

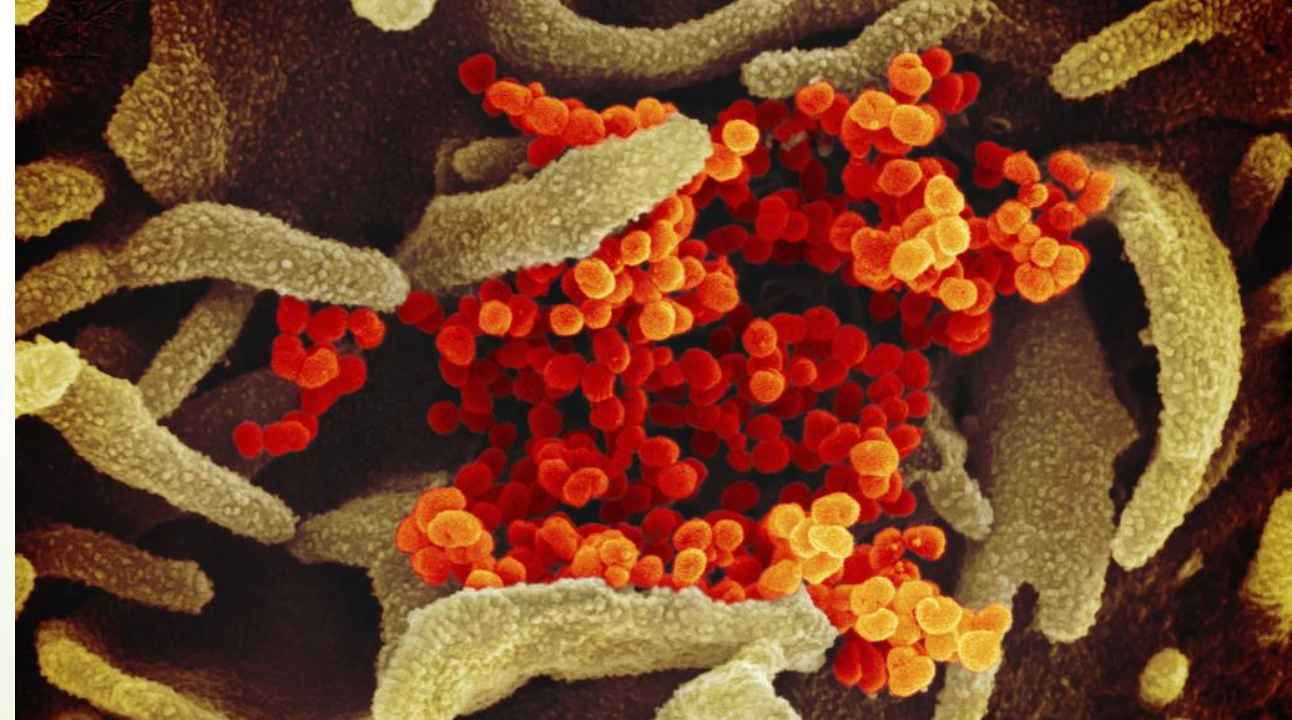
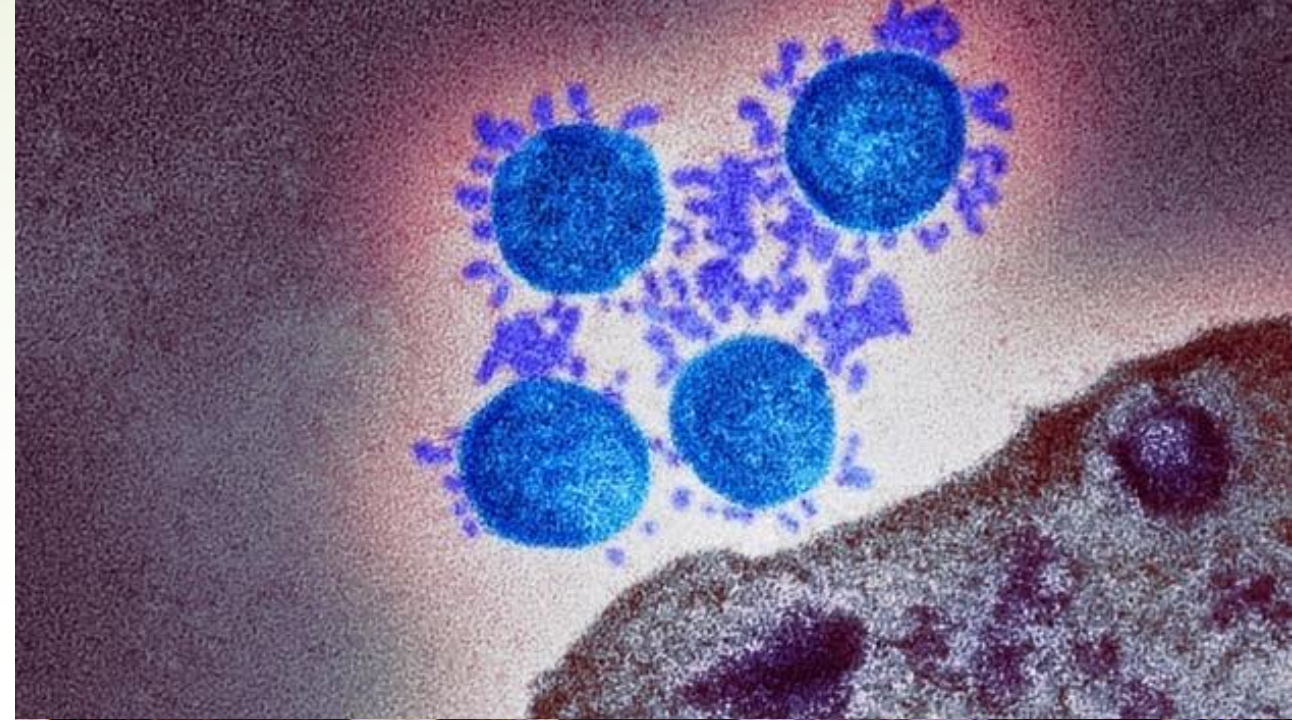


