Taxonomy of Potential COVID-19 Lockdown Exit Strategies

Overall aims

- To learn to live with the virus by keeping R0 as low as possible
- To enable as much of society to return, as far as is possible, to normal functioning.

Strategic options

Note: These are not necessarily mutually exclusive options; a number of countries are pursuing several approaches simultaneously

Exit Strategy	Notes	Who's using it?
Herd immunity	Netherlands Forbes Sweden	Sweden. UK and Netherlands initially pursued this, but have subsequently rowed back
Lockdown till vaccine or drug treatment(s)	Not viable politically in liberal democracies as evidence that UK public is already beginning to tire/flout lockdown measures	
Attempt to completely eradicate virus through rigorous test, trace and isolate & then gradually reopen society	Imperial paper on China's attempt to eradicate & then reopen here Recent increases in number of cases in Singapore and China.	China, Singapore, South Korea, Czech Republic, Germany
Adaptive triggering	Supported by Imperial/Ferguson model in this paper (not peer-reviewed)	
Cyclical lockdowns	Proposed in this, pre-print paper (not peer-reviewed): 4 days of work followed by 10 days of lockdown	Being considered in Israel
National weekly testing	Proposed by Julian Peto in this FT opinion piece of entire population	
Gradual release from lockdown	Proposed in this paper (links to herd immunity) – e.g. schools	Denmark
Enhanced shielding of vulnerable populations	Unlikely to have sufficient test capacity in the UK for shielded patients as currently defined; should however be easy to assess which groups are actually at increased risk and revise assessment	Being considered by UK
Population scheduling	Males and females allowed out on alterative days	Panama

	Allowing those with certain door numbers out on certain days thereby segmenting the population into 3 groups	Being considered in Croatia
Let healthy/immune out (e.g. immunity passports)	Seems problematic in absence of serology and reports of re-activation of disease described in South Korea	Germany issuing immunity certificates
Geographical segmentation		?Taiwan
PPE for everyone	CDC	US (encouraged though not mandated)
Natural experiments		

From these, my thoughts are that we should actively consider a combination of the following approaches:

- Test, trace and isolate and enhanced shielding, as best as possible
- Population scheduling to allow social distancing to be maintained as best as possible
- Adaptive triggering of lockdowns.

I think we need urgently to model the impact of exit scenarios, as best as possible, on COVID-19 morbidity and mortality, non-COVID-19 related morbidity and mortality, and wider socioeconomic effects.

13/4/2020