

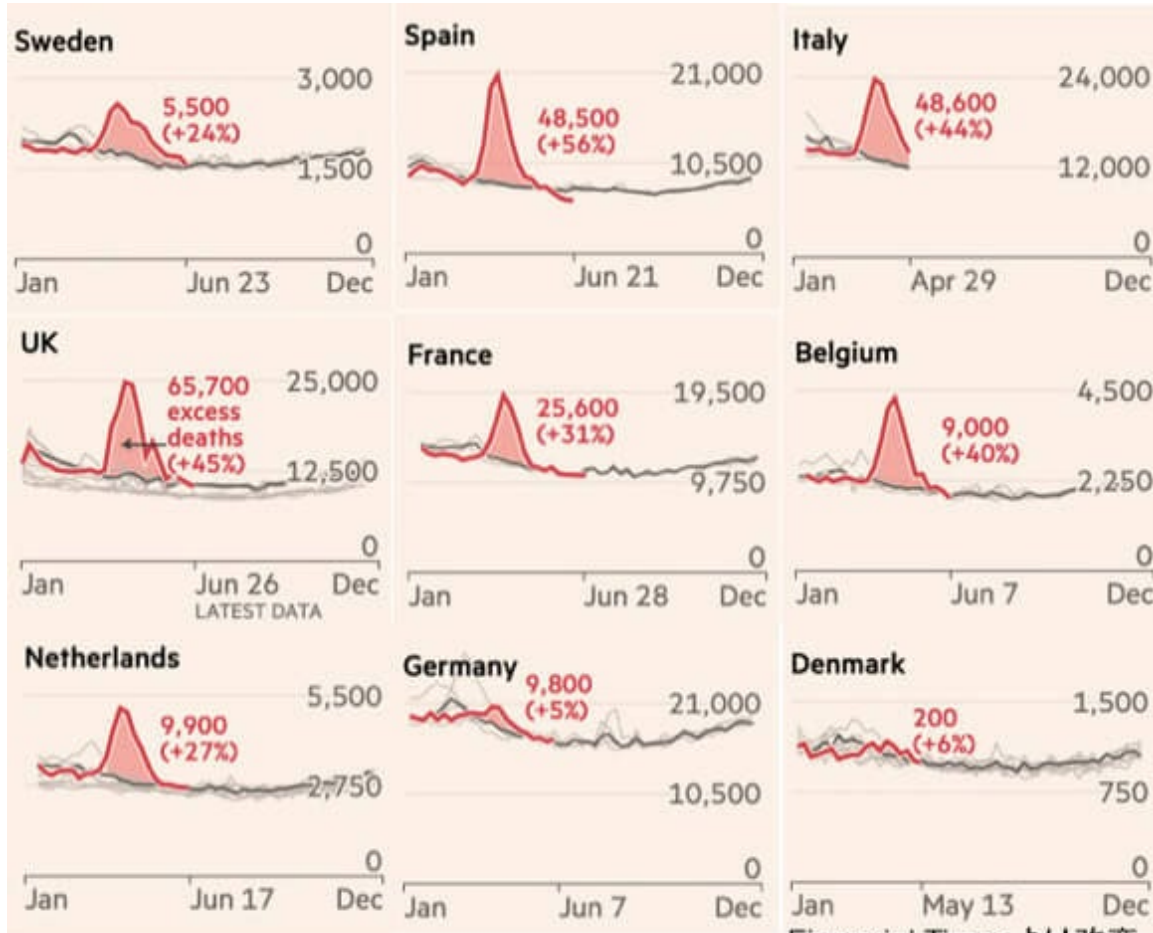
Data-Driven Health Care System
Revisited
in the Pandemic-Stricken World

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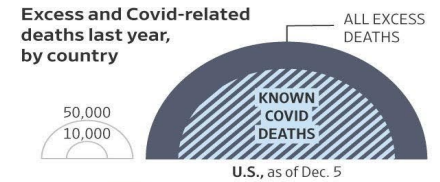
Former Vice-Minister for Health

