

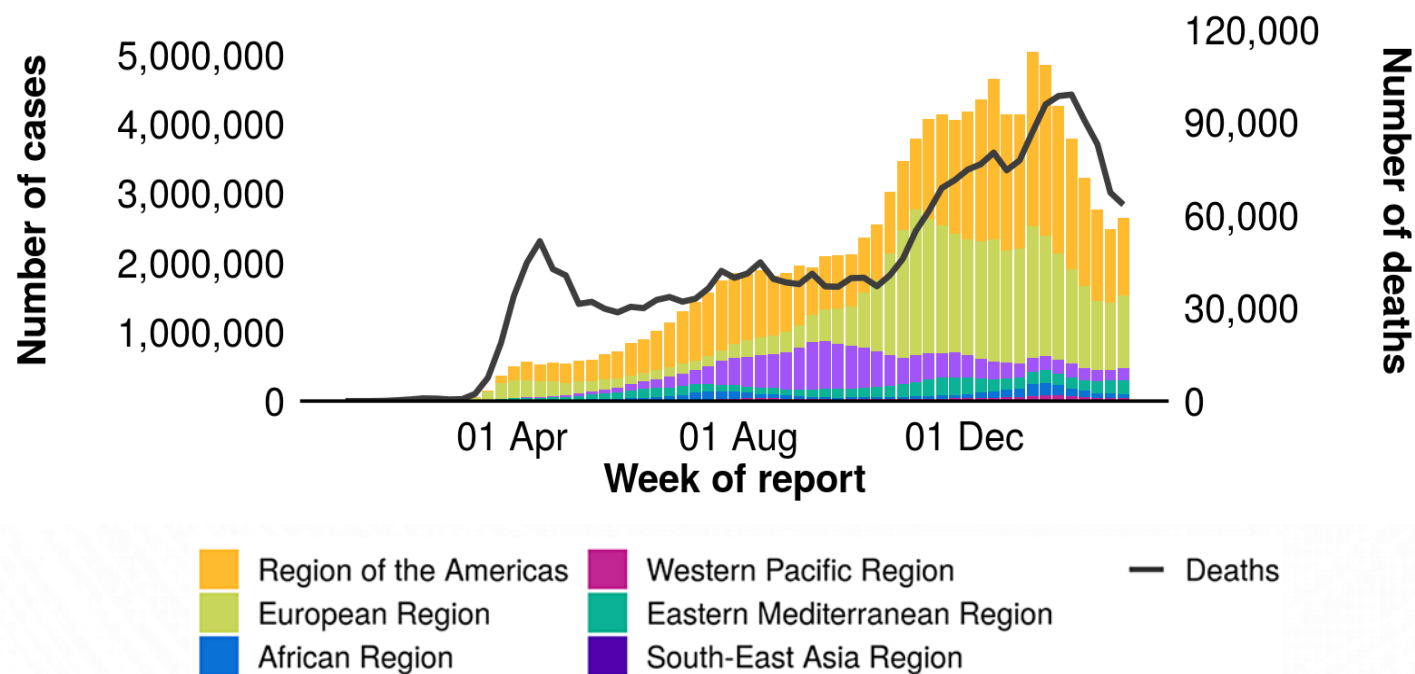
A year into the COVID-19 pandemic, a high speed journey. **Where are we now?**

THE LATEST ON THE COVID-19 GLOBAL SITUATION
& HOW THE PANDEMIC SPREAD

Current global situation

Cases reported to WHO as of 28 February 2021, 10:00AM CEST

- > 113 million cases
- > 2.5 million deaths

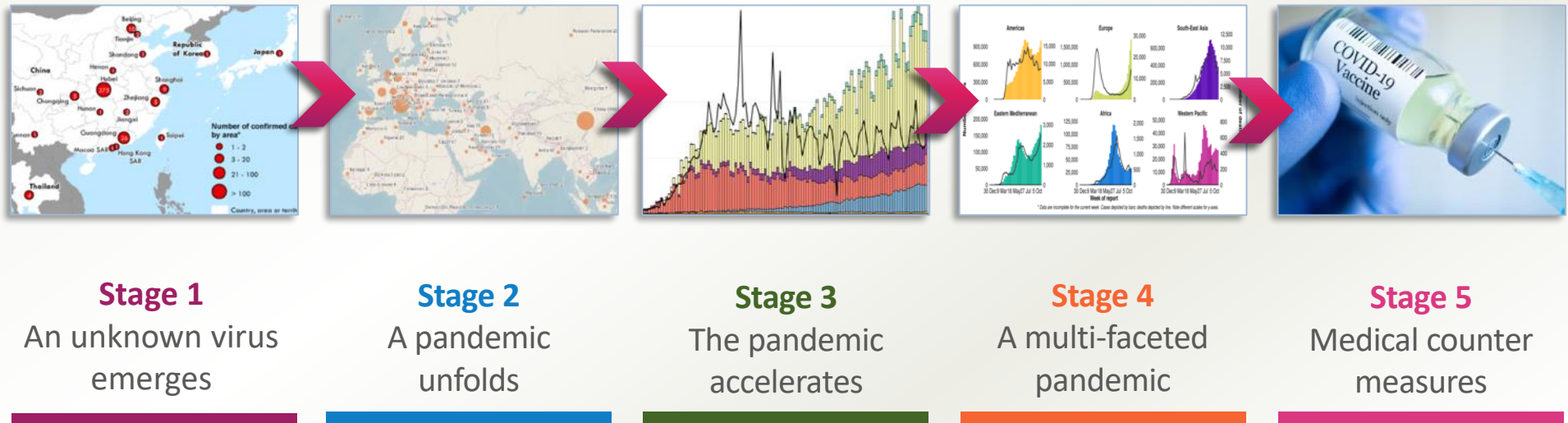


* Data are incomplete for the current week. Cases depicted by bars; deaths depicted by line

Overview of the COVID-19 pandemic

A high-level overview of emerging issues

As the COVID-19 pandemic evolves, several distinct questions and challenges arise...



Stage 1

An unknown virus emerges



Source: WHO 21 January 2020

An unusual cluster of severe pneumonia cases is identified in China raising questions about a possible new disease (December 2019)

- Some cases are linked to a sea food market, in Wuhan, Hubei province, China
- Some patients die, especially older people and those with other medical conditions
- The new disease is caused by a novel *coronavirus*, a family of viruses known to infect animals & humans
- The infection causes respiratory disease ranging from mild to severe disease

