Coronavirus disease 2019 (COVID-1)

severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)

Other Coronaviruses include SARS-1 and MERS, but also common cold

Timeline

Began in Wuhan, China in Nov 2019

Dec 31, 2019 – first reported to WHO

Jan 30, 2020 – declared Global Health Emergency (Worldwide: 9.800 infections / 213 deaths)

Jan 31 – US government restricted travel from China

Feb 14 – First death in Europe announced in France

Feb 28 – Travel restrictions expanded to S. Korea, Iran and parts of Italy

Feb 29 – first death on US soil

Look at what has happened over the last 5.5 weeks!

US (as of APR 15)

CASES		**DEATHS**		**RECOVERED**
Total	New	Total	New	
618,000	+4,400	26,200	+243	40,000 (+ 10%, 1 day)

TEXAS

Total	New	Total	New	
15,100	+ 94	350	+ 5	April 15th
14,300	+ 630	345	+ 17	Yesterday

Jefferson County (APR 15)

Influenza (2019 season)

Cases = 48M

Hospitalizations = 575,000

Deaths = 24,000 - 62,000 (43,000)

Coronavirus

How infectious?

Rho_0 = 1 – 2.5 Flu = 1 – 1.5 Measles = 10 – 14

How deadly?

Italy = 3.5%, US = 0.5 – 1%) Influenza = 0.1 – 0.3

How widespread?

Unclear at this point

Survival on surfaces?

1 – 3 days, same as flu

Mechanism of spread?

90% = person-to-person

Respiratory droplets

Oral?

NOT blood!

How far can it go (what is a safe distance?)

6 – 8 feet, realistically

Masks?

Mostly protect US from YOU!

N-95 respirator

Could we have been more prepared?

Of course!

How early should we have started?

- Long-term

- short-term

What has it cost us in economic terms?

"A couple of Trillion…" so far

Shift in aggregate demand of $1M costs 2 jobs in manufacturing / 10 in service

Unemployment in Great Recession

= 10% / Great Depression = 14%

How do we get back?

Regional solution !!!!!!!!!!!!!!!!!!!!!!!!!!!!

Demographics

- susceptibilities

Geography / travel

Where are you on "the curve"?

Current level of immunity

Therapeutics available?

Vaccine?

Testing capacity – contact tracing

Murray Model

Light switch "ON" = back to current levels by Mid-July to August

Tough Balance

"Lives for dollars!"

- Poverty KILLS

- Other opportunities …

Stop driving, save 40,000 lives per year!

Do this again every Fall (our "Fall Obligation") to

Save 20 – 40,000 lives each year