MoHLW JAPAN

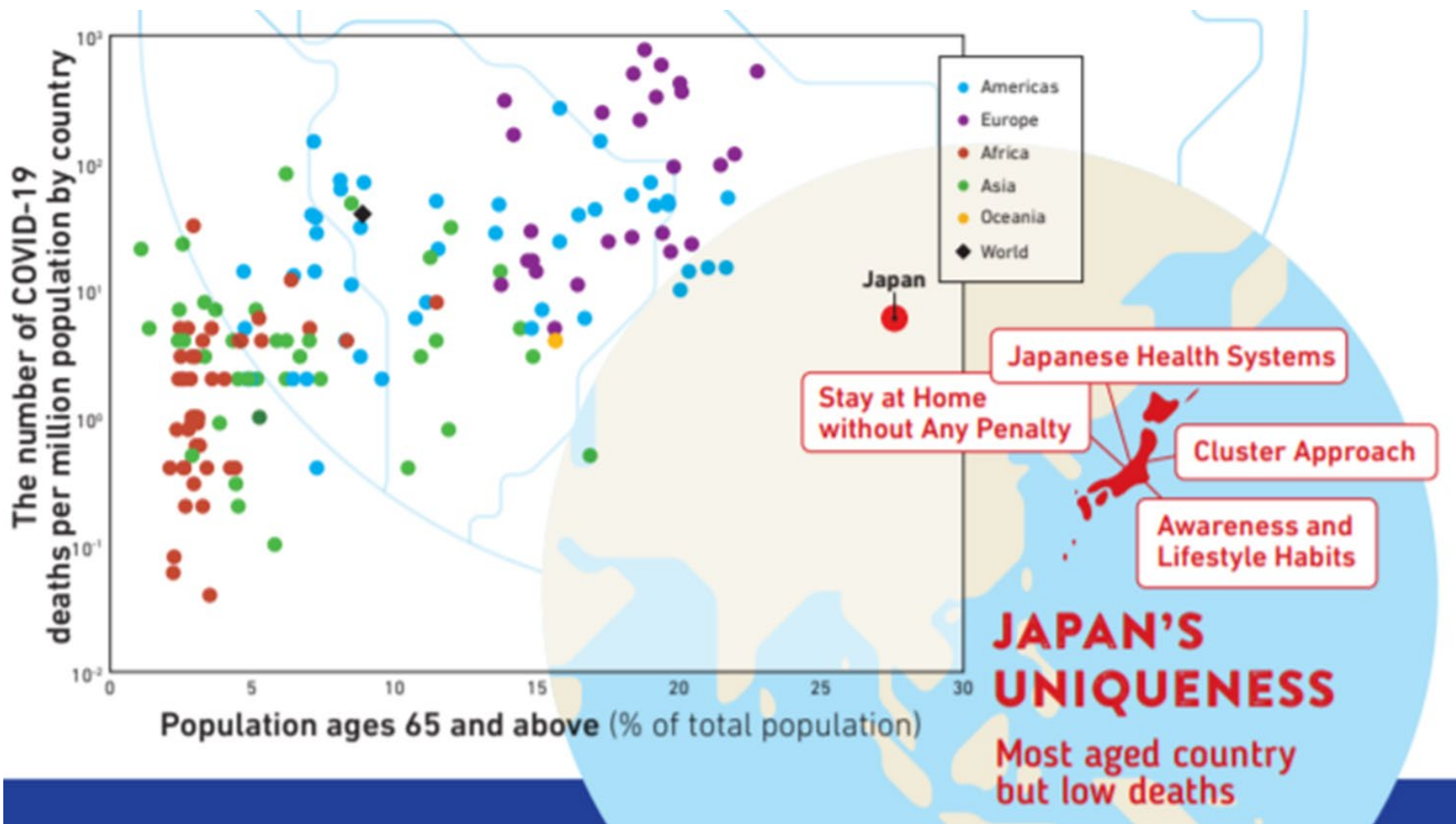
Excess Mortality



Financial Timesより改変



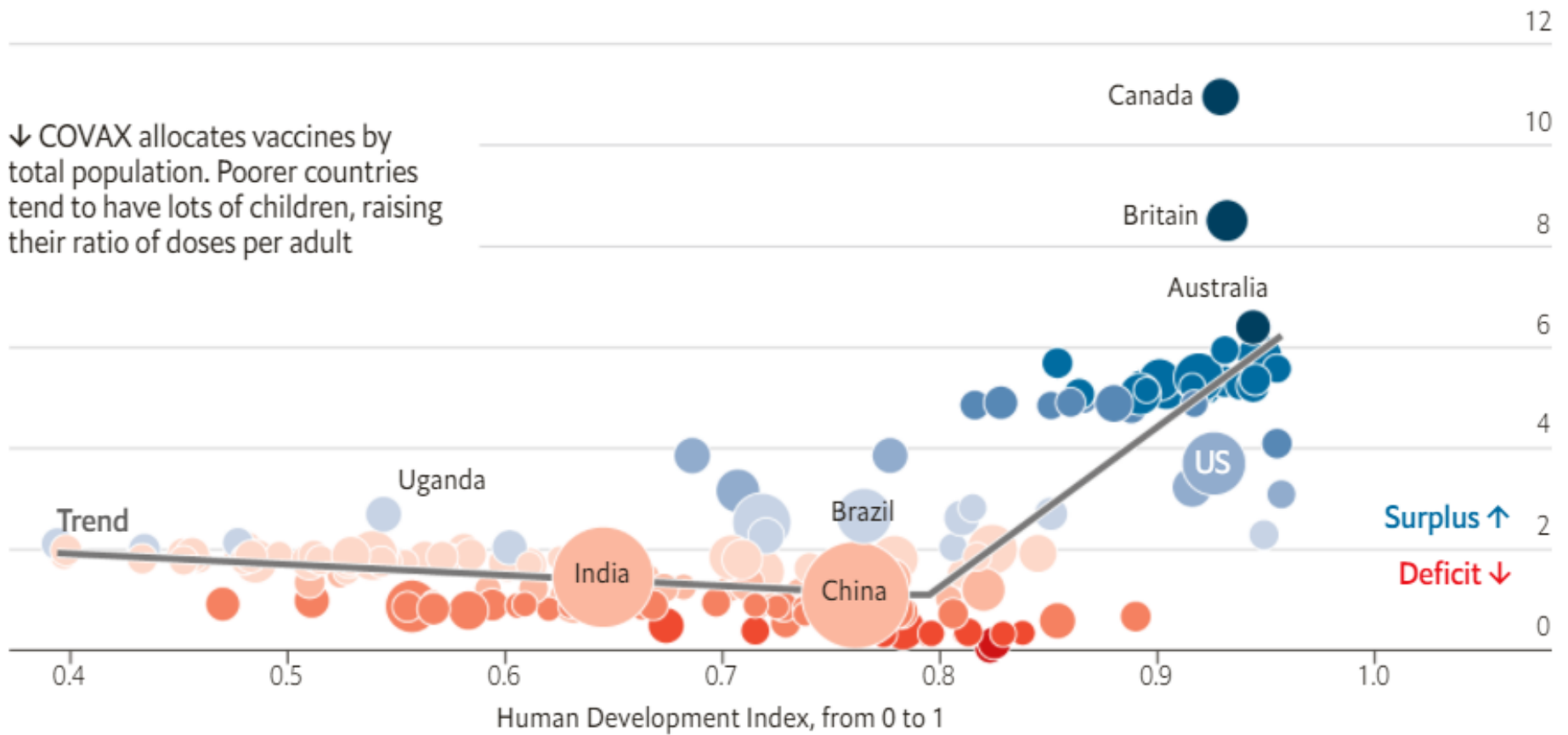
Ageing Ratio and Mortality due to COVID-19



JICA 新型コロナウイルス対策に関する比較・実践的研究の特設ページ
<https://www.jica.go.jp/COVID-19/ja/responses/research/20200618.html>