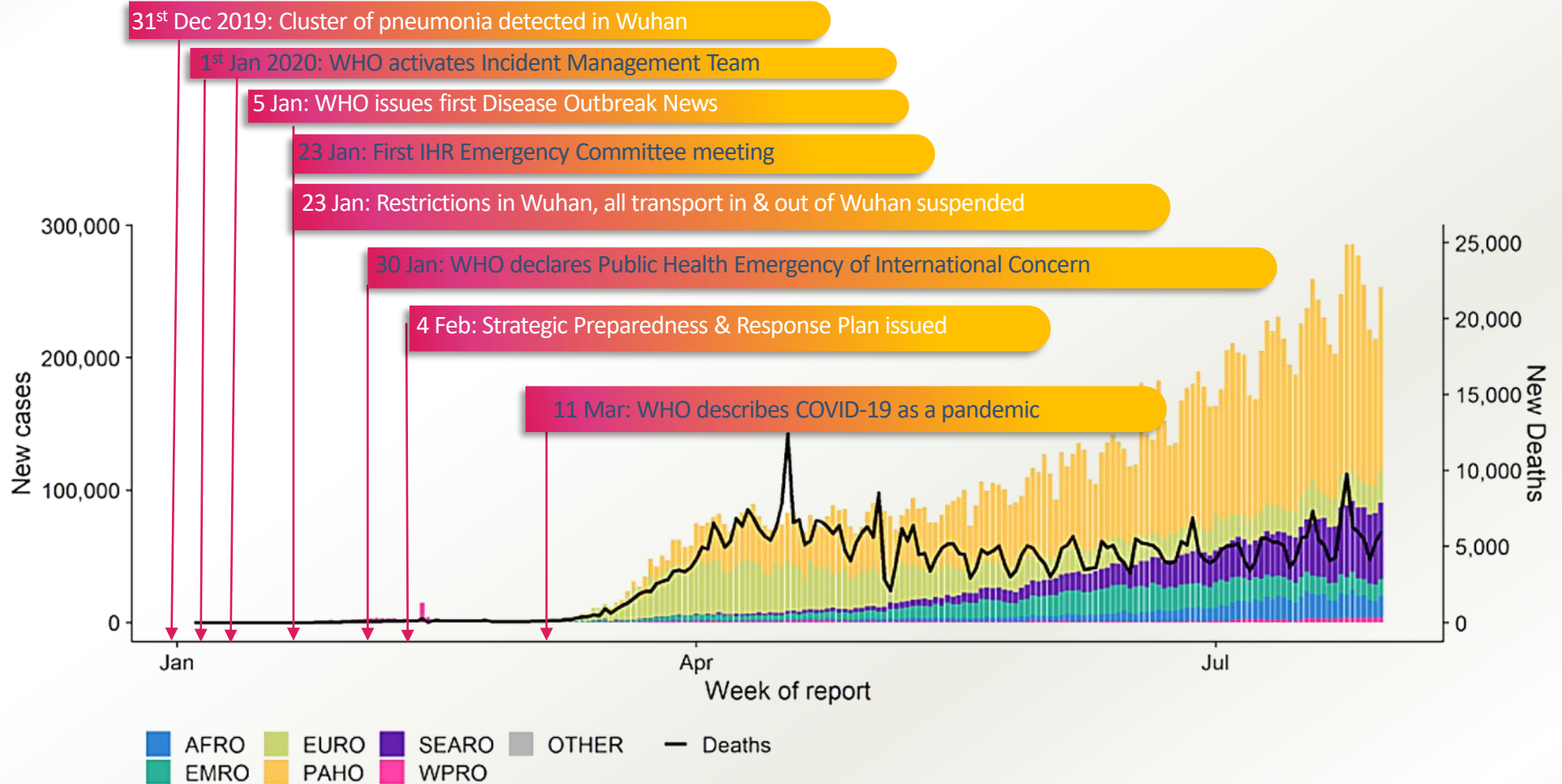
Following advice from the IHR Emergency Committee for COVID-19, on 30 January 2020 – with around 7700 confirmed cases in China and 82 cases outside of China – WHO declares the outbreak to be a **Public Health Emergency of International Concern**.

At that time, no death related to COVID-19 is recorded outside China



Stage 1

Initial response to the virus



Other: two international conveyances

Stage 1

Research for diagnostics, vaccines and therapeutics began immediately

- After the West Africa Ebola outbreak in 2014-2016, the World Health Organization (WHO) adopted a plan for research and development (R&D) – this is known as the **R&D Blueprint**
- The R&D Blueprint is a global strategy to enable rapid activation of research during epidemics and fast-track development of diagnostics, vaccines and medicines.
- WHO convened the first global **COVID-19 Research and Innovation Forum** in Geneva on 11-12 February 2020.

