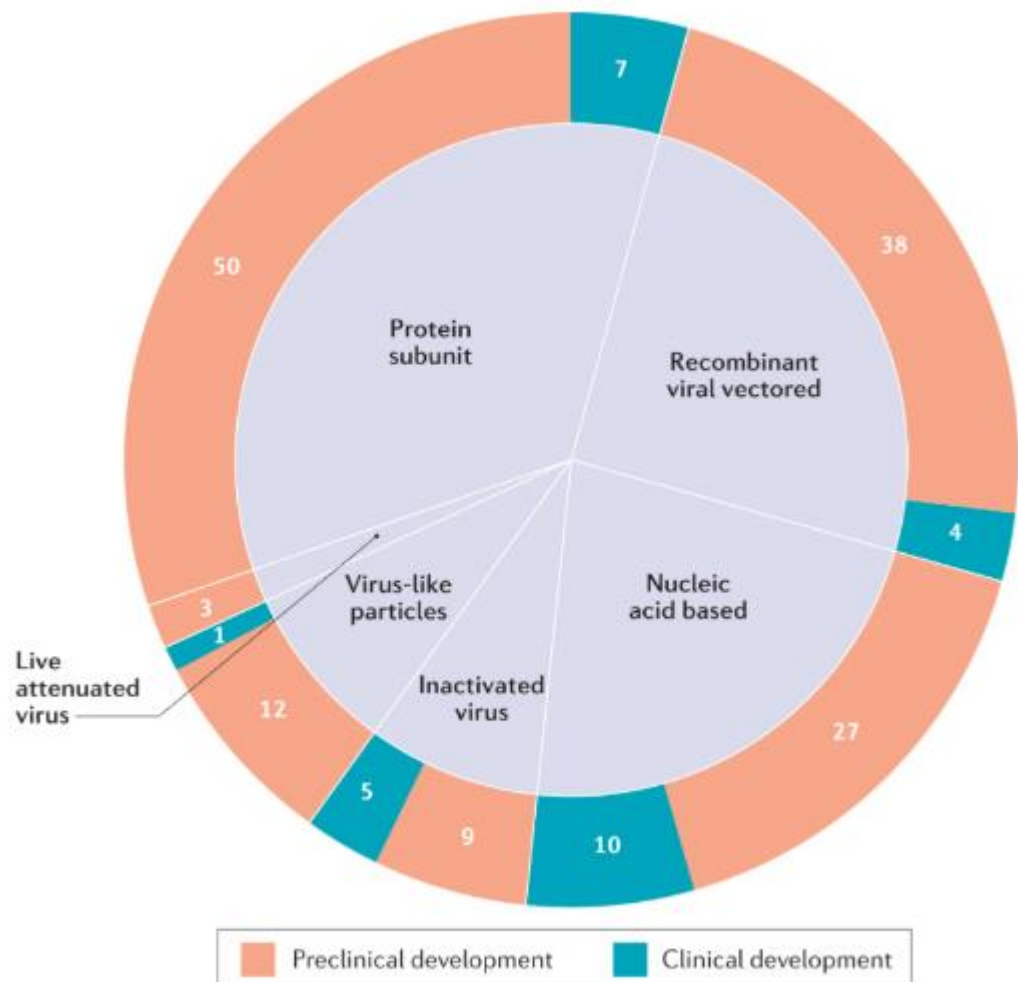
Sources: Respective companies, Russian health ministry



statista

Fig. 1: The global COVID-19 vaccine landscape.

From: Immunological considerations for COVID-19 vaccine strategies



The six major types of candidate vaccine for coronavirus disease 2019 (COVID-19) are illustrated (live attenuated virus, recombinant viral vectored, inactivated virus, protein subunit, virus-like particles and nucleic acid based), showing the number of candidate vaccines that are currently under clinical and preclinical development. The nucleic acid-based platform includes both mRNA vaccines (6 clinical and 16 preclinical) and plasmid DNA vaccines (4 clinical and 11 preclinical). Data obtained from ref.⁵.

