

## Munich Security Conference 2017

### Speech by Bill Gates at the 53rd Munich Security Conference

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*As prepared*

#### SECTION 1: PANDEMICS ARE AN INTERNATIONAL SECURITY ISSUE

Thank you, David [Miliband]. It's great to be here today.

When I decided 20 years ago to make global health the focus of my philanthropic work, I didn't imagine that I'd be speaking at a conference on international security policy. But I'm here today because I believe our worlds are more tightly linked than most people realize.

Here's one example. I spend a lot of my time on the effort to eradicate polio. We've made incredible progress. Of the 125 countries where polio was endemic, 122 countries have eliminated the disease. Only Afghanistan, Pakistan, and Nigeria have never been polio-free. And that's no coincidence.

War zones and other fragile state settings are the most difficult places to eliminate epidemics. They're also some of the most likely places for them to begin—as we've seen with Ebola in Sierra Leone and Liberia, and with cholera in the Congo Basin and the Horn of Africa. So, to fight global pandemics, we must fight poverty, too.

It's also true that the next epidemic could originate on the computer screen of a terrorist intent on using genetic engineering to create a synthetic version of the smallpox virus ... or a super contagious and deadly strain of the flu.

The point is, we ignore the link between health security and international security at our peril.

Whether it occurs by a quirk of nature or at the hand of a terrorist, epidemiologists say a fast-moving airborne pathogen could kill more than 30 million people in less than a year. And they say there is a reasonable probability the world will experience such an outbreak in the next 10-15 years.

It's hard to get your mind around a catastrophe of that scale, but it happened not that long ago. In 1918, a particularly virulent and deadly strain of flu killed between 50 million and 100 million people.

You might be wondering how likely these doomsday scenarios really are. The fact that a deadly global pandemic has not occurred in recent history shouldn't be mistaken for evidence that a deadly pandemic will not occur in the future.

And even if the next pandemic isn't on the scale of the 1918 flu, we would be wise to consider the social and economic turmoil that might ensue if something like Ebola

made its way into a lot of major urban centers. We were lucky that the last Ebola outbreak was contained before it did.

The good news is that with advances in biotechnology, new vaccines and drugs can help prevent epidemics from spreading out of control. And, most of the things we need to do to protect against a naturally occurring pandemic are the same things we must prepare for an intentional biological attack.

## SECTION 2: WE NEED TO INVEST IN VACCINE INNOVATION

First and most importantly, we have to build an arsenal of new weapons—vaccines, drugs, and diagnostics.

Vaccines can be especially important in containing epidemics. But today, it typically takes up to 10 years to develop and license a new vaccine. To significantly curb deaths from a fast-moving airborne pathogen, we would have to get that down considerably — to 90 days or less.

We took an important step last month with the launch of a new public-private partnership called the Coalition for Epidemic Preparedness Innovations. The hope is that CEPI will enable the world to produce safe, effective vaccines as quickly as new threats emerge.

The really big breakthrough potential is in emerging technology platforms that leverage recent advances in genomics to dramatically reduce the time needed to develop vaccines.

This is important because we can't predict whether the next deadly disease will be one we already know, or something we've never seen before.

Without getting too technical, these new platform technologies essentially create a delivery vehicle for synthetic genetic material that instructs your cells to make a vaccine inside your own body. And the great thing is that once you've built a vaccine platform for one pathogen, you can use it again for other pathogens. You only need to substitute a few genes.

That flexibility and reusability would cut the vaccine development and approval timeline significantly. And we can apply this new vaccine technology to other hard-to-treat diseases like HIV, malaria, and tuberculosis.

The \$550 million that launched CEPI is just a down payment. We will need considerably more support from governments to fund the R&D necessary to realize the promise of this new technology.

## SECTION 3: WE NEED STRONGER HEALTH SYSTEMS AND SURVEILLANCE

Of course, the preventive capacity of a vaccine won't help if a pathogen has already spread out of control. Because epidemics can quickly take root in the places least equipped to fight them, we also need to improve surveillance.