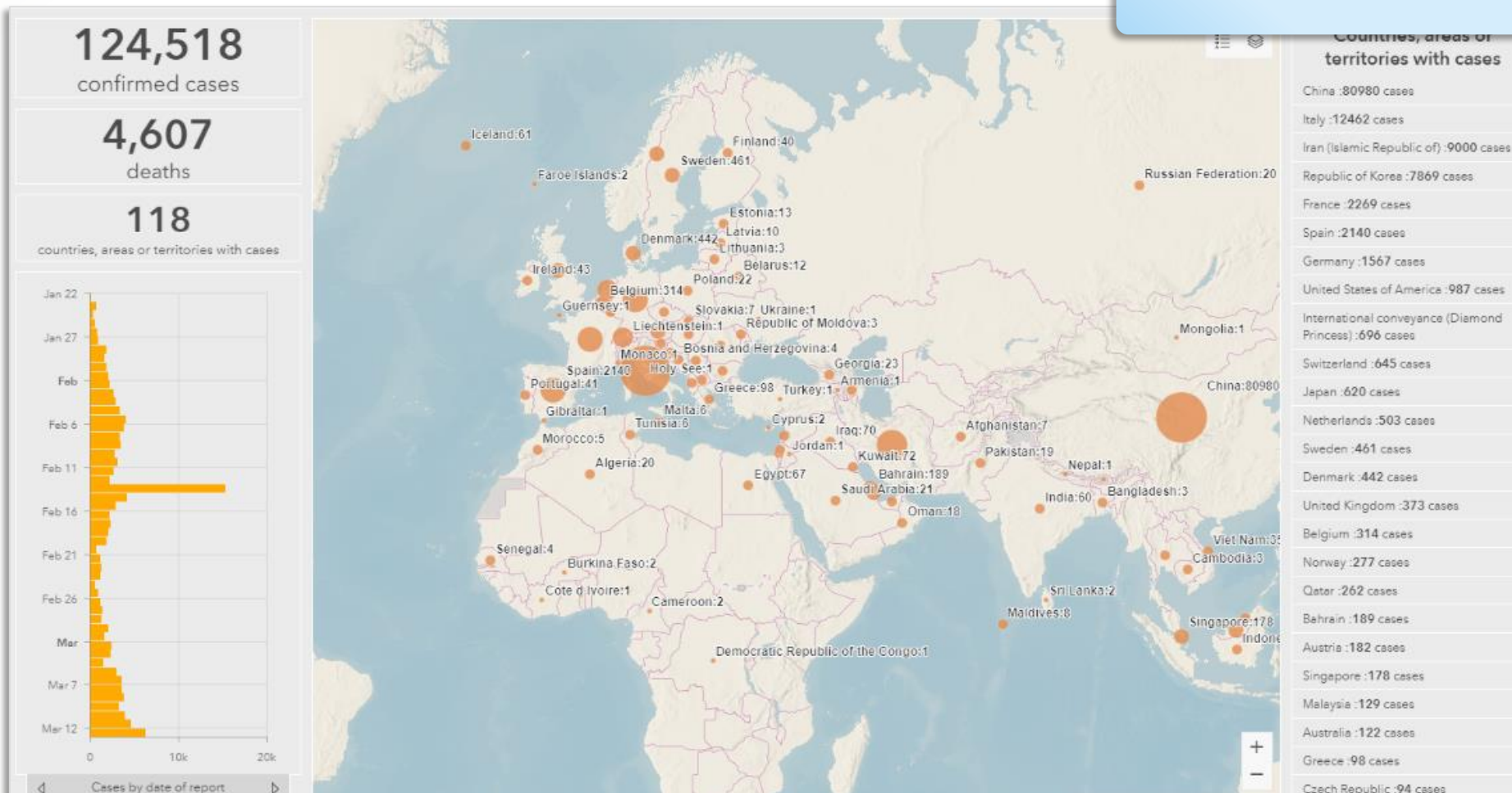


¹ <https://www.who.int/teams/blueprint/covid-19>

Stage 2

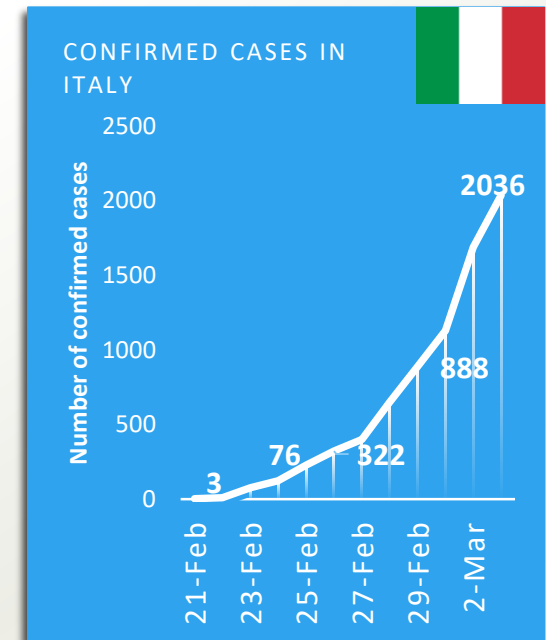
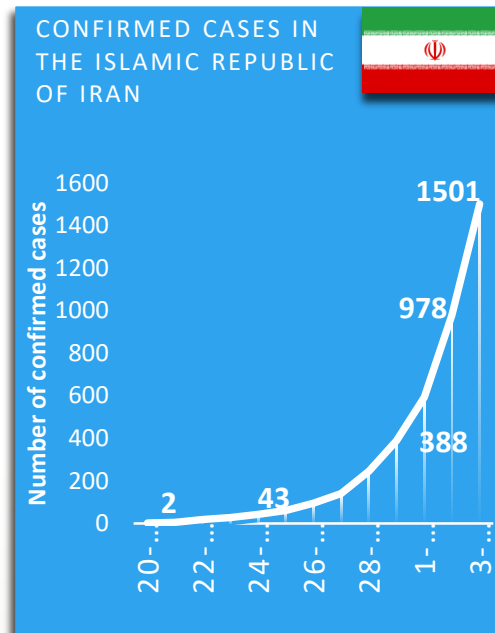
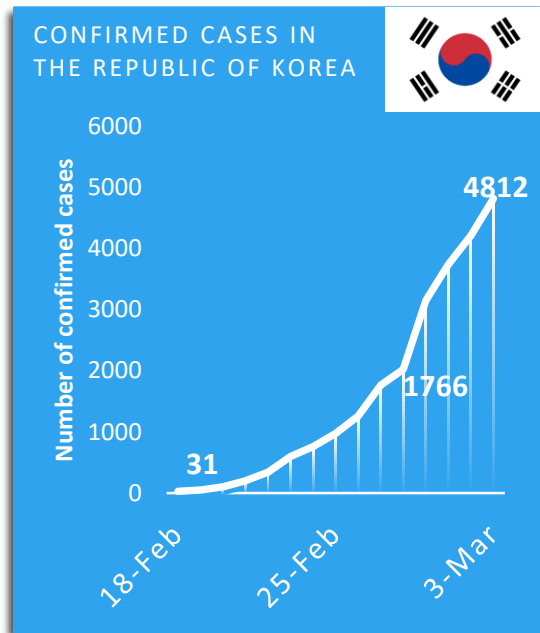
A pandemic unfolds

By 12 March 2020, there were **over 120,000 cases** and **over 4,600 deaths**



Stage 2

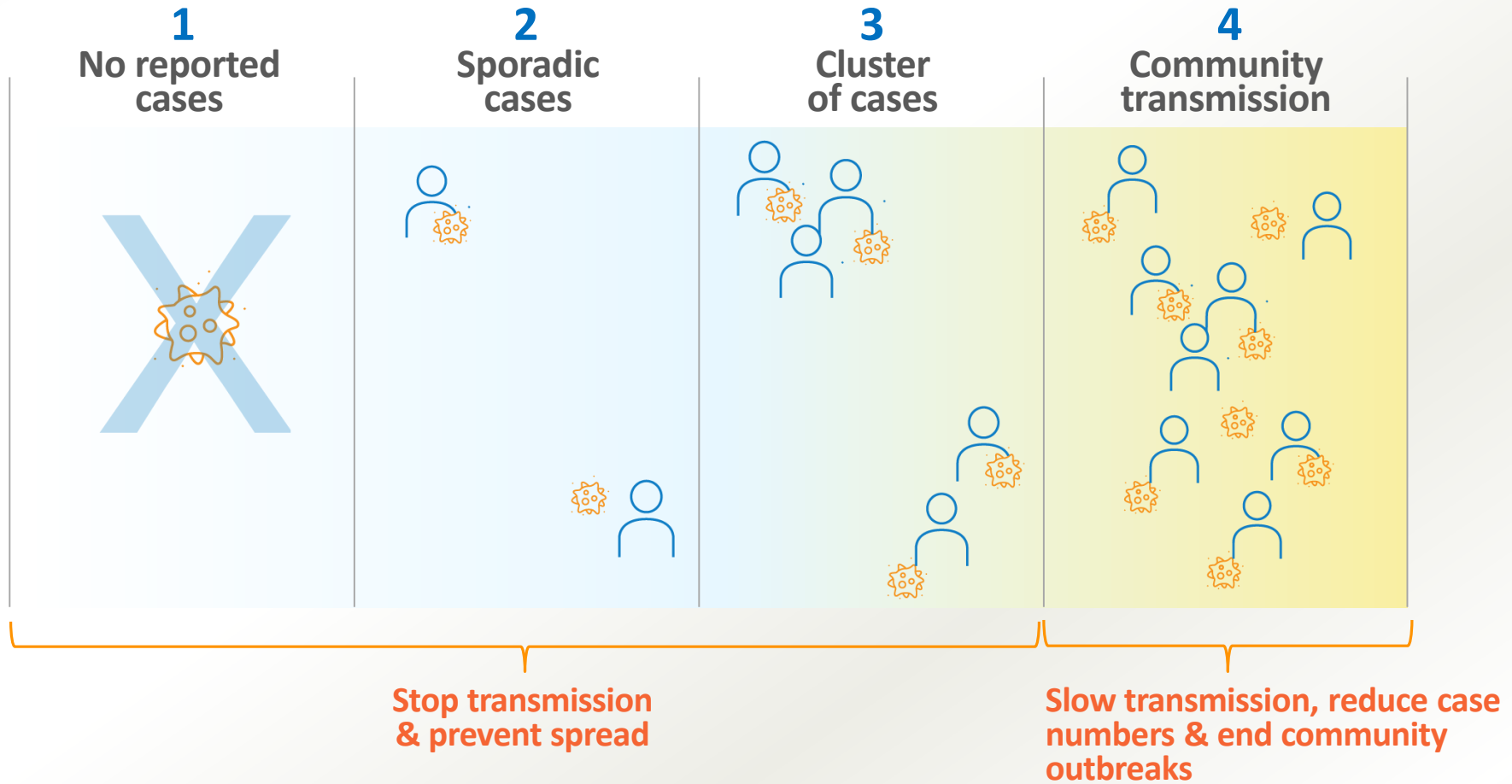
COVID-19 spreads outside China



- **Mass gatherings** such as religious events in the city of Daegu in South Korea, religious gatherings in Qom, Iran and the Champions League football match in Bergamo, Italy **play a key role in the spread of COVID-19**
- The case fatality ratio is higher in Italy than was reported in China. Early information that **older people are at higher risk of severe disease is reinforced**
- On **11 March 2020**, WHO characterizes the outbreak as a **pandemic**

