



# CEPI

## New vaccines for a safer world

### **Our vision:**

a world in which epidemics and pandemics are no longer a threat to humanity.

### **Our mission:**

to accelerate the development of vaccines and other biologic countermeasures against epidemic and pandemic threats so they can be accessible to all people in need.

Correct as of July 2024.

# The need to end emerging infectious disease threats

**As the COVID-19 pandemic made clear, in a world characterized by increasing population density, human mobility and ecological change, emerging infectious diseases are an ever-present threat to global health security.**

Epidemic and pandemic diseases affect us all – they do not respect borders. A global response is needed for a global problem.

COVID-19 has killed millions and destroyed the livelihoods of hundreds of millions of people. By the end of 2025, it will have cost the global economy US \$28 trillion.<sup>1</sup> And COVID-19 is not the first, nor the last, pandemic of the 21<sup>st</sup> century.

Despite its devastating impact, the COVID-19 pandemic also ushered in a new era in vaccine science. For millennia, humanity has battled

with epidemic threats. But the advances made in response to COVID-19 have opened a new frontier in vaccine development – one which gives us the ability to significantly reduce the threat posed by all epidemic and pandemic infectious diseases. A decade ago, this prospect would have been unimaginable. Now, it is within our grasp.

It is vital that the world seizes this window of opportunity to capitalize on the scientific advances and political will that can prevent such devastation from happening again.

CEPI's ambitious **strategy** seeks to accelerate the time taken to develop safe, effective, globally accessible vaccines against emerging disease outbreaks to within 100 days and build a world that is better prepared to deal with epidemic and pandemic threats.



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<sup>1</sup> <https://blogs.imf.org/2020/10/13/a-long-uneven-and-uncertain-ascent/>

# The creation of CEPI

**The global need for an organization like CEPI was recognized after the devastating West African Ebola epidemic, which killed more than 11,000 people and had an economic and social burden of over \$53 billion.<sup>2</sup>**

The world's response to this crisis fell tragically short. A vaccine that had been under development for more than a decade was not deployed until over a year into the epidemic. That vaccine was shown to be nearly 100% effective,<sup>3</sup> suggesting that much of the epidemic could have been prevented. It was evident that the world needed a better system to speed the development of vaccines against known epidemic threats.

CEPI was founded in Davos in 2017 by the governments of Norway and India, the Bill &

Melinda Gates Foundation, Wellcome, and the World Economic Forum as the result of a consensus that a coordinated, international, and intergovernmental plan was needed to develop and deploy new vaccines to prevent future epidemics.

To date, CEPI has received financial support from over 30 Governments and philanthropic foundations. CEPI has also received support from private sector entities as well as public contributions through the [UN Foundation COVID-19 Solidarity Response Fund](#).

CEPI is headquartered in Oslo, Norway, and has offices in London, UK, and Washington, D.C. in the US.

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<sup>2</sup> <https://academic.oup.com/jid/advance-article-abstract/doi/10.1093/infdis/jiy213/5129071>

<sup>3</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5364328>

# Filling a critical gap in the vaccine ecosystem

In its short history, CEPI has had an outsized influence in shaping the global R&D ecosystem, forging consortia, developing new collaborations and injecting funding to jumpstart R&D when needed. It has also aligned programmes to complement the R&D efforts of its coalition partners.

To date, CEPI has made investments in over 50 vaccine candidates or platform technologies and an array of enabling science projects, targeting its priority pathogens, (Chikungunya, COVID-19, Ebola, Lassa fever, MERS, Nipah, and Rift Valley fever) and is advancing the development of rapid response platforms for vaccines against a future Disease X.

A full list of all the vaccine candidates CEPI funds, and their status in clinical development, can be found on the CEPI [website](#).

Many of these diseases are principally regional threats (Lassa, MERS, Rift Valley Fever); several have expanded their range in recent years (Ebola, Nipah); and some have spread globally and are, or could be, regarded as pandemic (Chikungunya, COVID-19).

While many of these pathogens have caused outbreaks of only limited size, the economic damage they cause can be enormous.

CEPI has overseen a number of scientific “firsts”, including the first-ever Chikungunya vaccine to receive approval, the advancement of the first-ever Nipah and Lassa virus vaccines into Phase 1 trials, and a MERS vaccine into Phase 2 trials. CEPI has also supported the development of four COVID-19 vaccines, which have received WHO Emergency Use Listing (EUL) and saved lives around the world. These rapid advances would not have been possible without CEPI and its partners around the world.

It is clear that even in pandemic scenarios there is still an important role for public-sector financing.

CEPI leverages its unique position within the global health and R&D ecosystems to address market failures, building on its proven track record of bringing together public-sector, private-sector, and academic partners across different geographies to pool resources, expertise, and capabilities to specifically accelerate the development of vaccines and vaccine-like technologies against emerging disease threats.