Coronavirus

Oxford Covid vaccine hit 90% success rate thanks to dosing error

Participants given first shot at half strength by mistake were found to be better protected

- [Coronavirus - latest updates](#)
- [See all our coronavirus coverage](#)

Jessica Murray and agency

Mon 23 Nov 2020 23.24 GMT



1,606



▲ Half a dose of the Oxford vaccine followed by a full dose gave an efficacy rate of 90%. Photograph: Joel Saget/AFP/Getty Images

The Oxford University and AstraZeneca vaccine trials reached 90% efficacy by accident thanks to the “serendipity” of an error that led to some

EDITORIAL | [VOLUME 396, ISSUE 10263, P1607, NOVEMBER 21, 2020](#)

PDF [108 KB]



Figures

COVID-19 vaccines: no time for complacency

[The Lancet](#)Published: November 21, 2020 • DOI: [https://doi.org/10.1016/S0140-6736\(20\)32472-7](https://doi.org/10.1016/S0140-6736(20)32472-7) •

Article Info

Figures

“Yes. Yes. Yes.” That was the response of John Bell, Regius Professor of Medicine at the University of Oxford, when asked whether we could be confident that life will be returning to normal by spring. He was being interviewed by the BBC shortly after the announcement last week by Pfizer and BioNTech that their COVID-19 vaccine candidate had 90% efficacy in clinical trials. Similar announcements about the Russian Sputnik V and Moderna vaccines followed soon after. The prospect of preventing illness and death, and avoiding the harm and misery of extended restrictions, is a cause for optimism. But although it is right to be hopeful and encouraged, we are far from ending COVID-19 as a public health issue.

Unfortunately, the trials' results were announced via press releases, leaving many scientific uncertainties that will dictate how the vaccines will affect the course of the pandemic. Little safety data are available. How well the vaccines work in older people or those with underlying conditions and their efficacy in preventing severe disease are still unclear. Peer-reviewed publication should resolve these issues, but other questions will not be answerable for some time. For one, the duration of protection is unknown and will have a huge bearing on the practicalities and logistics of immunisation (will boosters be needed? How often?).

COVID Vaccines – Unanswered questions

- Are there safety issues?
- Will they protect elderly and vulnerable people?
- Will they prevent severe disease?
- How long will immunity last?
- What are the practicalities of storage and administration?
- Will they stop transmission or just protect against illness?
- What degree of vaccine hesitancy?
- Will distribution be equitable?

Overall how serious is COVID?

- We have been very effective in slowing spread but...
- There have already been over 1,417,000 deaths worldwide in 9 months
- At current rates ($>11,000$ per day) there will be 2m deaths by February 2021
- National seroprevalence in heavily infected countries is still $< 15\%$
- Infection Fatality Proportion (IFP) probably 0.5-1.5%
- Potential worldwide death toll $7.8b \times 0.01 \times 80\% = 31m-62m$
- Four vaccines now at Phase III and treatments giving 30% fall in mortality
- Collateral economic and health damage overwhelming

The worst plagues in world history

Year (s)	Description	Location	Infective Agent	Deaths
165-180	Antonine Plague	Roman Empire	Possibly smallpox	5-10 million
541-542	Plague of Justinian	Europe, Egypt and West Asia	Plague	25-50 million
1331-1353	Black Death	Europe, Asia and North Africa	Plague	50-200 million
1520	Smallpox Epidemic	Mexico	Smallpox	5-8 million
1545-1548	Cocoliztli Epidemic	Mexico	Possibly Salmonella	5-15 million
1576-1580	Cocoliztli Epidemic	Mexico	Possibly Salmonella	2-2.5 million
1772	Persian Plague	Persia	Plague	>2 million
1852-1860	Third Cholera Epidemic	Russia	Cholera	1 million
1889-1890	Flu Epidemic	Worldwide	Influenza	1 million
1915-1926	Sleeping Sickness	Worldwide	Encephalitis lethargica	1.5 million
1918-1920	Spanish Flu	Worldwide	Influenza A	20-50 million
1957-1958	Asian Flu	Worldwide	Influenza A	2 million
1968-1969	Hong Kong Flu	Worldwide	Influenza A	1 million
1981-Present	HIV AIDS Epidemic	Worldwide	HIV	>32 million