Stage 2

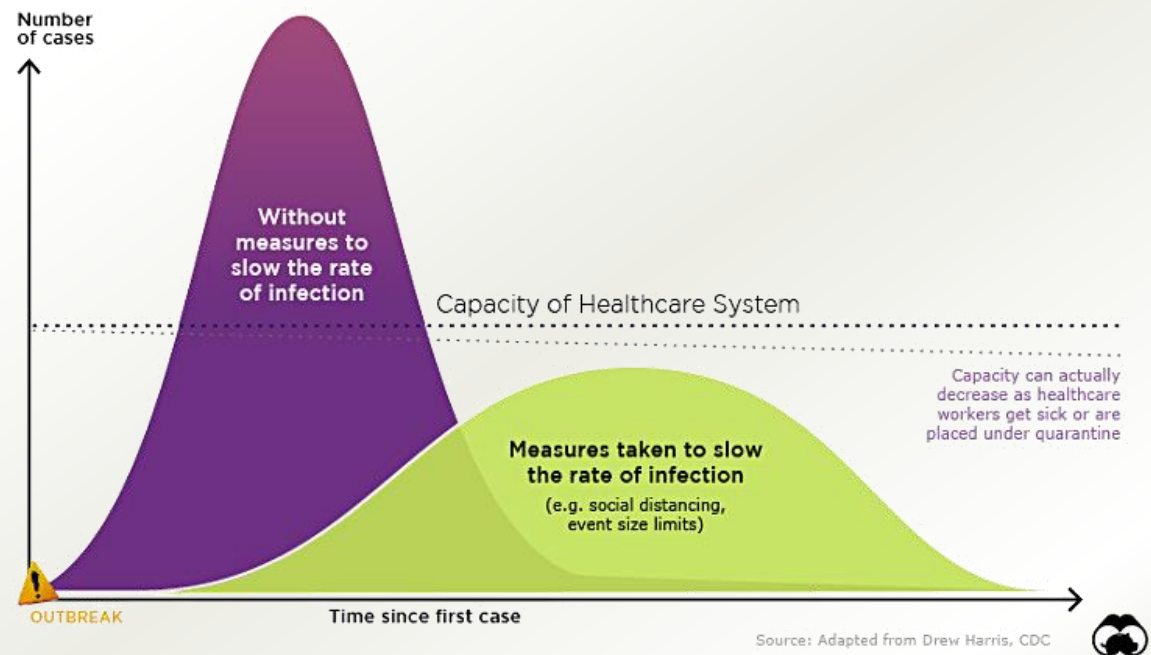
Four scenarios for COVID-19 response



Stage 2

In many countries, spread of COVID-19 leads to community transmission

- **‘Flattening the curve’** is important as in every country, there are limited numbers of hospitals, nurses and doctors
- The capacity of the health system can be exceeded if too many people seek healthcare at the same time
- **Testing, isolating positive cases, contact tracing** and **PHSM** are important to flattening the curve
- Some countries manage to stop transmission with control measures
- Many countries close schools, shops, workplaces, bars, restaurants as well as borders and ask people to stay home to limit the spread of the virus



Stage 2

Implementation of Public Health & Social Measures

WHAT

Personal protective measures

- Hand hygiene
- Respiratory etiquette
- Face masks

Travel-related measures

- Travel advices
- Travel restrictions
- Border closure
- Entry and exit screenings

Social distancing measures

- Contact tracing
- Isolation of sick individuals
- Quarantine of exposed individuals
- School measures / closures
- Workplace measures / closures
- Avoiding crowding

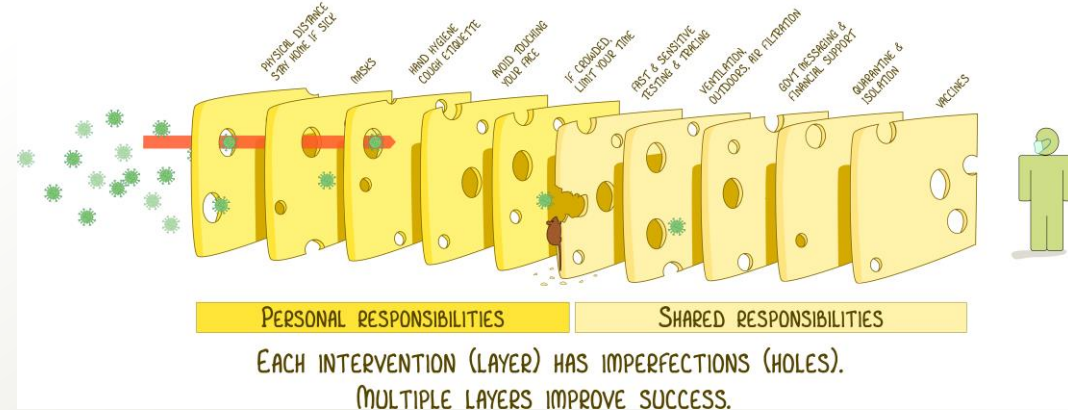
Environmental measures

- Surface and object cleaning
- Increased ventilation

HOW

THE SWISS CHEESE RESPIRATORY VIRUS PANDEMIC DEFENCE

RECOGNISING THAT NO SINGLE INTERVENTION IS PERFECT AT PREVENTING SPREAD



<https://apps.who.int/iris/bitstream/handle/10665/329438/9789241516839-eng.pdf?ua=1>

Author: Ian M Mackay, PhD (EIC) https://virologydownunder.com/wp-content/uploads/2020/12/SwissCheese-ver3.0_MUG-version.png#main

Stage 2

Health systems are under pressure even in wealthy countries

- Hospitals and health workers face rising demand to attend to a growing number of COVID-19 patients
- **Materials are in short supply:**
 - Personal protective equipment
 - Oxygen and ventilators
 - COVID-19 diagnostic tests
- **Health workers** are affected, of all detailed case reports submitted to WHO by October 2020, 14% of the cases are health workers. Capacity building and access to adequate personal protective equipment & measures lead to the decrease of this percentage.¹
- **Usual health care is cancelled** or postponed with a major impact on other endemic or chronic diseases as well as on preventive activities such as routine immunization



Photo: WHO

¹ Globally aggregated weekly surveillance data based on cases notified to WHO

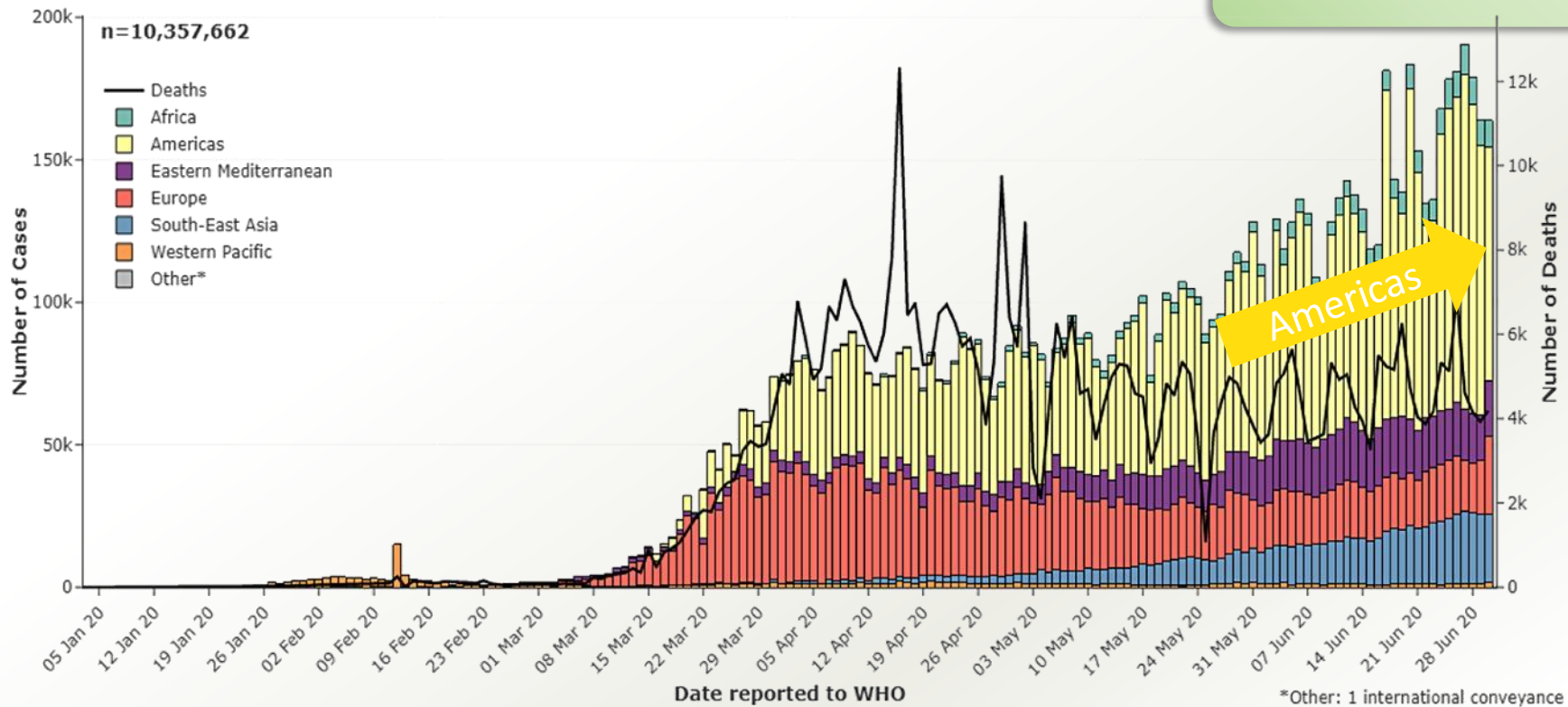
<https://www.who.int/fr/news/item/17-09-2020-keep-health-workers-safe-to-keep-patients-safe-who>

