# DEFEATING A PANDEMIC

## Can we fight against all pandemics ?

Video “Can we get rid of Covid-19 forever?” Vox — Duration 8:13
https://www.youtube.com/watch?v=34oI0yd5YUc




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# WHO MADE THE VIDEO ?

- Vox, an america news website



# WHERE THE STORY STARTS

## Covid-19 in numbers




**2–3**

people infected by each Covid-19 case on average

**1 in 200**

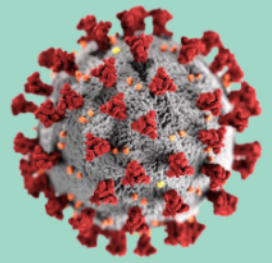
infected people died from the virus

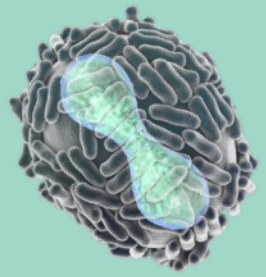
**2,000,000+**

deaths worldwide in 2020 alone

# Now imagine a worse virus

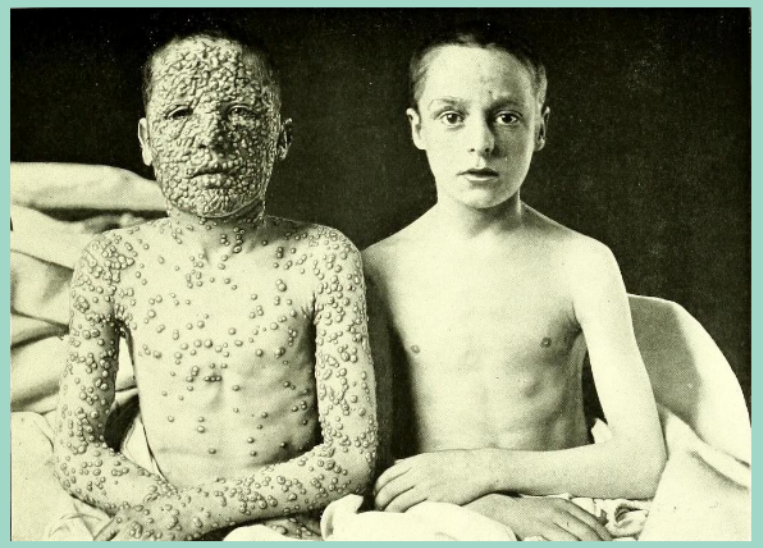
*That virus already existed. It's called smallpox.*



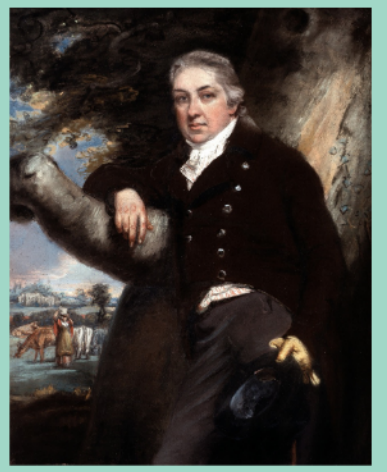


| | Covid-19 | Smallpox |
|---|---|---|
| People infected by each case | 2 - 3 | 4 - 6 |
| Fatality rate | ~0,5% | ~30% |

⇒ Smallpox killed hundreds of millions of people in the 20th century alone ; and then it was gone.



# It starts with a vaccine



Edward Jenner
1749 - 1823

1

**Late 1700s**

Edward Jenner develops "vaccination" a far safer way to gain immunity than catching smallpox itself

2

**Within 5–10 years**

The vaccine reaches the Americas, then Asia ; word spreads fast

3

**Early 1900s**

Europe, the US, and Canada have nearly wiped-out smallpox ; but poorer or unstable regions still struggle.