Covid-19 Vaccines and Treatments

By Jaimie Lwin

Viral vs Bacterial: Why is it harder to treat?

- Non-living → cannot be just "killed"
- Inject genetic info into host
- Potential to destroy many host cells
- Survive on non-living surfaces



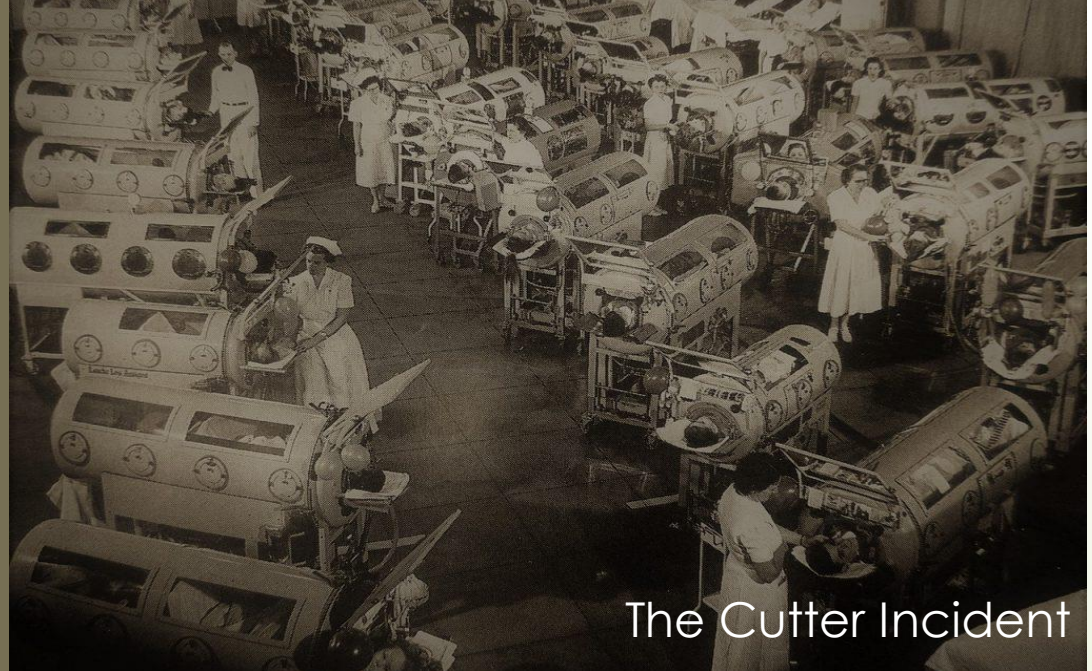
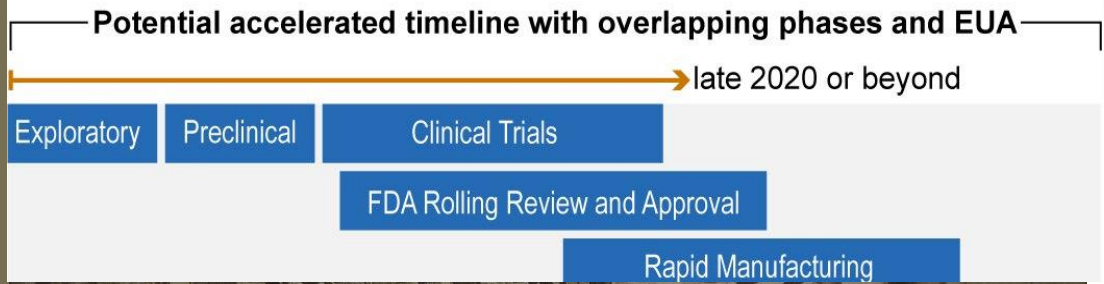
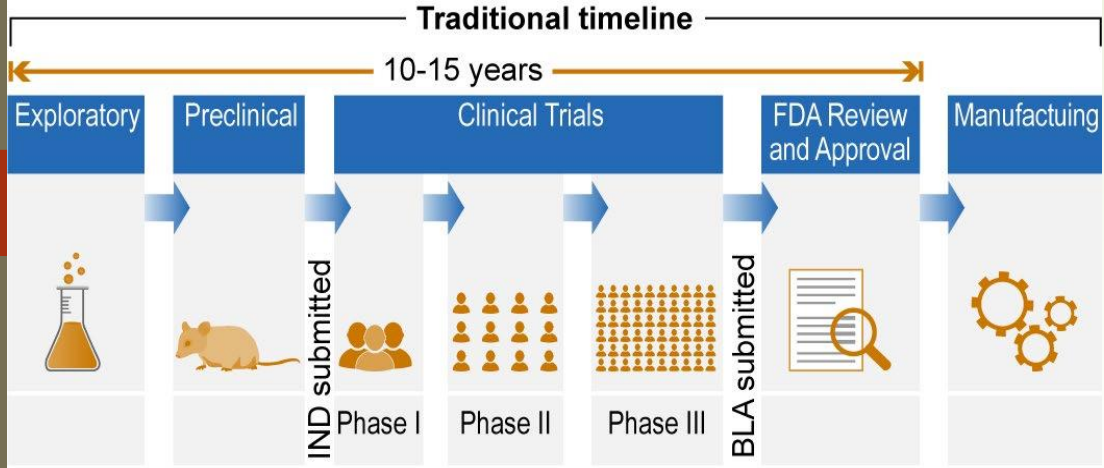
Repurposed Treatments