Lancet View

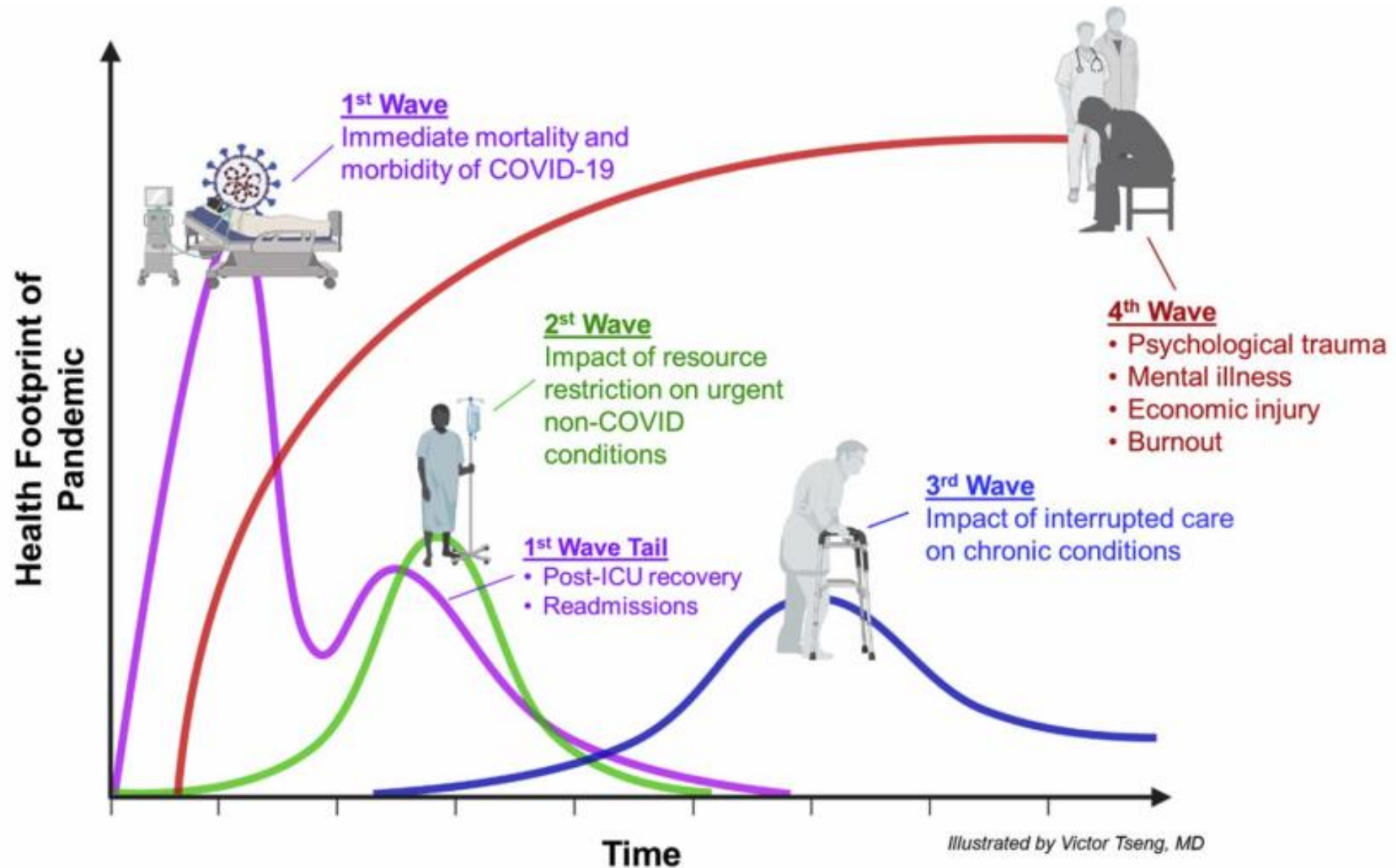
'This pandemic is dismantling the foundations for protecting and advancing health. Global health has entered a period of rapid reversal. De-development is the new norm.'

Richard Horton, Editor Vol 396 July 4 2020 Page 14

COVID-19 – Collateral damage on health

- Lockdown leading to hunger and famine
- 71 million being pushed into extreme poverty (World Bank data blog 8 July 2020)
- Worsening mental health including psychosis
- Family breakdown, domestic abuse and stigma
- Crucial medicine inaccessible eg for HIV, TB, hypertension, diabetes, cancer, mental health

The surge in non-COVID mortality/morbidity



Impact on extreme poverty

- Under the baseline scenario we estimate that COVID-19 will push another 71 million into extreme poverty , measured at the international poverty line of \$1.90 per day. With the downside scenario, this increases to 100 million.