# CEPI's plan to end pandemics

It's time for the world to unite and break the cycle of panic and neglect that has characterized our response to epidemic and pandemic diseases.

CEPI's **pandemic plan** aims to substantially reduce or even eliminate the future risk of pandemics and epidemics.

The plan is set around three pillars: **prepare** for known threats; **transform** the response to the next novel outbreak; and **connect** and enhance global collaboration to strengthen global preparedness.

CEPI is working to substantially reduce global epidemic and pandemic risk by:

- 1) **Strengthening our defences against COVID-19 and reducing the risk of future coronavirus pandemics** by filling the critical remaining R&D gaps that threaten to undermine progress made in fighting the virus. The work includes optimising our current vaccines, addressing variants of concern and developing next-generation COVID-19 vaccines, as well as initiating the development of broadly-protective or universal coronavirus vaccines.
- 2) **Developing vaccines and other biologic countermeasures against known high-risk pathogens.** This work includes advancing the development of vaccines for Chikungunya, Lassa Fever, Nipah, MERS and Rift Valley Fever; completing additional clinical trials to broaden the populations eligible for the Ebola vaccines; and commencing work on vaccines for additional priority pathogens with outbreak potential.

- 3) Working with partners to **build a Global Vaccine Library** – an international repository of vaccine resources, capabilities and R&D and manufacturing data that maximises epidemic and pandemic preparedness and drives accelerated vaccine development when new threats emerge.
- 4) **Transforming and diversifying vaccine manufacturing** so it is cheaper, faster, and closer to an outbreak, by investing in manufacturing innovations; supporting Global South countries to develop sustainable manufacturing capacity; and establishing a global network of regional manufacturing facilities to respond to outbreaks.
- 5) **Advancing enabling science programmes which are critical to the success of rapid vaccine development**, including developing biological assays, preclinical models, epidemiological studies and diagnostics for priority pathogens; and building clinical trial capacity.
- 6) **Enabling equitable access to life-saving vaccines**, by leveraging R&D investments to enable access to the tools CEPI funds; supporting Global South countries to take ownership of their national health security; and advocating for the design of a global pandemic preparedness and response system founded on the principles of equitable access.

As a globally recognised driving force for R&D, CEPI is uniquely placed to coordinate this international approach.

CEPI offers a global focus on equitable access, a proven track record, the agility to move quickly, and extensive partnerships. It is able to leverage its unique connecting role to pool and deploy resources in ways that nation states often cannot.

# Creating lifesaving vaccines in 100 days: what will it take?

CEPI's vision is for the world to be able to respond to the next Disease X with a new vaccine in 100 days. Known as the 100 Days Mission, this goal lies at the heart of CEPI's plan to end pandemics and has also been embraced by leaders of the G7 and G20.

Achieving this aspiration would give the world a fighting chance of containing an outbreak before it spirals into a pandemic. If the world had developed a COVID-19 vaccine within 100 days, the first injections might have been given in April 2020, when there were just 2.3 million COVID-19 cases, rather than 8th December, when over 68 million people had already been infected.

Faster vaccine development and deployment would not only have saved many of the millions of lives lost to COVID-19, it would have also prevented trillions of dollars of economic damage and limited societal disruption.

Coupled with improved surveillance providing earlier detection and warning, and with swift and effective use of non-pharmaceutical interventions such as testing, contact tracing and social distancing to suppress disease transmission, delivering a vaccine in 100 days would give the world a fighting chance to extinguish the existential threat of a future pandemic virus.

CEPI's [What Will it Take report](#) outlines 5 areas of innovation needed to make delivery of pandemic vaccines within 100 days a reality:

- (1) **Working with partners to build a Global Vaccine Library.** Developing an international repository of vaccine resources, capabilities and R&D and manufacturing data that maximises epidemic and pandemic preparedness and drives accelerated vaccine development when new threats emerge.
- (2) **Getting clinical trials networks at the ready.** Establishing global clinical trials networks with pre-established processes and protocols will be crucial.
- (3) **Speeding up identification of immune response markers.** In response to the emergence of a novel pathogen, identification of immune markers can help to provide an early indication of vaccine efficacy.
- (4) **Establishing global capacity to make top-quality, safe, and effective new vaccines quickly.** Optimizing manufacturing processes for rapid initial production and subsequent scaling will be critical to responding to future pandemic threats. Establishing a global network of vaccine manufacturers sustainably in or near areas at high risk of disease outbreaks is crucial, and reserving manufacturing capacity for different vaccine platforms.
- (5) **Strengthening disease surveillance and global early-warning systems.** Strong, active, and continuous and harmonized global disease surveillance capabilities will enable faster outbreak-alert triggers, especially in lower-income regions.

Read the [full report](#).



# Working together to end pandemics

Now, for the first time in history, we can substantially reduce, or even eliminate, the risks posed by future outbreaks.

We have the tools. We know what needs to be done. Let's end pandemics forever.

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