- HIV drugs (Lopinavir, Ritonavir, etc) discouraged → unproven and potential unwanted side effects

- **Gilead Inc.**
- **FDA approved**
- **Inhibits “RNA dependent RNA polymerase”**
- **The Adaptive Covid-19 Treatment Trial**
- **May 2020 → clinical trials of Remdesivir and Baricitinib (rheumatoid arthritis drug)**

- **An anti-inflammatory drug and steroid (able to cross fatty cell membranes) → faster results**
- **Steroids lead to unwanted consequences with overuse**
- **Steroids aren't recommended, but tests of Dexamethasone in the UK are promising**

- **Initially FDA approved**
- **Antimalarial drugs**
- **Blocks the uncoating and release of RNA**

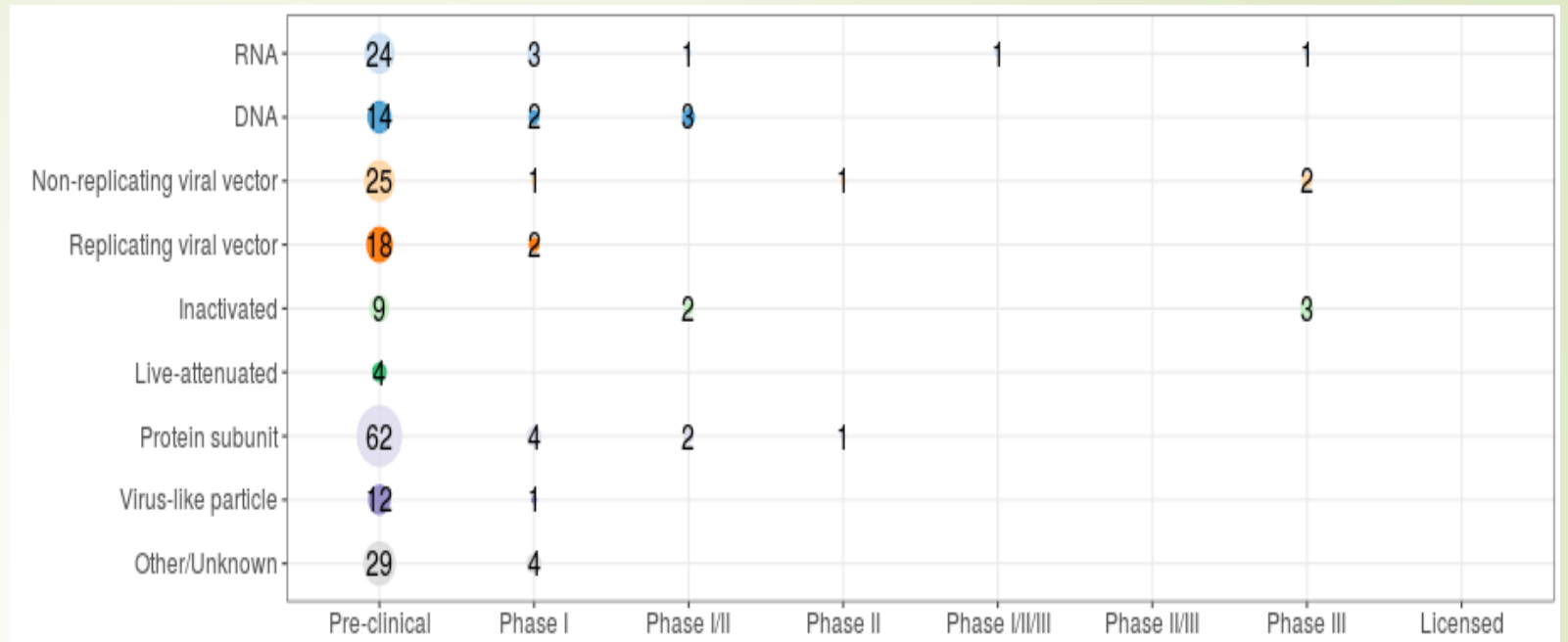


The Cutter Incident

The Vaccine Process

- ▶ DNA/RNA base; weakened/inactivated; protein-target based
- ▶ 15-20 years; 6 phases
 - ▶ Selecting target antigens
 - ▶ Animal testing
 - ▶ Human trials (3 phases → safety; effectiveness)
- ▶ Due to the urgency of the Covid-19 vaccine, some projects have forgone the usual animal trials
 - ▶ Flexibility and speed; not necessarily translates animal → human
 - ▶ Increased potential of human risk