<https://blogs.worldbank.org/opendata/updated-estimates-impact-covid-19-global-poverty>

- 265 million people likely to face starvation by the end of this year as a result of Covid

<https://www.wfp.org/news/wfp-chief-warns-hunger-pandemic-covid-19-spreads-statement-un-security-council>

Impact on immunisations

- This week the WHO DG suggested the number of children dying from missed vaccinations is likely to far outpace the numbers of people dying from Covid-19
 - <https://www.who.int/news-room/detail/15-07-2020-who-and-unicef-warn-of-a-decline-in-vaccinations-during-covid-19>
- Threatens to unwind decades of progress against vaccine-preventable diseases like measles, polio, measles, typhoid, yellow fever, cholera, rotavirus, HPV, meningitis A and rubella
 - <https://www.who.int/news-room/detail/22-05-2020-at-least-80-million-children-under-one-at-risk-of-diseases-such-as-diphtheria-measles-and-polio-as-covid-19-disrupts-routine-vaccination-efforts-warn-gavi-who-and-unicef>

Impact on HIV, TB and Malaria

- Covid will dislocate health systems leading to 1.4 million extra deaths (ie double the expected yearly number) and the Global Fund will need an additional US\$5 billion over the next 12 months to help mitigate this

<https://www.theglobalfund.org/en/news/2020-06-24-global-fund-covid-19-report-deaths-from-hiv-tb-and-malaria-could-almost-double-in-12-months-unless-urgent-action-is-taken/>

- Some regions may see deaths related to HIV, TB and malaria increase by up to 10, 20 and 36% respectively over five years due to the COVID-19 pandemic
- The report concludes that the malaria burden – the toll of new cases and deaths – in 2020 could be more than double that in the previous year.

<https://www.imperial.ac.uk/news/197257/covid-19-pandemic-could-significantly-increase-hiv/>

Impact on non-communicable diseases

- NCDs kill 41 million people each year, 70% of all deaths globally
- 53% have partial or complete disruption for hypertension treatment
- 49% for treatment for diabetes and diabetes-related complications
- 42% for cancer treatment
- 31% for cardiovascular emergencies
- With worse health greater risk of Covid & post-Covid syndrome

WHO survey from 155 countries

<https://www.who.int/news-room/detail/01-06-2020-covid-19-significantly-impacts-health-services-for-noncommunicable-diseases>

Impact on mental health

- US data from CDC June 2020
 - Anxiety in young people tripled
 - Depressive disorder quadrupled
 - 25% of 18-24 year olds have seriously considered suicide

'Life is never made unbearable by circumstances, but only by lack of meaning and purpose.' (Victor Frankl)

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COVID-19

A quarter of young Americans have serious mental health issues

New data released by the Center for Disease Control (CDC) last Thursday analyzes the impact of the Covid-19 pandemic.

In *Business Today*
By L. J. Smith (12 June 2020) 123

Facebook Twitter YouTube Instagram



New data reveals that the world's response to Covid-19 is having a dramatic toll on young people's mental health. The sobering figures indicate their quality of life has significantly dropped. There is already data that shows an increase in drug overdoses, deaths, and lockdowns and economic uncertainty. Moreover, statistically, every US\$10 million to \$24 million loss in American income results in one additional death, according to established economic data. This new study helps to paint a fuller picture of the impact of the health response to Covid-19.

The study results indicate that the number of young people showing symptoms of anxiety within the United States has tripled since a year ago. Even more concerning, 25.5 percent of Americans aged 18 to 24 have seriously considered suicide during the Covid-19 pandemic, in part due to stay-at-home orders. The prevalence of depressive disorder is also approximately four times that reported in the second quarter of 2019. The new data was released by the Center for Disease Control (CDC) last Thursday and analyzed 3,412 survey responses in late June 2020.