That starts with strengthening basic public health systems in the most vulnerable countries. This has a double benefit.

It improves our ability to prevent, detect, and respond to epidemics. And it enables us to break the cycle of poverty and disease that is at the root of so much instability in the world.

We also have to ensure that every country is conducting routine surveillance to gather and verify disease outbreak intelligence.

And we must ensure that countries share information in a timely way, and that there are adequate laboratory resources to identify and monitor suspect pathogens. We can build on the lab network that's in place now for polio, as well as a new network of field sites and labs that will help us better understand the causes of child mortality in poor countries.

#### SECTION 4: WE NEED TO BE BETTER PREPARED

The third thing we need to do is prepare for epidemics the way the military prepares for war. This includes germ games and other preparedness exercises so we can better understand how diseases will spread, how people will respond in a panic, and how to deal with things like overloaded highways and communications systems.

We also need trained medical personnel ready to contain an epidemic quickly, and better coordination with the military to help with logistics and to secure areas

The Ebola epidemic might have been much worse if the U.S. and UK governments had not used military resources to help build health centers, manage logistics, and fly people in and out of affected countries.

It is encouraging that global alliances like the G7 and the G20 are beginning to focus on pandemic preparedness, and that leaders like Chancellor Merkel and Prime Minister Solberg are championing health security.

By the end of this year, 67 countries are expected to have completed independent assessments of their epidemic readiness. But there isn't enough money to help the poorest countries with epidemic preparation.

The irony is that the cost of ensuring adequate pandemic preparedness worldwide is estimated at \$3.4 billion a year—yet the projected annual loss from a pandemic could run as high as \$570 billion.

Pandemics are everyone's problem—and as leaders, we cannot ignore it.

Imagine if I told you that somewhere in this world, there's a weapon that exists—or that could emerge—capable of killing tens of thousands, or millions, of people, bringing economies to a standstill, and throwing nations into chaos.

You would say that we need to do everything possible to gather intelligence and develop effective countermeasures to reduce the threat.

That is the situation we face today with biological threats. We may not know if that weapon is man-made or a product of nature. But one thing we can be almost certain of. A highly lethal global pandemic will occur in our lifetimes.

[SLIGHT PAUSE]

SECTION 5: A PANDEMIC IS ONE OF THE THREE BIGGEST THREATS THE WORLD FACES; PREVENTING IT IS UP TO US

When I was a kid, there was really only one existential threat the world faced. The threat of a nuclear war.

By the late 1990s, most reasonable people had come to accept that climate changed represented another major threat to humankind.

I view the threat of deadly pandemics right up there with nuclear war and climate change. Getting ready for a global pandemic is every bit as important as nuclear deterrence and avoiding a climate catastrophe.

Innovation, cooperation, and careful planning can dramatically mitigate the risks presented by each of these threats.

Indeed, the fact that fewer people die in conflicts now than at any time in human history is the direct result of choices made together by the international community—including through efforts like the Munich Security Conference.

The global good will evidenced at the historic Paris Climate talks a year ago give us a chance to prevent the worst effects of climate change.

The opportunity now is to extend that cooperation to pandemic preparedness. We've gotten a good start on innovation with the launch of CEPI. Reflecting on the lessons learned with Ebola, there is a shared consensus about the things we need to invest in.

I'm optimistic that a decade from now, we can be much better prepared for a lethal epidemic—if we're willing to put a fraction of what we spend on defense budgets and new weapons systems into epidemic readiness.

When the next pandemic strikes, it could be another catastrophe in the annals of the human race. Or it could be something else altogether. An extraordinary triumph of human will. A moment when we prove yet again that, together, we are capable of taking on the world's biggest challenges to create a safer, healthier, more stable world.

Ultimately, the choice is ours.

Thank you.