 - ▶ Animals trials allow study of fully disease progression and genetic drift/mutations

Based from prior SARS,
Ebola, and MERS
vaccines & research



Covid-19 Vaccine Projects

NIAID & Moderna Inc. (mRNA-1273)

University of Oxford & AstraZenca (AZD222/ChAdOx1-S)

Sinovac (CoronaVac)

Wuhan Institute of Biological Products and Sinopharm (inactivated vaccine)

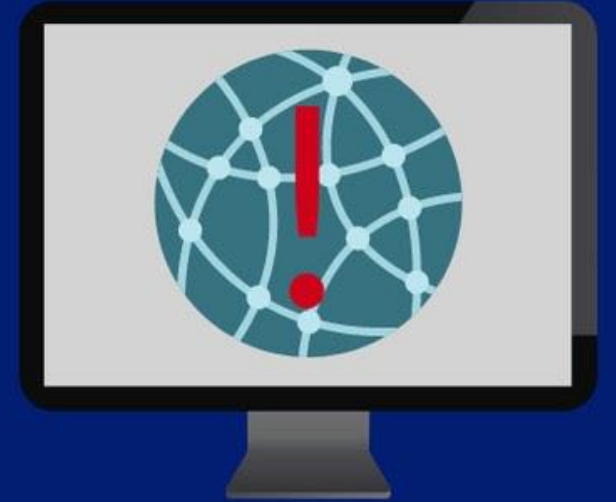
Beijing Institute of Biological Products and Sinopharm (BBIBP-CorV)

Janssen Pharmaceutical Companies and Beth Israel Deaconess Medical Center (Ad26COVS1)

Misinformation

- Watch for who's posting the information
- Beware of social media hype
- Keep updated on the latest conclusions, especially regarding treatments
- Better safe than sorry

BEWARE OF COVID-19 FAKE NEWS



TIPS FOR FINDING REAL NEWS

- Look for trusted sources
- Check the article's date
- Check the author and their past works
- Read the entire article
- Check for satire
- See if the article was posted by multiple sources
- Use fact-checkers

GOOD COVID-19 SOURCES

- The Centers for Disease Control and Prevention (CDC)
- The World Health Organization (WHO)
- The European Commission
- The Ramstein Air Base COVID-19 website





Conclusion