Anxiety, depression and a general lack of hope is likely related to increased uncertainty for young people, rather than worry about catching the virus itself. Their job prospects are much reduced. They don't know if college, work is better, get time just to relax and then stop once more. Some young people rely on others, such as their school, for meals, education and safety. Will they be stuck inside or allowed out to see their friends? Will they have to wear a mask outside for the rest of their lives? There is a myriad of conflicting information and opinion to sift through.

Recent Posts

In this pandemic, could we do with some old-fashioned larrikin spirit?
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Between Scylla and Charybdis



Controversies

- Protecting the vulnerable vs protecting the economy
- Lockdown vs Release
- Elimination vs Moderate control
- What is the IFP? (Infection Fatality Proportion)
- 'Focussed protection' and 'herd immunity' vs controlling community spread

(The Great Barrington Declaration (gbdeclaration.org) and the John Snow Memorandum (johnsnowmemo.com))

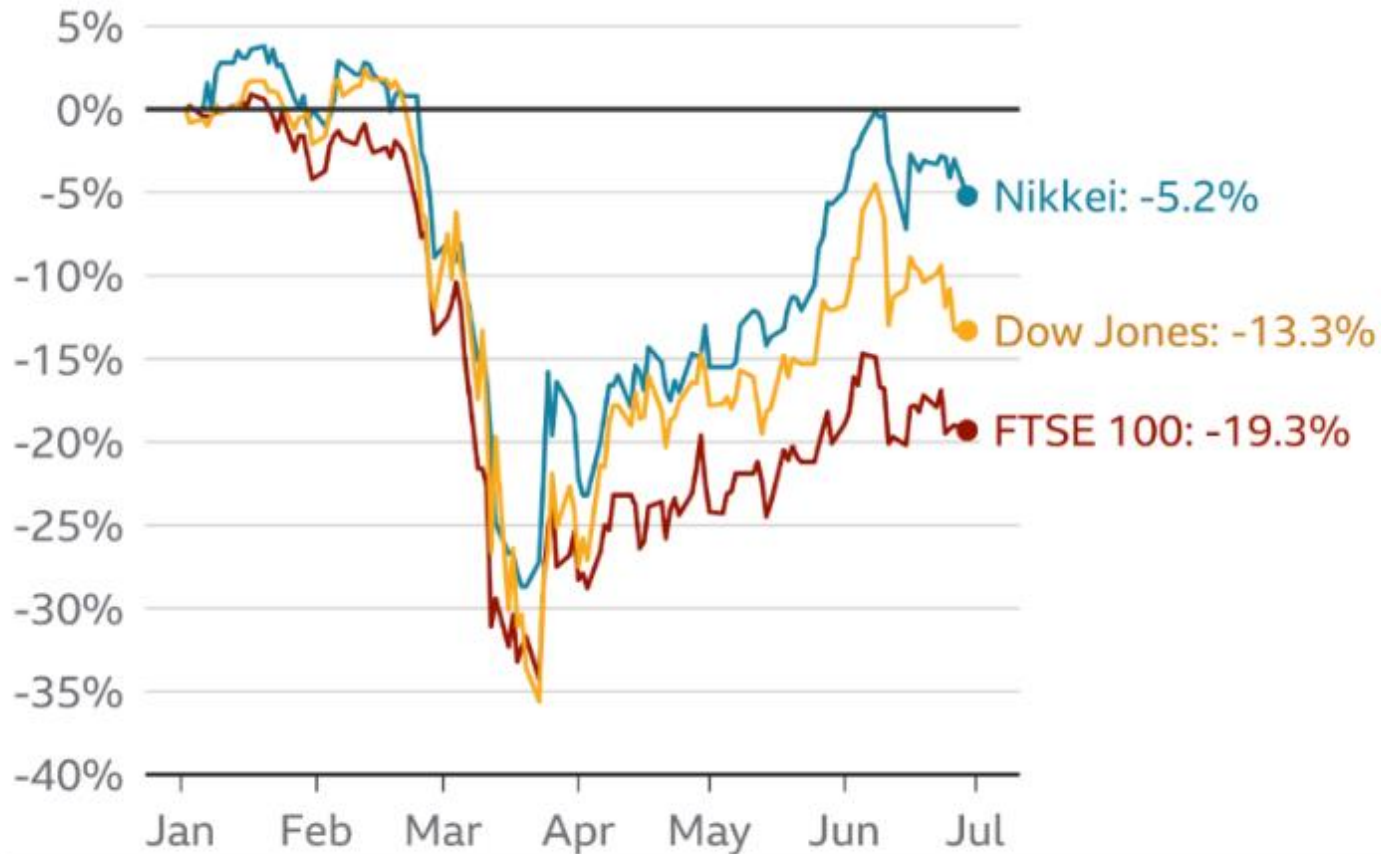
- The real level of immunity

(seroprevalence and the influence of IgA, BCG and T cell immunity)