Human development v doses ordered per adult*, 2020, size=adult population

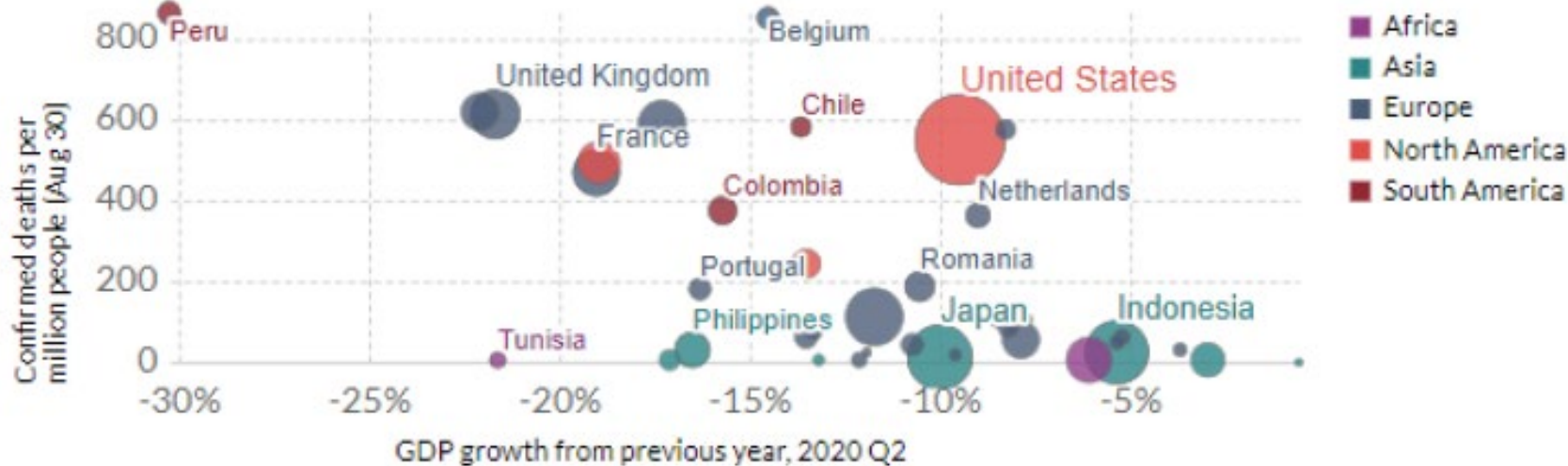
↓ COVAX allocates vaccines by total population. Poorer countries tend to have lots of children, raising their ratio of doses per adult



*Aged 15 and over

Economic decline in the second quarter of 2020 vs rate of confirmed deaths due to COVID-19

The vertical axis shows the number of COVID-19 deaths per million, as of August 30. The horizontal axis shows the percentage decline of GDP relative to the same quarter in 2019. It is adjusted for inflation.



