The vaccine was born

"Global Tuberculosis Report," World Health Organization, 2018

"Zika vaccine development: two years on from the outbreak," The


years

"The complexity and cost of vaccine manufacturing – An overview," U.S.

rescue
to combat Ebola

chance of failure

Not so fast.

It takes:

For example, the flu vaccine is updated every year:

we're never done.

Viruses can mutate and develop different strains over time.

common vaccines, the supply chain is constantly working to serve a

global population.

Researchers and manufacturers must be ready to adapt. With many

manufacture

how long it takes to

6 months is about

- international vaccine trials
- regulatory approval

- manufacturers ramp up production

This reduces transportation time from

rons to deliver vaccines,

companies in vaccine delivery today.

Zipline is one of the most innovative

Rule #1: Keep cool (but not too cool!)

Vaccines must maintain a storage temperature of 2-8 degrees Celsius

while also protecting the viability of a vaccine. That means maintaining

2-8ºC

The Road
behind life-saving medications:

The science and supply chain

Not so fast.

OK Let's Make
a Vaccine!

Not so fast.

$200–500 million

and LLamasoft is developing an open-access tool that

The Foundation for Innovative New Diagnostics (FIND)

and demonstrated immunity to smallpox.

Edward Jenner inoculated a 13-year-old boy

in 1796:

History of Vaccines 101

backed by a finely tuned manufacturing process and supply chain to

we often take them for granted.

Data is Still Hard to Track

"Connecting the Dots: How to Get Vaccines to More Kids,"

"Ervebo" to be approved in the

1979: Smallpox eradicated

1985: Polio nearly eradicated

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