- Vaccines – effectiveness, equity and ethics

Protecting the vulnerable or the economy?

The impact of coronavirus on stock markets since the start of the outbreak



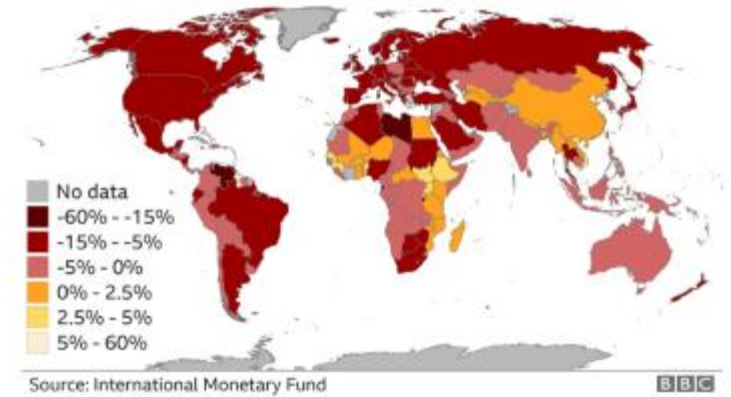
Source: Bloomberg, 29 June 2020, 12:00 BST

BBC

But the IMF says that the global economy will shrink by 3% this year. It described the decline as the worst since the Great Depression of the 1930s.

Majority of countries on the brink of recession

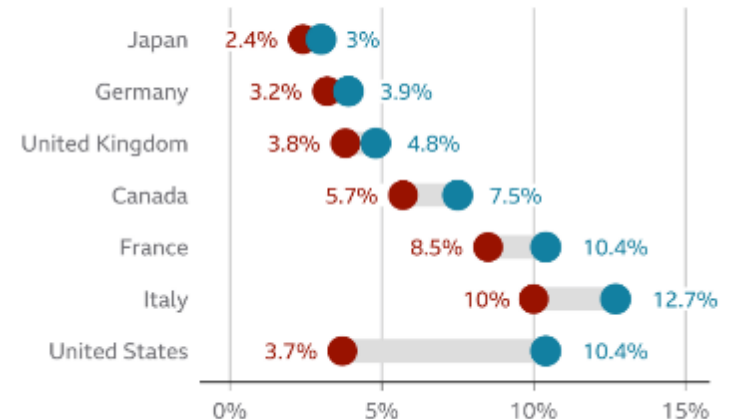
Real GDP growth, Q1 2020



BBC

World economies struggling with rising unemployment

Yearly unemployment rate change, 2019-2020



Source: IMF, 29 June 2020, 12:00 BST

BBC

Global debt levels soar to highest since second world war

Median debt-to-GDP ratio (%)

— Developed economies
— Emerging economies



Median debt-to-GDP ratio of country grouping based on G20 advanced and G20 emerging economies

Sources: IMF Historical Debt database; IMF WEO database; Goldman Sachs GIR

© FT

Unprecedented government [interventions](#) to offset the economic impact of Covid-19 have driven the level of global debt close to the peaks seen in the second world war, according to Goldman Sachs.