<https://apps.who.int/iris/handle/10665/336265>

Stage 3

The pandemic accelerates

Number of new confirmed COVID-19 cases by date reported to WHO and region



The epicentre moves from Europe to the Americas

By 1 July 2020, there were over **10.3 million cases** and over **503,000 deaths** in **215 countries** or areas and two cruise ships

Source: WHO

Stage 3

Beyond the health crisis: impact on all of society

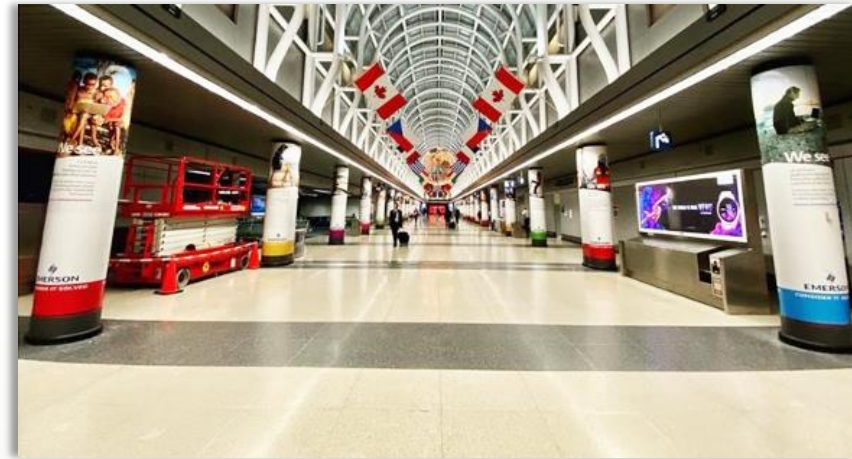
- **National restrictions** have a huge impact on businesses and individuals lose jobs
- The travel sector is greatly affected by **international movement restrictions**
- Pressure mounts to re-open societies, including schools to minimize social and economic damage

Countries start re-opening societies

The 'first wave' passes in countries first affected which see cases declining

Some country borders re-open and restrictions are eased, in particular during holidays in the northern hemisphere

Source: www.weforum.org/agenda/2020/06/imf-lockdown-recession-covid19-coronavirus-economics-recession/



Inside Chicago O'Hare International Airport, United States of America



Stage 3

How the pandemic affects the African Region

- **In many African countries, case numbers are low.** The reported **mortality is also low** compared to European countries. There are many hypothesis to explain these differences including: low testing capacity, underreporting, young population, pre-existing cross immunity and the use of local treatments.

WHO Dashboard	European region	African region
Cumulative cases COVID-19	11.1 million	1.3 million
Cumulative deaths COVID-19	285,135	29,785
Population size	750 million	1.3 billion

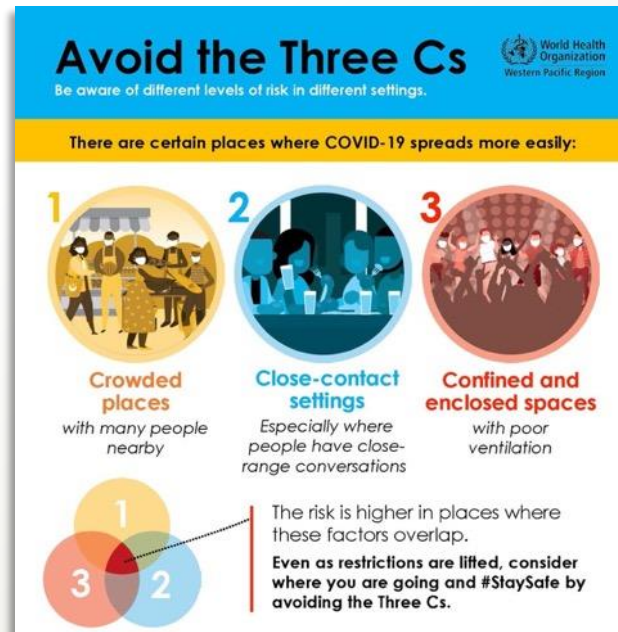
Source: COVID-19 Dashboard, WHO 02 Nov 2020



Stage 3

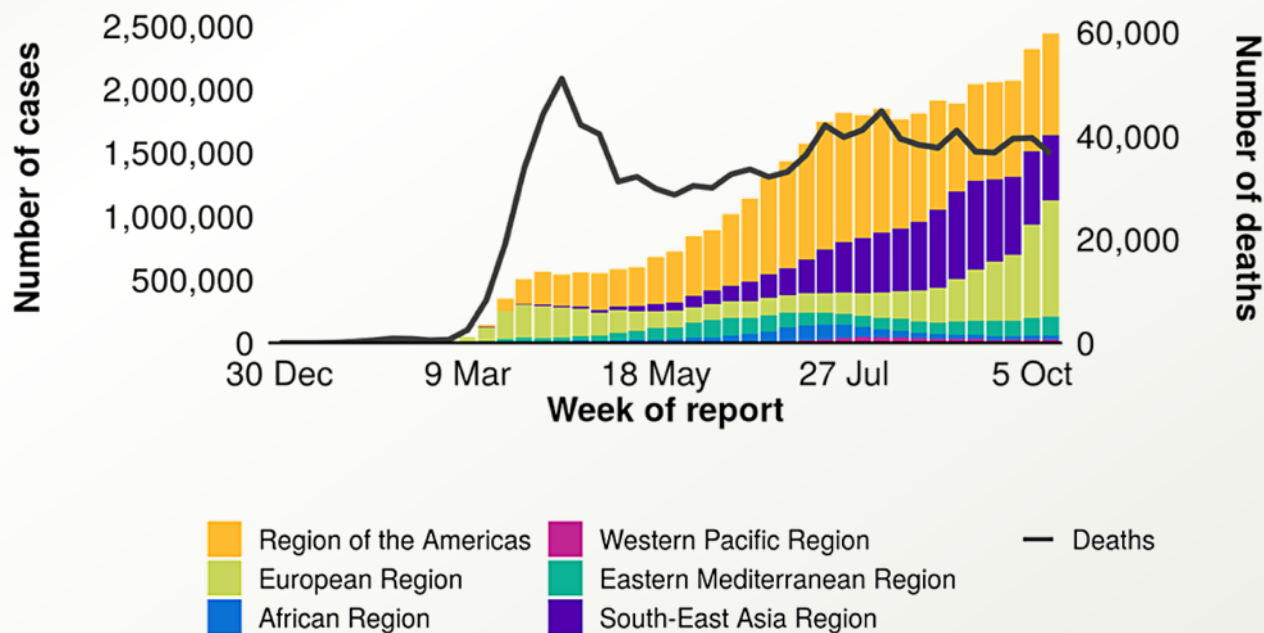
COVID-19 spreads more easily in certain settings

- **Certain situations and activities** (such as singing, exercising, shouting) are identified to be at **higher risk for COVID-19 transmission**:
 - **Crowded places**
 - **Close-contact settings**
 - **Confined and enclosed spaces** with poor ventilation



Stage 4

A multifaceted pandemic



Source: WHO 01 November 2020

There is sustained transmission in the US and India, a new increase of cases in Europe (2nd wave); while other countries remain COVID-19 free (e.g. New Zealand)