# Ring vaccination




1

**Detect**

Find a person infected with smallpox through contact tracing

2

**Isolate**

Isolate that individual so they can't infect anyone else

3

**Vaccinate the ring**

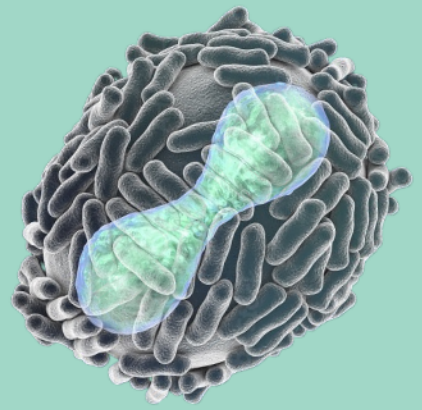
Vaccinate everyone who had contact with them, and everyone those people contacted

4

**Build a buffer**

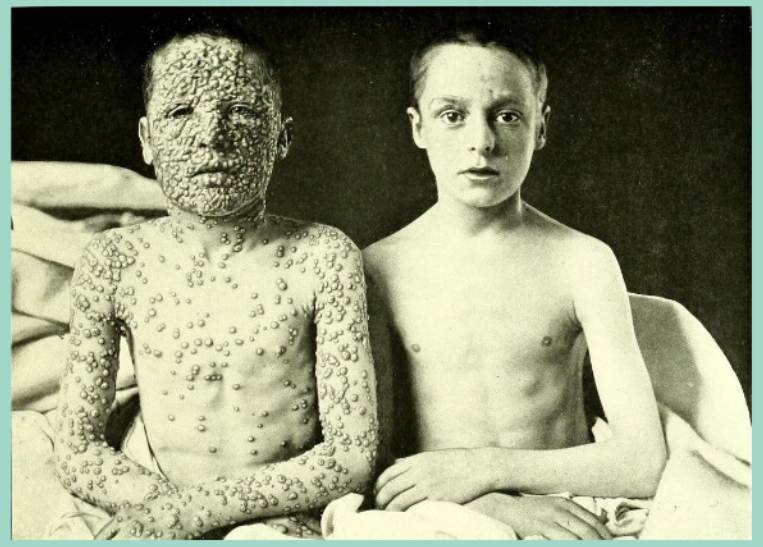
This creates a buffer of immunity between the infection and the rest of society

# Smallpox is declared eradicated

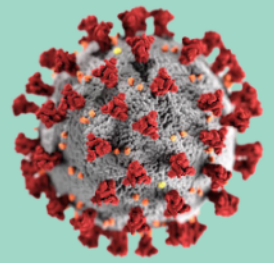


The only human disease we have ever completely wiped out.
-> 4 factors made it possible:

1. **An effective, safe vaccine**
2. **No animal reservoir ; only humans carried it**
3. **Only contagious once symptoms appeared**
4. **Global, coordinated international cooperation**