Lockdown vs Release

- Letter from UK leaders in Public Health

'rather than absolute measures (lockdown or release), we should take a more relativistic approach of more relaxation/stringency depending on control of the virus'

Covid-19: An open letter to the UK's chief medical officers

September 21, 2020

A group of experts have written to the UK CMOs and GC5A, expressing concern about a second wave of covid-19 [f](#) [t](#)

Professor Chris Whitty; CMO, England

Dr Frank Atherton; CMO, Wales

Dr Gregor Ian Smith; CMO, Scotland

Dr Michael McBride; CMO, Northern Ireland

Professor Patrick Vallance; Chief Scientific Adviser,

Dear CMOs

We write to express our grave concern about the emerging second wave of covid-19. Based on our public health experience and our understanding of the SARS-CoV-2 virus, we ask you to note the following:

1. We strongly support your continuing efforts to suppress the virus across the entire population, rather than adopt a policy of segmentation or shielding the vulnerable until "herd immunity" has developed. This is because:
 - a) While covid-19 has different incidence and outcome in different groups, deaths have occurred in all age, gender and racial/ethnic groups and in people with no pre-existing medical conditions. Long Covid (symptoms extending for weeks or months after covid-19) is a debilitating disease affecting tens of thousands of people in UK, and can occur in previously young and healthy individuals.
 - b) Society is an open system. To cut a cohort of "vulnerable" people off from "non-vulnerable" or "less vulnerable" is likely to prove practically impossible, especially for disadvantaged groups (e.g. those living in cramped housing and multi-generational households). Many grandparents are looking after children sent home from school while parents are at work.
 - c) The goal of "herd immunity" rests on the unproven assumption that re-infection will not occur. We simply do not know whether immunity will wane over months or years in those who have had covid-19.
 - d) Despite claims to the contrary from some quarters, there are no examples of a segmentation-and-shielding policy having worked in any country. Notwithstanding our opposition to a policy of segmentation and shielding, we strongly support measures that will provide additional protection to those in care homes and other vulnerable groups.
2. We share the desire of many citizens to return to "normality". However, we believe that the pandemic is following complex system dynamics and will be best controlled by adaptive measures which respond to the day-to-day and week-to-week changes in cases. "Normality" is likely to be a compromise for some time to come. We will need to balance suppressing the virus with minimising restrictions and impacts on economy and society. This is the balance that every country is trying to find—and every country is having to make trade-offs. This might mean moving flexibly between (say) 90% normality and 60% normality. We believe that rather than absolute measures (lockdown or release), we should take a more relativistic approach of more relaxation/more stringency depending on control of the virus.
3. Controlling the virus and re-starting the economy are linked objectives; achieving the former will catalyse the latter. Conversely, even if policies to promote economic recovery which cut across public health objectives appear successful in the short term, they may be detrimental in the long term.
4. As evidence accumulates for airborne transmission of the SARS-CoV-2 virus, measures which would help

Is elimination possible?

HEAD TO HEAD



¹ School of Health and Related Research, Sheffield University, UK

² Section of Epidemiology and Biostatistics, University of Auckland, New Zealand

³ LabPLUS, Auckland District Health Board, New Zealand

⁴ Section of Pacific Health, University of Auckland, New Zealand

Correspondence to: A Lee
andrew.lee@sheffield.ac.uk, S Thornley
s.thornley@auckland.ac.nz

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Should countries aim for elimination in the covid-19 pandemic?

Elimination is possible and is the only way to prevent the biggest loss of life and economic harm in the long run, says **Andrew Lee**. But **Simon Thornley**, **Arthur J Morris**, and **Gerhard Sundborn** argue that the cost to quality of life years is too big a risk when “possible” is not the same as “achievable”

Andrew Lee, ¹ Simon Thornley, ² Arthur J Morris, ³ Gerhard Sundborn⁴

Yes—Andrew Lee

Independent SAGE, a group of scientists providing independent scientific advice on covid-19, has called on the UK government to work towards a “zero covid UK”¹—in other words, the elimination of covid-19.

Elimination is usually pursued for diseases that cause serious illness or death such as smallpox, polio, measles, and Ebola. The alternative approach is suppression, which attempts to reduce disease incidence to acceptable levels. This normally applies to low consequence infections, such as diarrhoeal diseases²—the risk of death is low, and the disease continues to circulate in the population at low levels.

Is elimination possible? “Zero covid” status has been achieved in New Zealand,⁹ Vietnam, Brunei, and island states in the Caribbean.¹⁰ We know what works: consistent adherence to physical distancing, hygiene practices, and ubiquitous use of face coverings, as well as the early detection, testing, tracing, and isolation of cases—plus timely, targeted lockdowns to deal with local outbreaks. If and when a vaccine becomes available, mass immunisation programmes could help to boost population immunity. All of these measures taken together can work,¹¹ but they come at a cost.

