
Are we ready for the next pandemic?

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— The Bad News First

- ~4 million lives lost (so far)
- long COVID disease and other long-lasting effects
- Most vulnerable in society most affected (seniors, seriously ill)
- global economy shut down
- global supply chains badly disrupted
- serious mental health issues
- vaccine rollout globally moral failure

The Good News

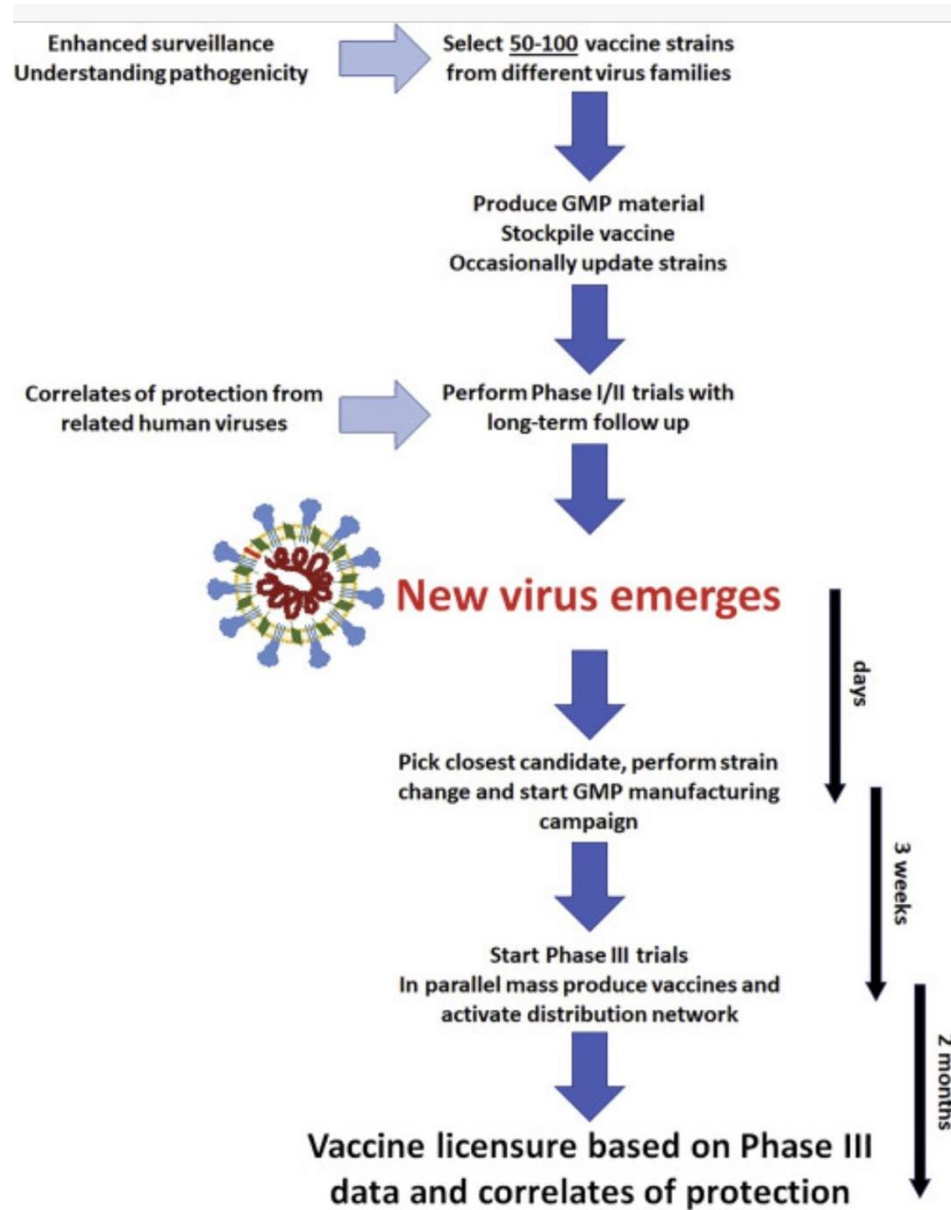
- Traditional public health measures (masks, physical distancing, hand washing) quite effective
- Testing, tracing, quarantine also very effective (eg Korea)
- Use of apps and gps/Bluetooth (eg *Corona* in Korea) also very effective
- Lockdowns well observed in many countries
- Closing workplaces, indoor shopping, banning private events
- Some limited and successful multilateral initiatives (CEPI, COVAX)
- Vaccine hesitancy low in some countries (eg Israel, UK, Canada, Korea), but higher in others (US, Russia)

More good news

- **Science was remarkable success!**
- **Viral genome sequenced within days and shared on www**
- **PCR test developed within weeks based on sequence**
- **Successful RNA vaccines synthesized within 3 days!**
- **Safe and effective vaccines within 307 days**
- **Subsequently, 3 major vaccine platforms successful: RNA vaccines, viral vectors, protein subunits (soon)**
- **Science success based on fundamental science, global collaboration, speed, interface between science and public policy, public-private partnerships**

— What can we do better next time ?

- Science
- Early detection (eg BlueDot, Inc)
- Prepare for the next pandemic, not last one
- Multilateral institutions (WHO, COVAX, CEPI)
- Vaccine manufacturing
- 100 Day Vaccines-a feasible target
- better understanding of broad range of microbes
- correlates of protection for virus families
- Platform technologies
- Disease X approaches
- Universal vaccines
- Even smarter, internationally harmonized regulatory regimes



General Remarks

- Responses of a country to a global crisis such as a pandemic cannot be examined in isolation—they spring from the interplay of society's values, as well as its political, public health, medical and scientific leadership.
- As the world becomes more populated and as humanity increasingly encroaches on the natural environment, we face increased risk on a global scale of catastrophic global events, whether its a pandemic, climate change, antibiotic resistance, terrorism, etc.

Closing Remarks

- No one would choose to have a pandemic. But there are some silver linings.
- Eg. governments can act quickly and boldly.
- Societies can do things differently and better.
- Multilateralism is not dead. Indeed, it is needed now more than ever.
- Cooperation between nations, between public and private sectors, between scientists and policy makers essential in world full of existential risks.
- Cooperation between Korea and Canada is a good place to start.

THANK YOU!