# Does Covid-19 meet the same conditions?



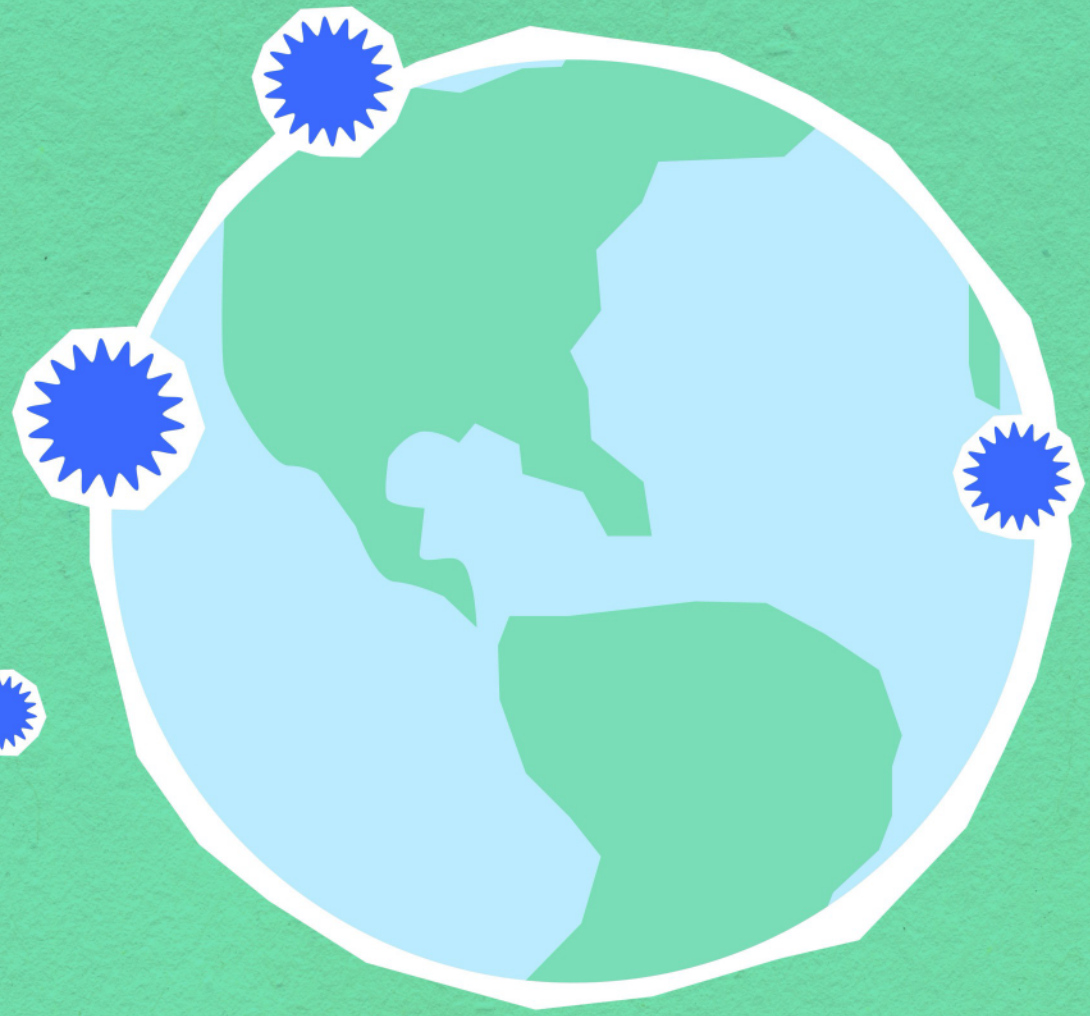


| | | |
|---|---|---|
| ✓ | **Effective vaccine** | *Yes, developed in record time* |
| ✗ | **No animal reservoir** | *Originated in bats, could re-emerge* |
| ✗ | **Only spreads once symptomatic** | *Contagious before symptoms, or never symptomatic at all* |
| ✗ | **Global cooperation** | *Nationalist responses, vaccine inequity, WHO funding cuts* |

# Impact of Nationalism

## What happened

- Export bans on protective gear and vital drugs
- The US pulled funding from the WHO
- Richer countries bought up most of the vaccine supply



## Why it matters

Leaving the virus to spread unchecked in some countries gives it more time, and more chances, to mutate into new variants that put the whole world at risk again.

# No eradication

Eradication isn't the only option. In fact, it's the rare exception: smallpox is the only human disease we've ever eradicated. For Covid-19, researchers expect something different.

### Contain & manage

Vaccinate regularly and treat Covid-19 like the flu, an annual vaccine, ongoing management.

### Become endemic

As more people build immunity, it may settle into something mild, always present, rarely serious.