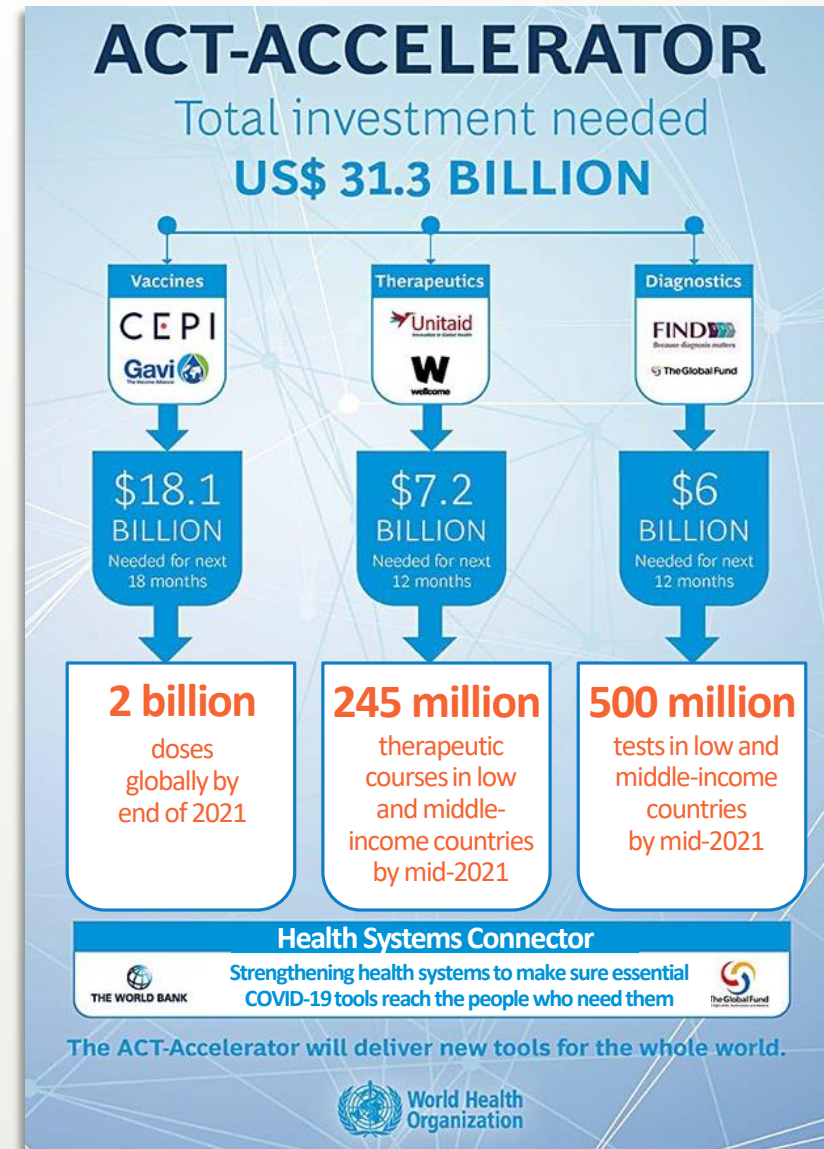
By 01 November, there are **nearly 46 million cases** and **over 1.19 million deaths**

Source: WHO

Stage 4

Global partnership

- **Access to COVID-19 Tools (ACT) Accelerator** is a global collaboration end to end process, to accelerate development, production, and access to COVID-19 vaccines, therapeutics and diagnostics
 - Vaccines in development as of 1st November 2020:
 - **154 in preclinical evaluation**
 - **44 in clinical evaluation**
 - **10 in phase III trials**
 - Dexamethasone has been confirmed as a useful therapeutic treatment for severe cases
 - An antigen-based rapid diagnostic test has been approved
- [Information on vaccines](#)
- [More information on the ACT Accelerator](#)



Stage 4

Reaching for global solidarity

WHO has developed a *framework for equitable and fair allocation of ACT accelerator products*



“ No one is safe until everyone is safe ”

Tedros Adhanom Ghebreyesus
Director-General, World Health Organization

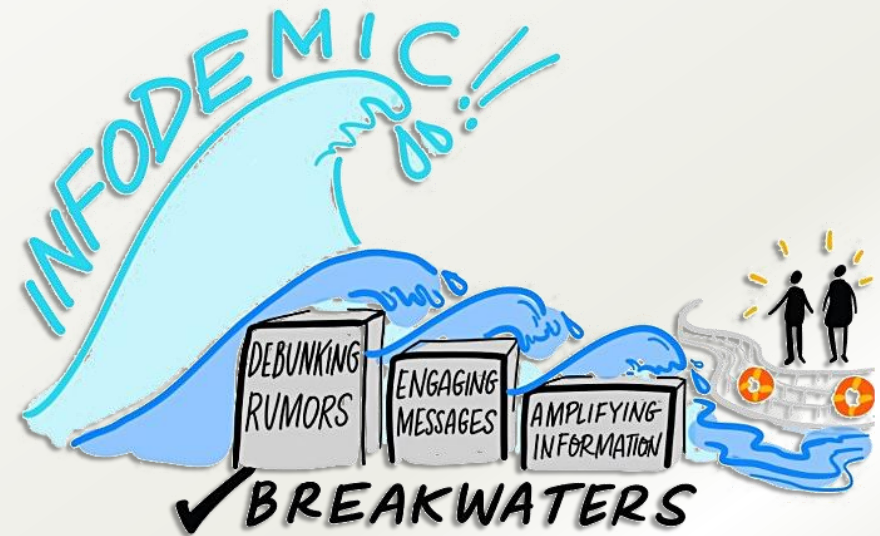
www.who.int/publications/m/item/fair-allocation-mechanism-for-covid-19-vaccines-through-the-covax-facility

Stage 4

Mis- and disinformation complicates the picture

- An infodemic is the tsunami of information – some accurate, some not – that spreads alongside an epidemic or pandemic
- Managing the infodemic has become more challenging with rapid spread of mis- and disinformation through social media
- In some countries, **misinformation has generated mistrust** in governments, public health authorities and science
- Managing the infodemic management is critical to managing the pandemic

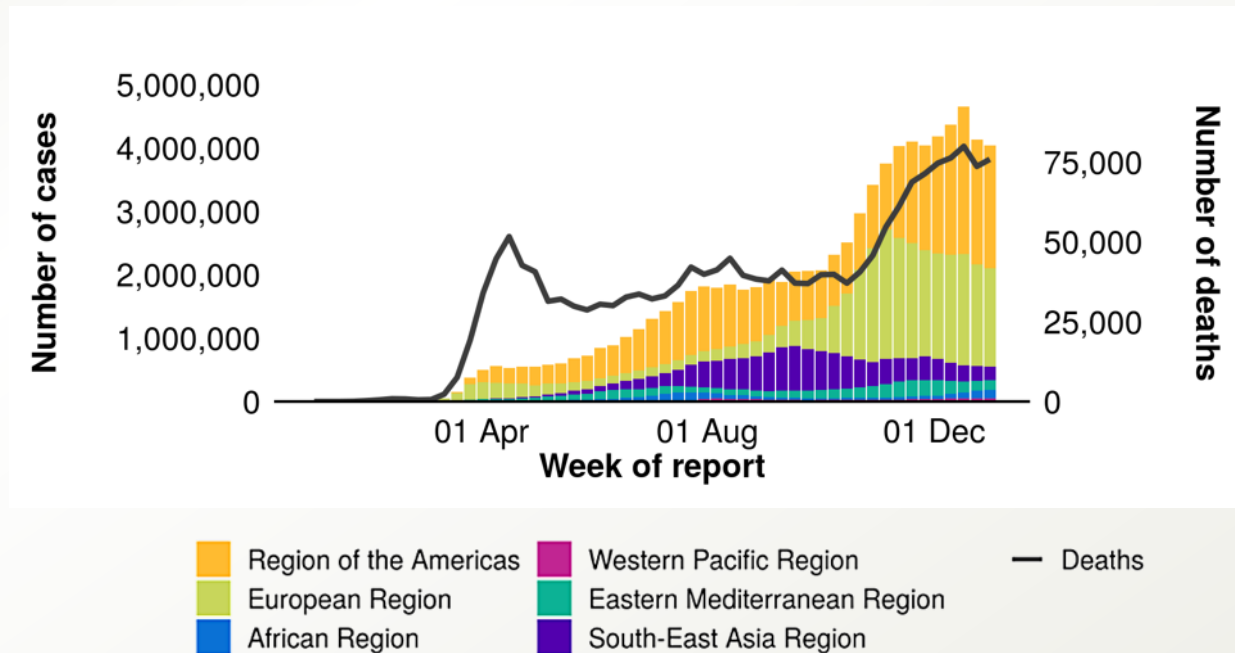
[More information on infodemics and risk communication](https://www.who.int/teams/risk-communication/infodemic-management)



<https://www.who.int/teams/risk-communication/infodemic-management>

Stage 5

Medical counter measures available



Source: WHO

The increase of cases in Europe and the USA (2nd wave) continues;

The first COVID-19 vaccines are rolled out;
There is growing concern about emerging variants

