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Might a ‘Coasean’ social contract mitigate overall societal harm from COVID-19?

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In this blog, we outline how a win-win social contract could be forged to address the major dimensions of response to the COVID-19 pandemic when using a mitigation strategy: the particular need to protect older people from high death rates and the desirability of maximising freedom from lock-downs and economic wellbeing for nearly everyone else. The social contract could take a range of forms, but one approach could be for a government to offer a period of extra payments to older age-groups to commit to home quarantine, with the option of opt out either with no payment or an insurance surcharge reflecting risk until either a vaccine arrived or until protective immunity arose in the population.

In response to the COVID-19 pandemic, most countries have adopted a ‘flattening the curve’ mitigation strategy. Other jurisdictions including China, Singapore, Taiwan, Hong Kong and New Zealand have adopted an elimination strategy. However, mitigation via physical distancing mandates and lock-downs applied across the board may not prove socially or economically sustainable, whilst elimination may fail or involve costly periodic re-imposition of restrictions. It is therefore critical that other strategies are planned for – including the novel mitigation strategy which is the context for this blog.

So here we propose a social bargain that recognises the reciprocal nature of the problem of mitigating the risk of harm to health, welfare and the economy from the COVID-19 pandemic. Those most at risk of hospitalisation and death should be protected, whilst others should be allowed to return to ‘normal’ life (if they prefer to). Those at relatively high risk would be offered payment to commit to home quarantine.

The bargain is ‘Coasean’ in recognising that social costs (externality) can be reciprocal – an idea developed by Ronald Coase, a Nobel Prize winning economist. Coase analysed the case of sparks from trains setting fire to crops where the train company could mitigate sparks whilst the farmer could avoid cultivation of crops close to railways; and an efficient bargain between the two could in principle be struck [1].

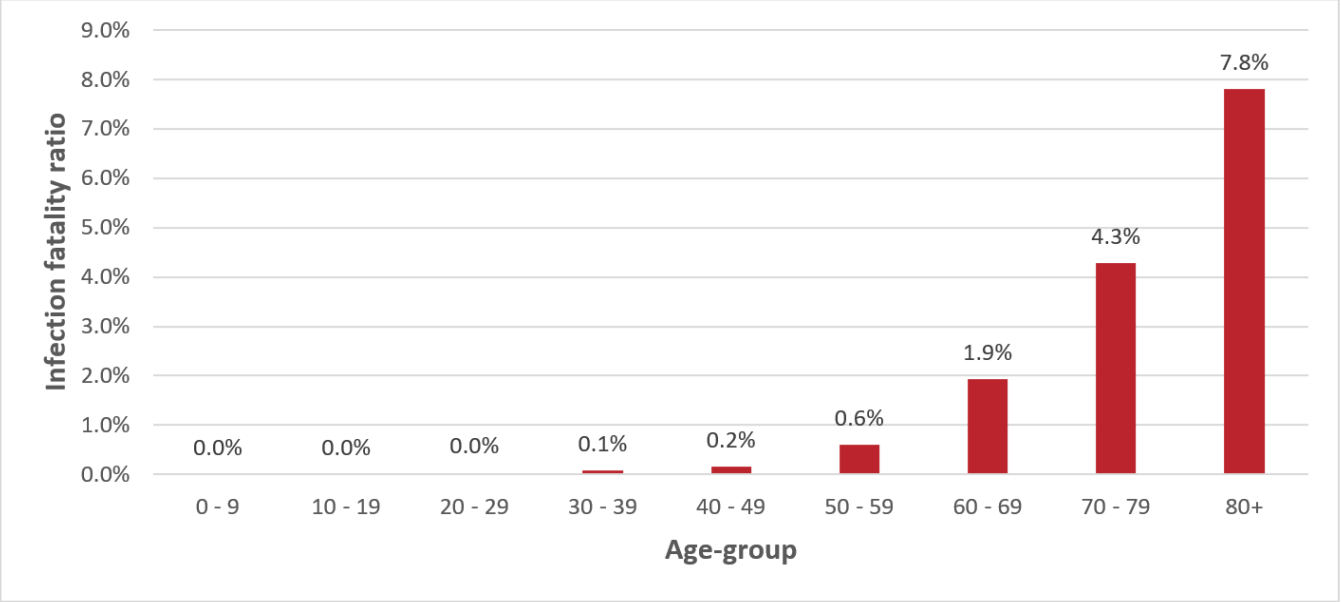
Reflecting different individual preferences there could be optionality for those at low risk to isolate without payment (they are not contributing to the societal good of a build-up of population immunity); whilst those at higher risk could opt out of isolation but would forego payment and potentially be required to pay a risk-adjusted health surcharge.

The aim is to improve the effectiveness of intervention to reduce health related harms caused by COVID-19, whilst also reducing the various costs associated with isolation (social, economic and foregone population immunity costs), and to do so recognising that individuals will have different preferences in relation to the individual costs and benefits of isolation. The following explores why a Coasean social contract may be superior to across the board policies or an approach targeted by cohort without compensating payments and optionality for individuals.

