

COVID-19: were the lockdowns worth the socio-economic cost?

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Statistics

- Globally, about 58.4m people have died, including 10m in China ...
- ...in 2019 (when there was virtually no COVID), from all causes.
- That's about 0.758% of the 7.7 billion population.
- So far (1-Dec-2020), ~1.48m deaths are attributed to COVID (Johns Hopkins), or ~0.019% of popn (0.023% ex-China).
- That's ~2.8% of normal death rate, or 3.3% ex-China.
- There are about 63.8m *known* cases, or ~0.83% of popn. (Johns Hopkins), or ~1.01% ex-China
- But WHO estimated (5-Oct) that 10% of popn. (630m ex-China) by then had been infected, about 18x 35.5m known cases. By now, that's ~18% (1.13bn), assuming similar testing rates. There are wide uncertainties around undiagnosed infections, but safe to say that most are mild.
- Deaths are more certain, but lag cases. Assuming 1-month lag, known deaths at 5-Nov were 1.23m, or an Infection Fatality Rate (IFR) of ~0.2% ex-China.
- IFR varies based on demographics, co-morbidities (obesity, diabetes, heart disease etc), smoking, healthcare load and other factors.

More statistics

- If ~70% of global population had been infected, we would have herd immunity – each case infecting less than 1 more, and virus would fade out. About 10.8m (~0.14% of popn.) would have died, or about 18% of the annual death rate (or 9% if spread over 2 years), subject to healthcare.
- Viruses also naturally attenuate (weaken) over time – the stronger strains kill their hosts before spreading far, while the weaker mutations spread further, causing mild symptoms and training immune systems.
- Up to 21-Nov-2020, there were 240,213 COVID deaths in USA (0.07% of popn.), of which only 0.21% were under 25 and 0.97% were under 35 (CDC). This age profile was known in Mar-2020 from Chinese data.
- In CDC data, 92% of deaths were aged ≥ 55 , 80% were ≥ 65 and 58% were ≥ 75 . 94% had co-morbidities.
- In Scotland, the average age at death for COVID (Mar-Sep) was 79 for men, 84 for women. Over 75% were aged ≥ 75 .
- So, person-years lost is a better measure of the impact than raw deaths; how much longer would the average patient have lived? About 11-13 years ([Wellcome](#)). But these are mostly late-age years, often with poor quality (cancers, diabetes, COPD, dementia etc), not childhood, education and working years. So QALY (Quality-Adjusted Life Years) saved is even lower.

The conundrum

- If IFR were higher, or the age profile were inverted (higher IFR in young people), life-years lost would be far greater, and potentially threaten future lives by killing people before they can reproduce.
- But that's not the case. The global median age in 2015 was 29.6 (Japan was highest at 46). Only 8% are >65, mostly in richer countries (26% in Japan, 3% in Nigeria). The average person may still have ~50 years to live, not 11-13 years.
- Even if the IFR is 4x worse than estimated, we would still lose only about 0.56% of the population at the 70% infection level, or about 0.13% of remaining life-years of the population. That's not allowing for improvements in treatment and attenuation of the virus.
- But we've also been working on multiple vaccines that would intercept that curve and stimulate immunity without infection.
- So, what were the options for countries, while they waited for a vaccine?

Policy responses to COVID

Countries/regions have adopted a range of responses:

1. “Elimination Approach”: Hard-and-fast lockdown, reduce to sporadic levels, strict border quarantine (PRC, NZ, Vietnam, Thailand, NZ, HK, Australia, Taiwan...). Trace-test-isolate (TTI) any clusters. Extinguish embers before they become forest fires. Regional/citywide lockdowns when clusters emerge (Melbourne, Auckland)
2. “Mitigation Approach”: Lax borders, stop-start lockdowns, smoothing of case load on healthcare, huge economic costs and money-printing (UK, USA, EU), prolonged invasion of civil liberties (whom you can visit, etc).
3. “Laissez-faire Approach”: advisory/voluntary, few regulations, civil liberties largely intact (Sweden)

Economic cost of lockdowns

- Compensation schemes for furloughed staff, disrupted businesses, etc: UK: GBP 380bn (~\$7.7k per capita)
- US has already spent ~\$3tn (~\$9k per capita)
- By 20-May, IMF estimated \$9tn in global spending, still growing
- This has massively expanded national debts, and central bank balance sheets have absorbed much of it by creating new money to purchase the debt, as well as corporate debt. Your handouts don't come from the tooth fairy.
- If that process is not reversed, the extra money may cause inflation that devalues cash savings. The expectation that it won't be reversed has already taken stock markets to record highs and bond yields to record lows, negative in some countries.
- Conversely, if the process is reversed and the debt is repaid, then it will have to come from higher taxation and/or reduced spending in the future.

Social consequences

- An entire cohort of children have missed exams. Grades have been guesstimated and inflated when quotas were allocated
- Some countries, despite early scientific evidence that children are rarely affected, have repeatedly shut their schools, impacting childhood development.
- International travel has become virtually impossible for residents with quarantined borders – I had to livestream my father's funeral (no, like 95%+ of deaths this year, he didn't die of COVID). This alone has impacted millions of jobs in travel, hospitality, retail and tourism.
- Weddings have been deferred. Birth rates? Probably that too, because of job losses and the need for ante-natal and post-natal care in hospitals, couples may have deferred reproduction, and we may have a smaller cohort of new adults in 2039!
- Strict stay-home lockdowns may increase suicides, stress disorders and domestic violence (evidence not yet in).
- Social distancing may reduce developed immunity to other diseases. Expect a rebound in flu deaths when COVID is over.
- Tens of millions have at least temporarily lost their jobs.

Two approaches that work

- Elimination Approach: China was back at work by April, officially 4,634 people have died from COVID. Borders remain strictly quarantined; occasional clusters from imports are quickly extinguished.
- HK has only 110 deaths in 7.5m people; NZ has 25 deaths in 4.9m. Both used TTI. Inbound residents were put in managed isolation (NZ). HK started lax, allowing home quarantine and too many inbound exemptions which triggered new outbreaks, but has tightened.
- If most countries had pursued elimination, we might have extinguished the virus in most countries without many deaths or going for herd immunity, perhaps quarantining inbound travel from hold-out countries until their fire burns out and they develop herd immunity. Vaccines would then do the rest. In April I posited a Quarantined Union for International Exempt Travel (QUIET) – but it never took off.
- Laissez-faire Approach: despite far fewer restrictions on people's lives, Sweden has 66.8 deaths per 100k popn (~0.07%); UK has 89.0. Close to half of Swedish deaths are in nursing homes.
- People can be advised of risks, and those who are risk-averse or more at risk (immuno-impaired, co-morbidities, elderly) can take appropriate precautions. Intensive care capacity can be expanded.
- Around 78,000 people in the UK will die early from smoking this year. Should we ban cigarettes, or just advise people of the risks?

What doesn't work

- I submit that the huge socio-economic experiment of repeated partial lockdowns, without any serious intention of tracing and terminating transmission chains, for a relatively small number of mostly-elderly quality-adjusted life years saved, has not been worthwhile.
- Even in those countries which pursued elimination, the social and economic impact of strict border quarantines may not have been worthwhile, because too many countries didn't aim to eliminate, so the dividend of travel bubbles never emerged and quarantine had to be near-total, crushing economies.
- So my answer to the title question is “No”.
- For future pandemics with similar virulence: laissez-faire with advice would be a better approach.
- Discuss!

Thank you!