Source: European CDC, Eurostat, OECD and individual national statistics agencies

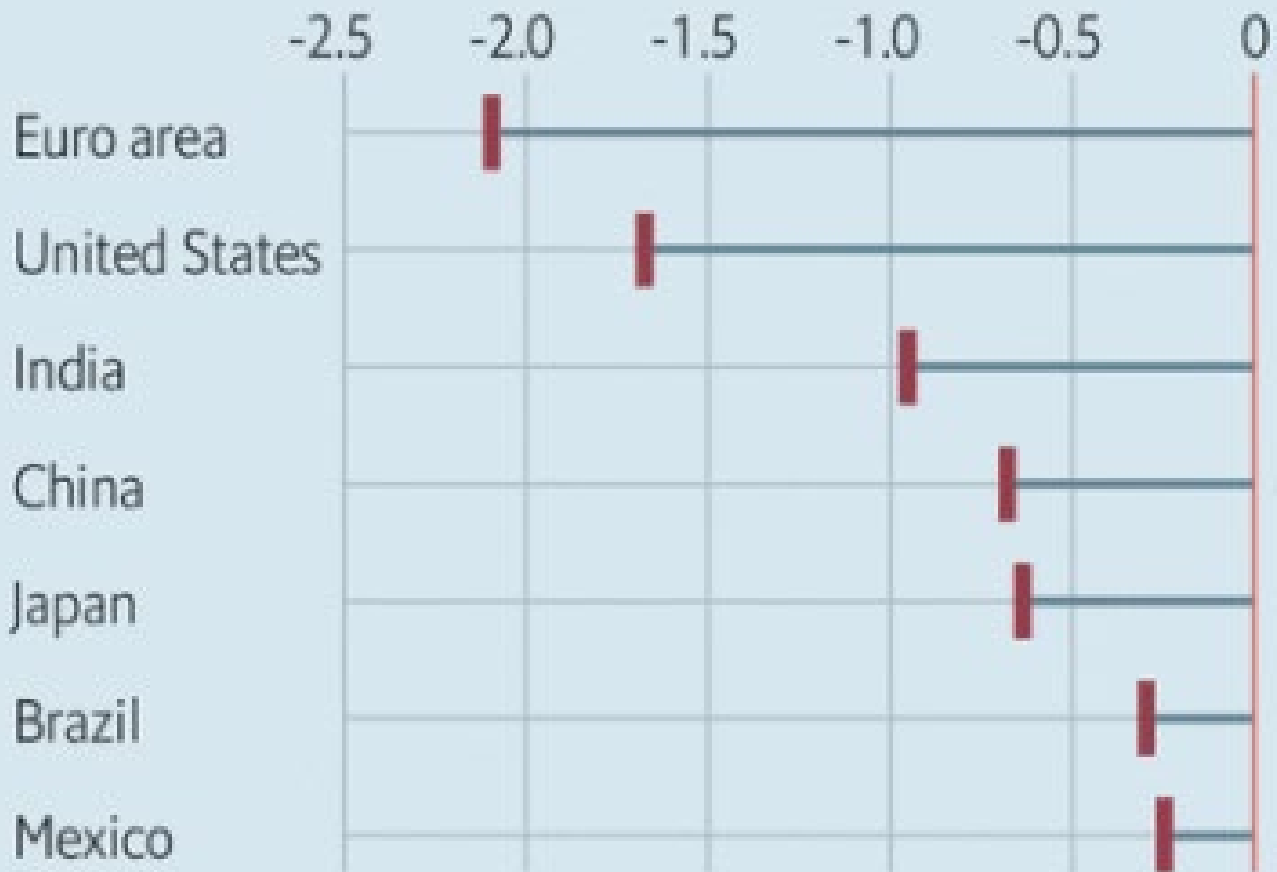
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Note: Limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the true number of deaths from COVID-19. Data for China is not shown given the earlier timing of its economic downturn. The country saw positive growth of 3.2% in Q2 preceded by a fall of 6.8% in Q1.

[Select countries](#) Hide countries < 1 million people

GDP shortfall, 2020-21

Relative to pre-pandemic projections



Sources: World Bank; *The Economist* *Constant 2010 \$ †Estimate

Issues to consider (1)

- Aftermath of large capital spending for COVID-19 pandemic control and economic stimulus → restraints in the future national expenditure?
- CEA of different interventions to COVID-19 → prioritization of program spending is required
- Decision making amid uncertainty: evidence provider (academia for infection control) vs decision maker (political leaders balancing economics and infection)
- Pandemic will be repeated periodically once in 4-5 yrs. → requires “surge capacity” in health care management and public health

Issues to consider (2)

- Contact-less services: use of tele-medicine & 24/7 wearables
- PCR test: limitation of sensitivity & specificity(pseudo positive & negative) + correlation between test numbers/daily cases
- CEA and EUA (cost consideration in crisis?)
- Rapid R&D innovation for diagnostics, therapeutics & vaccines: issues of “national security”
- PPE shortage due to “economic rational” ← require stockpiling, diversification of imports & subsidy to domestic producers

Conclusions

- Requires “Data-driven Health Care” with big-data & DX for
 - Life-style diseases (HT, DM, HL) management: comprised ½ of health care demand: share two commonalities →
 - ✓ if neglected, can lead to grave conditions
 - ✓ at the early stage, only slight abnormalities in testing results without symptoms
 - Both aspects will require outcome-base flexible payment leading to transformation of mode of health care delivery to enhance efficiency
 - Productivity enhancement in labour-intensive health care
 - Avoidance of gaps and overlaps, redundancy in health care
- Better division of labour amongst industry, academia & government
- No country is safe unless every country is safe.
 - global health diplomacy and access equity
- You need a fire brigade when your house is on fire; you have to have it prepared before the pandemic.
 - lessons for next pandemic (surge capacity, speedy R&D, rule for international movement of people, PPE shortage, ECMO triage, etc.)
- President Kennedy and Cuban Missile Crisis in 1962