The unusually large intergenerational trade-offs

The COVID-19 pandemic is very unusual in its disproportionate risk for older people (see Figure), in addition to those at risk due chronic health conditions. Indeed, the risk of death if infected in the 80+ age group is around 250 times that of a 20-29 year-old; or more broadly the risk of death if infected in the under 60 age-group is 0.145% vs 3.28% in the 60+ age-group, a 23-fold difference [2]. Furthermore, a modelling study that considered New Zealand demographic data, estimated that 89% of the deaths from pandemic spread would be in the 60+ age group [3].

Figure: Infection fatality ratios for COVID-19 by age-group (data from Verity et al 2020 [2])



Moreover ‘lock-down’ type responses involve a disproportionately heavy impact on younger generations in terms of welfare, education, employment and future income (due to disruption of education and labour market entry). This is problematic, particularly following the adverse distributional impact of the financial crisis and the potential for COVID-19 to trigger a sharp contraction in GDP and employment (a ‘back of the envelope’ calculation for the US estimates unemployment rates between 10.5% and 40.5% for the second quarter of 2020 compared to 3.5% in February 2020 [4]).

Alternative approaches for mitigating overall harm

One size fits all

One way of conceptualising the trade-offs we face is cost-benefit analysis of alternative population wide social distancing measures [5]. One study concluded that the benefits of social distancing are substantial (as are the costs) but that 90% of the monetised benefit in terms of reduced risk accrues to those aged over 50 [6]. It would be better still to capture most of the benefits at a reduced social and economic cost by either targeting interventions in relation to particular groups or incentivising appropriate groups to self-select the most beneficial or least costly distancing measures aligned with the broader public interest.

Targeted intervention

Another approach is to seek to minimise deaths due to COVID-19. Given that compliance with a general lock-down may not be sustainable for more than 2 months [7] (and is socially and economically costly) and that the risk of death is a sharply increasing function of age, ensuring older people and others at risk stay in home quarantine may be more effective at minimising overall deaths (as per a previous PHE blog [8]).

Controls coupled with options and incentives (Coasean social contracting)

This option aims to refine a more targeted approach to protection recognising that individuals at high risk who home quarantine for a long-period to protect themselves (and the health system) should be supported. In contrast, low risk individuals could be given the option of early freedom from lock-down to sustain the economy, continue their education and career development and build population immunity. Furthermore, since individuals

have different preferences and face different risks they should be allowed to opt in or out of isolation with payments to or from such individuals reflecting the social costs and benefits of individual choices. Those who accept support for isolation might pledge to remain isolated, and various enforcement mechanisms could be implemented.

Payments by those who opt out and are at increased risk of infection (e.g., by being elderly or having a chronic condition), could ideally reflect the expected COVID-19 related health cost for their cohort. It is possible that, unlike insurance that involves moral hazard i.e. attracting those at greater risk, that those who opt out of isolation may be a lower risk (given that opting out increases their risk of illness from COVID-19 and those who opt out may be more likely to value freedom if they are healthy and fit). Research on individual preferences could be rapidly conducted to inform the choice of thresholds and incentives.

This options approach may also have the benefit of permitting an additional feedback loop as the load on the health system evolves, namely by changing the eligibility cohort and/or by changing the payment in return for isolation or potentially holding an online auction to achieve a given level of additional opt in.

This approach may also have lower costs to the economy than turning off or on distancing measures for everyone as epidemic spread subsides or picks up again, since the ongoing uncertainty associated with such epidemic dynamics may make operating some businesses non-viable e.g., hospitality and domestic tourism.

Whilst financial incentives could undermine incentives for voluntary sacrifice and compliance for behavioural reasons, they are also more tuneable. It can be difficult, for example, to communicate clearly to the public the changes in the detailed rules in relation to home quarantine and physical distancing (e.g., around walking in parks), or potentially to maintain high compliance whilst extending the period of compliance [9].

The goal of this possible ‘third way’ is not to minimise deaths *per se* (though it would likely be more effective in this regard than population lock down over the longer-term), but to go beyond a health optimisation approach to a broader wellbeing maximising societal one. That is, to also reduce restrictions on freedom for those least at risk, sustain the economy with corresponding health and societal benefits and to potentially manage a transition to population immunity within the constraints of the intensive care capacity of the health system. It also has the benefit of representing a social contract which recognises the contribution everyone is making whilst improving intergenerational equity compared to crude across-the-board restrictions.

The novel social contract set out here could be explored further by governments who have pursued mitigation via physical distancing, but find that population fatigue is limiting the effectiveness or that the economic and social cost for younger cohorts in particular is simply too high. It could also be considered by jurisdictions like New Zealand that are pursuing elimination but may have to switch strategy if elimination fails or is unsustainable given the need for tight border controls whilst COVID-19 remains endemic globally.

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