Some Reflections on the Pandemic

FSN March 30, 2021

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Early Reflections

- March 15 – 24, 2020 lockdown in Andalucía
- Question – what is needed to understand the pandemic?
- Conceptual framework identifying variables and relationships among them
- Quantification of relationships

Stocks and Flows Conceptual Framework

- Stocks: population by age, and gender in pools of disease status

- Disease status: (1) not immune and not infected, (2) infected and asymptomatic (3) infected with mild symptoms (4) infected with complications requiring hospitalization (5) once infected but fully recovered (6) immune.

- Flows: (1) between pools reflecting change in disease status (2) deaths by cause (3) migration into and out of population

- Parameters that govern flow rates some of which may be policy determined

- Daily or weekly time step

Known in March, 2020

- Daily case counts

- Daily counts of deaths caused by covid

- Covid deaths concentrated (65%) among elderly with co-morbidities living in long term care facilities.

- Diamond Princess: population 3711; 712 tested (PCR) positive of which 331 were asymptomatic; 14 deaths; case mortality rate 0.02; deaths per million population 3,773

Observations in March, 2020

- Daily case and death counts, by themselves, do not indicate the parameters of the conceptual framework
- Critical piece of missing information is the infection mortality rate
- The Diamond Princess data provided a much clearer and less alarming picture
- The public policy response should have two priorities
  - Protect those at risk – namely the elderly in long term care facilities
  - Create programs to collect and synthesize the information needed to understand the parameters of the epidemic

Population and deaths Canada 2018

	Pop (000)	deaths all causes (000)	deaths flu related (000)	all deaths per million	flu deaths per million
> 80	1,585	145	13.0	91,650	8,176
60 - 79	7,229	100	7.5	13,879	1,041
40 - 59	10,084	27	0.9	2,702	89
20 - 39	10,081	8	0.1	767	8
0 - 19	8.072	3	0.0	383	4
total	37,051	284	21.5	7,656	580

Population, covid cases and deaths Canada 2020

	pop	Covid cases	Covid deaths	Covid cases per million	Covid deaths per million
> 80	1,664	61.4	15.3	36,915	9,187
60 - 79	7,731	117.2	5.9	15,155	764
40 - 59	10,049	246.0	0.8	24,484	76
20 - 39	10,421	303.8	0.1	29,149	11
0 - 19	8,139	148.7	0.0	18,267	0
total	38,004	877.1	22.1	23,078	580

Flu 2018 and Covid 2020 Death Rates Canada

	Flu related deaths per million population 2018	Covid deaths per million population 2020
> 80	8,176	9,187
60 - 79	1,041	764
40 - 59	89	11
20 - 39	8	6
0 - 19	4	0
total	580	581

Observations in March, 2021

- Charts indicate that the 'pandemic' is likely no more deadly than a seasonal flu.

- Public policy has been 'flying blind'. Little is known about the nature of the pandemic.

- The public policy response was driven by :
  - the fear engendered by headlining daily case counts deaths completely out of context
  - the fear of public health authorities that hospitals would be overrun
  - the opportunity for already powerful organizations to enhance their power
  - the belief that widespread vaccination would be a silver bullet

Unanswered questions:
PCR tests

- Is there a gold standard test against which the effectiveness of PCR can be evaluated?

- Does the existence of the virus indicate that a person is infectious?

- Does the rate of false positives differ for those who are symptomatic vis-à-vis those who are asymptomatic?

- Do these rates depend on the number of amplification cycles used in the PCR test?

- If so, what is the appropriate number of cycles for a test to be considered positive? Do test results specify the number of amplification cycles?

Unanswered questions:
Serological tests

- Why has their been so little serological testing? Particularly repeated random samples?

- Is there an effective serologic test? From among the 400 or so on the market.

- Can the parameters of the epidemic be known in the absence of repeated systematic serological testing of randomly-selected populations?

- Is there a gold-standard serological test?

Unanswered questions:
Deaths caused by covid

- What counts as a death attributable to Covid-19?

  - The death of a person who tested positive?

  - The death of an untested person who had been in contact with people who tested positive?

  - With or without co-morbidities?

- What about deaths caused by the mental anguish of lockdowns and anxiety caused by loss of income?

  - Suicides, drug and alcohol abuse, physical abuse, lack of access to medical interventions for pre-existing conditions?

  - Who is counting?

Unanswered questions:
Institutions

- Are medical professionals, namely those trained to focus on the elimination of disease in individuals, fit for the purpose of addressing issues of public health?

- Has the scientific community been captured by corporate interests?

- Has the regulatory process been captured by corporate interests?

- Has the media been captured by corporate interests?

Unanswered questions:
Problem framing

- Is it appropriate to think of the pandemic as a disease control problem.

  - one that could easily be remedied by a vaccine,

  - or, in the absence of a vaccine, by a series of measures intended to limit the spread of the virus and to treat those infected by it until a vaccine is developed and administered?

- Or is it more appropriate to think of it as a wicked problem of population health

  - one that potentially has been made worse by the unintended consequences of treating it simply as problem of disease control?

Alternative theory:
How we got here.

1. The corona virus is highly transmissible. By now almost everyone has been exposed to the virus.

2. As much as 90% of the population is protected by their immune systems.

3. The people at risk of death from covid are elderly residents of long term facilities with co-morbidities whose life expectancy from time of entry to the facility was less than one year.

4. The rate of false positives from the PCR test is as high as 90% for people who are asymptomatic

5. Initially, only people with severe enough symptoms to seek medical help were tested.

Alternative theory:
How we got here.

6.   As the capacity to test rapidly expanded and more and more asymptomatic people were tested, case counts (positive tests) grew, but increasing numbers of positives were false positives. Of course people who tested positive came into contact with more asymptomatic people who were in turn tested.

7.   The second wave (of cases) was an artifact of this positive feedback loop. Note that the number of deaths attributed to covid 19 per capita did not follow case counts per capita.

8.   By keying on case counts as the sole indicator of the severity of the pandemic, public health authorities and the governments they advise fed the fear and panic that drove the imposition of lockdowns, mask wearing, and social distancing on the entire population and to approve vaccines whose effectiveness is questionable.

Alternative theory:
How we got here.

9.   Insofar as it is likely that a large fraction of the population has already been exposed to the virus, attempts to limit transmission are largely futile and unlikely to be effective.

10.   Mask wearing and social distancing are relatively harmless, but lockdowns and travel restrictions are not. It is likely that they may cause more harm than good. But we will never know, because no one is counting.

The way forward.

- The public policy response to the virus should have focused on protecting those at risk and on treating those with severe symptoms.

- We knew that long term care facilities, particularly those in the private sector, were under regulated and under staffed; we knew that hospitals were operating near full capacity; we knew that care providers and nurses were underpaid, over worked and in short supply; we knew that regulatory authorities had been captured by big pharma.

- There a need for a publicly-funded, arms-length from government institution with a mandate to conduct and synthesize research bearing on matters of public policy and with the capacity to fund truly independent academic research.