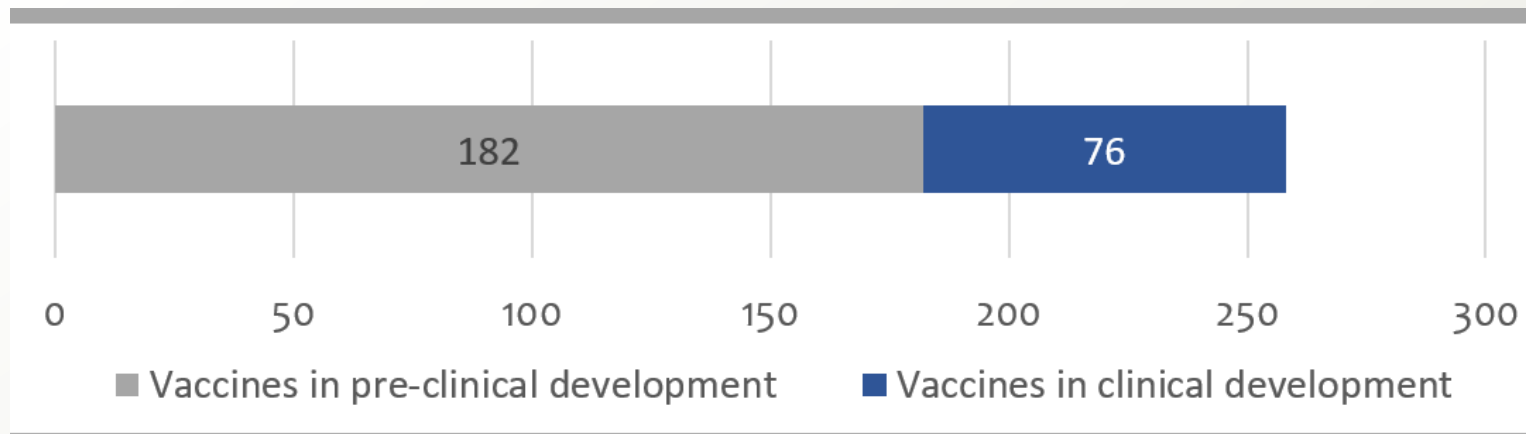
As of January 3rd, more than 83 million cases and over 1.8 million deaths

Source: WHO

Stage 5

COVID-19 vaccine accelerated development

- As of 2nd March 2021, there are **76 COVID-19 candidate vaccines** in clinical development of which **12 are in Phase III and 4 in Phase IV trials**
- There are another 182 candidate vaccines in preclinical development
- More than 90% of all top candidate vaccines will be delivered through **intra-muscular** injection
- Most are designed for a **two-dose schedule**



Source: 2nd March 2021

<https://www.who.int/publications/m/item/draft-landscape-of-covid-19-candidate-vaccines>

Stage 5

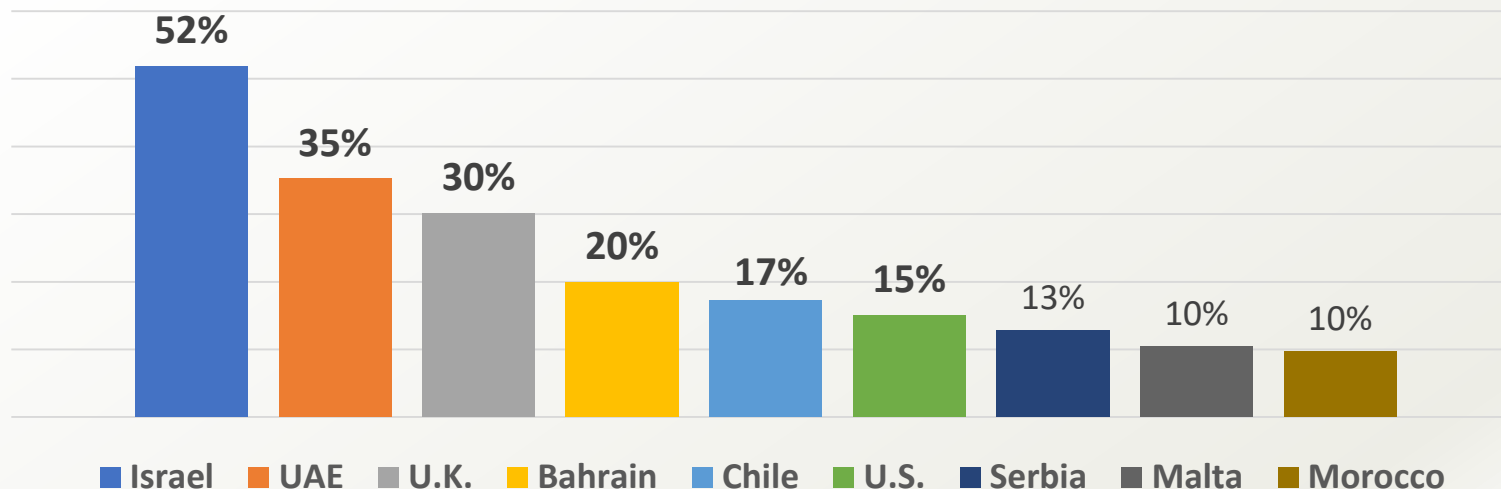
COVID-19 vaccine development

As of 3rd March, more than **265 million vaccine doses have been administered**:

- Different vaccines (3 platforms) have been administered (Pfizer, Moderna, Oxford/AZ, SII, Gamaleya, Sinopharm, Sinovac, Bharat Biotech)

From Bloomberg COVID-19 vaccines tracker on Global Distribution (28th Feb 2021)

% of population given at least 1 dose



<https://www.bloomberg.com/graphics/covid-vaccine-tracker-global-distribution/>
<https://ourworldindata.org/>

Stage 5

COVID-19 vaccine development candidates

4 CANDIDATES VACCINES IN PHASE IV CLINICAL	Vaccine platform	WHO EUL	Already in use
Pfizer/BioNTech + Fosun Pharma*	RNA based vaccine	X	X
Moderna + National Institute of Allergy and Infectious Diseases (NIAID)	RNA based vaccine		X
AstraZeneca + University of Oxford* AZ/SII (Serum Institute of India) & AZ/SK Bio, Korea	Viral vector (Non-replicating)	X	X
Sinovac Research and Development Co., Ltd	Inactivated virus		X

12 CANDIDATES VACCINES IN PHASE III CLINICAL EVALUATION	Vaccine platform	Already in use
CureVac AG	RNA based vaccine	
CanSino Biological Inc./Beijing Institute of Biotechnology	Viral vector (Non-replicating)	
Gamaleya Research Institute ; Health Ministry of the Russian Federation	Viral vector (Non-replicating)	X
Janssen Pharmaceutical	Viral vector (Non-replicating)	
Sinopharm + China National Biotech Group Co + Wuhan Institute of Biological Products	Inactivated virus	X
Sinopharm + China National Biotech Group Co + Beijing Institute of Biological Products	Inactivated virus	X
Institute of Medical Biology + Chinese Academy of Medical Sciences	Inactivated virus	
Research Institute for Biological Safety Problems, Rep of Kazakhstan	Inactivated virus	
Bharat Biotech International Limited	Inactivated virus	X
Novavax	Protein subunit	
Anhui Zhifei Longcom Biopharmaceutical + Institute of Microbiology, Chinese Academy of Sciences	Protein subunit	
Zydus Cadila	DNA based vaccine	