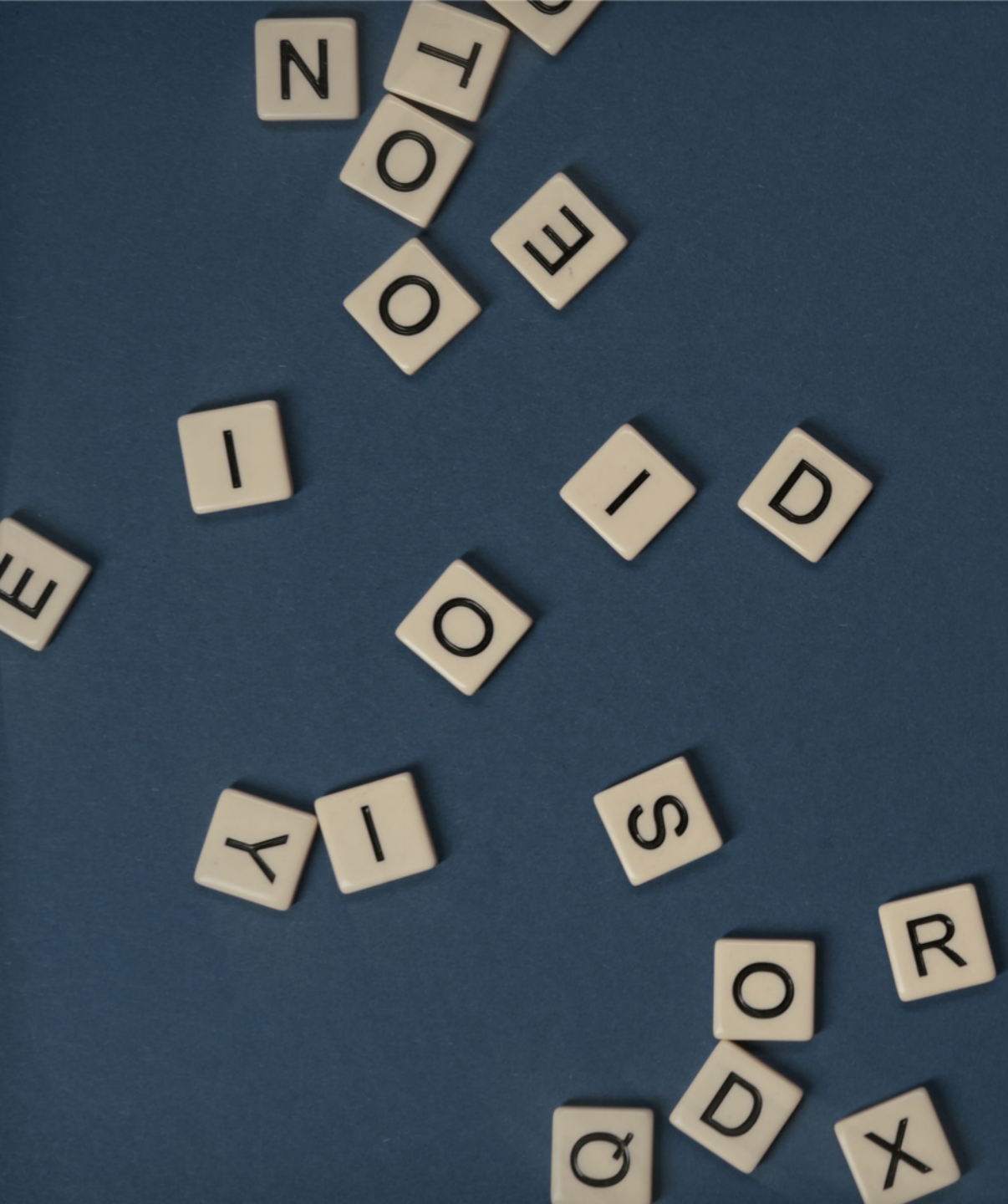


# KEYWORDS

**General epidemiology** : to spread / spread, to contract (a disease), contagious, fatality rate, immunity, vaccine / vaccination, animal vector, symptoms / asymptomatic, to mutate / variant

**Smallpox & eradication** : eradicate / eradication, to eliminate / elimination, ring vaccination, contact tracing, to isolate / isolation, centralized agency, vaccination campaign

**Covid-19 & mondial response** : pandemic proportions, nationalist approach, international cooperation, vaccine inequity, to contain and control, endemic, lockdown, quarantine









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Lets watch !