With large epidemics occurring worldwide, some people may consider elimination futile. In a

What is the IFP?

- Infection Fatality Proportion (IFP)

‘Estimates of the proportion of people who die from Covid-19 have been controversial, with some even dismissing it as similar to a bad flu. There are three main problems accounting for this controversy.’

‘In this article, I describe each of these problems and some of the ways that epidemiologists such as me try to deal with them.’

nzherald.co.nz

Website of the Year

NEW ZEALAND

Rod Jackson: Why Covid is at least 10 times more deadly than the flu

21 Sep, 2020 10:00 AM

10 minutes to read



Video will play in 5

▶ Play now 00 Don't auto play

WHAT IS CORONAVIRUS?

What is Novel coronavirus (2019-nCoV)? Video / WHO

NZ Herald
By Rod Jackson



COMMENT

Estimates of the proportion of people who die from Covid-19 have been controversial, with some even dismissing it as similar to a bad flu. There are three main problems accounting for this controversy.

In this article, I describe each of these problems and some of the ways that epidemiologists such as me try to deal with them.

Great Barrington Declaration



- 'Focussed protection' and 'herd immunity'

'The most compassionate approach that balances the risks and benefits of reaching herd immunity, is to allow those who are at minimal risk of death to live their lives normally to build up immunity to the virus through natural infection, while better protecting those who are at highest risk. We call this Focused Protection.'

John Snow Memorandum

JOHN SNOW
MEMORANDUM

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MORE THAN 6,900 scientists, researchers & healthcare professionals have now signed the John Snow Memorandum.

We vet every signature, so it may take 72 hours for your name to appear.

Thanks for your support, and please continue to share with your colleagues.



- Controlling community spread plus vaccines and treatments

'Any pandemic management strategy relying upon immunity from natural infections for COVID-19 is flawed... robust public health responses can control transmission... controlling community spread of COVID-19 is the best way to protect our societies and economies until safe and effective vaccines and therapeutics arrive within the coming months.'

The real level of immunity

- Is seroprevalence the best test of the population level of immunity?
- Is there prior cross-immunity from other coronaviruses?
- Does IgA play a protective role as well as IgG and IgM?
- Do T cells offer protection?
- Does BCG offer protection?
- Has herd immunity already been reached in some countries?

Safety and Ethics of Vaccines

Developer	Vaccine type	Fetal cells used	Human trials	Potential U.S. funding	Warp Speed pick
CanSino Biologics, Inc./Beijing Institute of Biotechnology	Replication-deficient adenovirus	HEK-293	Yes (phase II)	No	No
University of Oxford/Astra Zeneca	Replication-deficient adenovirus	HEK-293	Yes (phase II/III)	\$1.2 billion	Yes (short list*)
Janssen Research & Development USA	Replication-deficient adenovirus	PER.C6	No	\$456 million	Yes (short list*)
University of Pittsburgh	Protein subunit	HEK-293	No	No	No
ImmunityBio/NantKwest	Replication-deficient adenovirus	HEK-293 or derivative E.C7	No	No	Yes (long list)

*THE NEW YORK TIMES REPORT

Christian memes

- The Great Barrington Declaration – ‘focussed protection’ (Henaghan, Gupta)
- Sweden didn’t lockdown and has ‘herd immunity’ with minimal deaths/economic damage
- COVID mortality is no worse than the flu
- People would have died within months anyway if COVID hadn’t killed them
- Many counted as COVID deaths really died from other causes
- The pandemic is already over
- Vaccines are untested, dangerous and unethical
- IFP overestimated and level of immunity underestimated (Yeadon)

My tentative conclusions

- An incredibly complex multifactorial problem
- An abundance of exponential curves (including armchair epidemiologists)
- Social distancing, hand hygiene and masks are very effective
- Test, trace and isolate is incredibly successful in best countries
- Lockdown has a role in emergencies to flatten the curve
- Going for 'herd immunity' is an unproven strategy and risks huge mortality
- Treatments have reduced mortality by 30% and are improving
- Three vaccines are now available but let's still be very cautious about stopping prevention
- I would personally get vaccinated both to protect myself and others

Questions and discussion