Stage 5

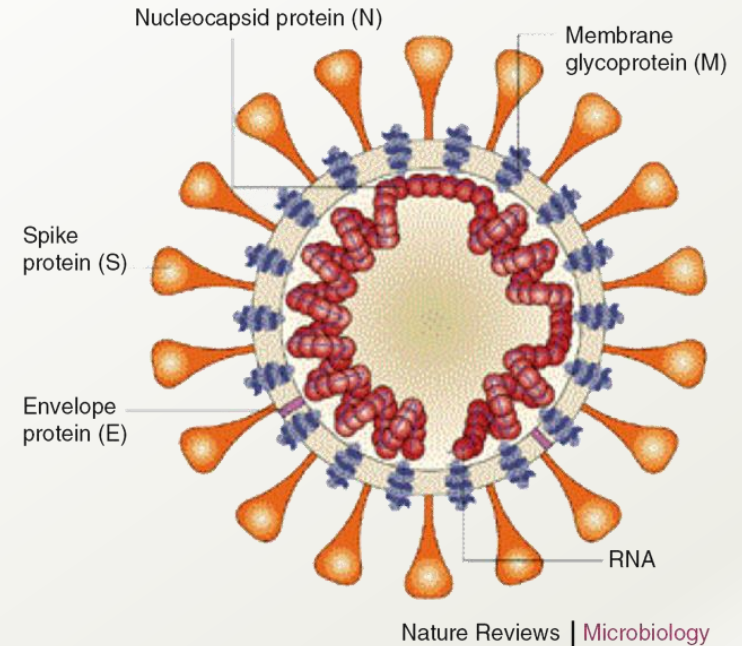
New emerging SARS-CoV-2 variants and their implications

- **New SARS-CoV-2 variants:**

- Sept. 2020, a variant emerged in Denmark related to mink farming
- Variant detected in the United Kingdom in December 2020
- Variant detected in South Africa in December 2020
- 9th January 2021, variant detected in Japan among persons coming back from Brazil

- All these variants involve **genetic mutations coding for the spike protein**

- The spike protein of SARS-CoV-2 is targeted by most vaccines currently approved or in development; mutations of the spike protein are closely monitored



- The mode of transmission of the virus variants has not changed
- The same preventive measures continue to be effective and should continue to be implemented¹

¹ <https://www.who.int/publications/i/item/considerations-in-adjusting-public-health-and-social-measures-in-the-context-of-covid-19-interim-guidance>

Stage 5

Economic impacts of the COVID-19 pandemic

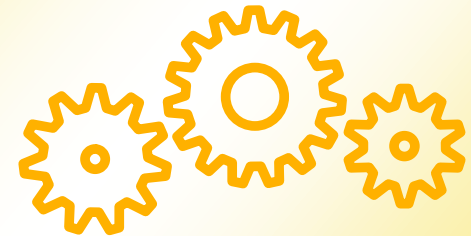
**> 4% contraction of
GDP in 2020**



**88-115 million people
living in extreme poverty
due to the crisis**



**9% of global working
hours lost in 2020 –
the equivalent of 225
million full time jobs**



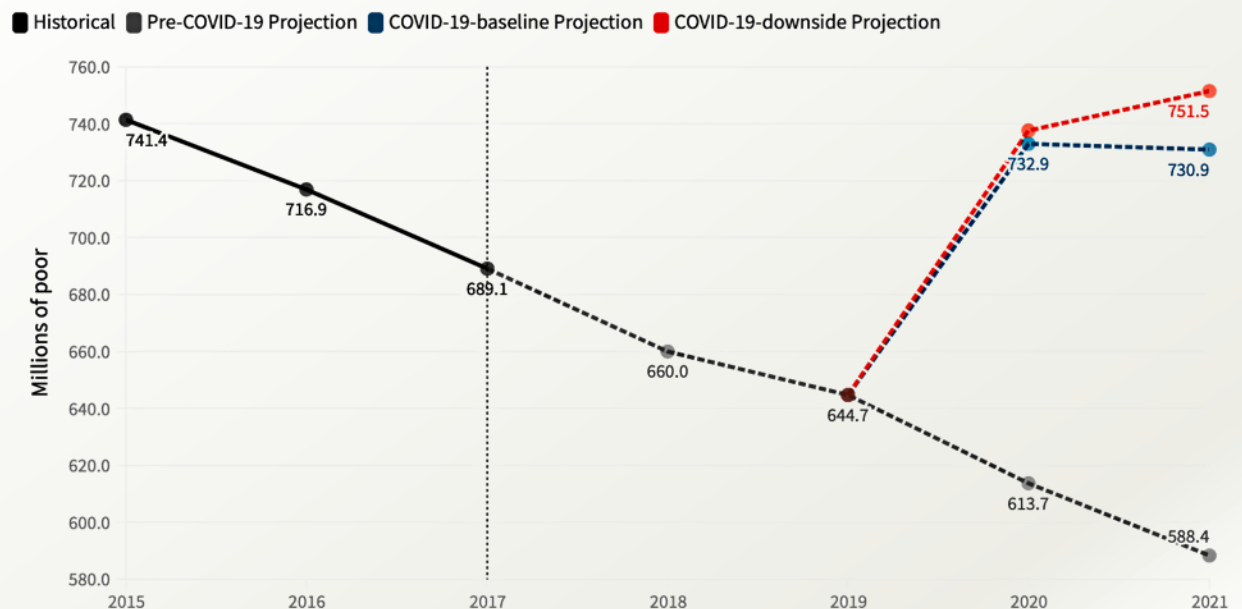
The World Bank Group: <https://blogs.worldbank.org/voices/2020-year-review-impact-covid-19-12-charts>
Lakner et al. (2020) (updated), PovcalNet, Global Economic Prospects
Source: https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_767028.pdf

Stage 5

Extreme poverty is predicted to increase sharply

- Baseline analysis by the World Bank Group estimated that **COVID-19 could push an additional 88 million people into extreme poverty in 2020**. In the worst case scenario, it could be 115 million people
- The largest share of the 'new poor' are living in South Asia and Sub-Saharan Africa

Figure. Forecast of number of people living in extreme poverty (From World Bank Blogs)



Sources: [Lakner et al. \(2020\) \(updated\)](#), [PovcalNet](#), [Global Economic Prospects](#)

Note: Extreme poverty is measured as the number of people living on less than \$1.90 per day.

Resources

WHO Coronavirus Disease (COVID-19) Dashboard

<https://covid19.who.int/>

R&D Blueprint and COVID-19

<https://www.who.int/teams/blueprint/covid-19>

Global research and innovation forum to mobilize international action in response to the novel coronavirus (2019-nCoV) emergency

[https://www.who.int/news-room/events/detail/2020/02/11/default-calendar/global-research-and-innovation-forum-to-mobilize-international-action-in-response-to-the-novel-coronavirus-\(2019-ncov\)-emergency](https://www.who.int/news-room/events/detail/2020/02/11/default-calendar/global-research-and-innovation-forum-to-mobilize-international-action-in-response-to-the-novel-coronavirus-(2019-ncov)-emergency)

Considerations for implementing and adjusting public health and social measures in the context of COVID-19

<https://www.who.int/publications/i/item/considerations-in-adjusting-public-health-and-social-measures-in-the-context-of-covid-19-interim-guidance>

Non-pharmaceutical public health measures for mitigating the risk and impact of epidemic and pandemic influenza

<https://apps.who.int/iris/bitstream/handle/10665/329438/9789241516839-eng.pdf?ua=1>

Keep health workers safe to keep patients safe: WHO

<https://www.who.int/news/item/17-09-2020-keep-health-workers-safe-to-keep-patients-safe-who?v=4>

Prevention, identification and management of health worker infection in the context of COVID-19: interim guidance, 30 October 2020

<https://apps.who.int/iris/handle/10665/336265>

IMF: New predictions suggest a deeper recession and a slower recovery

<https://www.weforum.org/agenda/2020/06/imf-lockdown-recession-covid19-coronavirus-economics-recession/>

Resources (2)

Three factors help you make safer choices during COVID-19

<https://www.who.int/teams/risk-communication/covid-19-transmission>

Infodemic management

<https://www.who.int/teams/risk-communication/infodemic-management>

COVID-19 vaccines

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines>

Fair allocation mechanism for COVID-19 vaccines through the COVAX Facility

<https://www.who.int/publications/m/item/fair-allocation-mechanism-for-covid-19-vaccines-through-the-covax-facility>

Draft landscape and tracker of COVID-19 candidate vaccines

<https://www.who.int/publications/m/item/draft-landscape-of-covid-19-candidate-vaccines>

Bloomberg

<https://www.bloomberg.com/graphics/covid-vaccine-tracker-global-distribution/>

Our World in Data

<https://ourworldindata.org/>

World Bank

<https://blogs.worldbank.org/voices/2020-year-review-impact-covid-19-12-charts>

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EPI•WiN

infodemic
MANAGEMENT

www.who.int/epi-win