

The UK Government's COVID-19 policy: assessing evidence-informed policy analysis in real time (using 25000 words)

Abstract. In March 2020, COVID-19 prompted policy change in the UK at a speed and scale only seen during wartime. Throughout, UK government ministers emphasised their reliance on science and expertise to make the right choices at the right time, while their critics argued that ministers ignored key evidence and acted too little too late. Lessons from this debate should have a profound effect on future action, but only if based on a systematic analysis of policymaking as the problem emerged in real time. *We should not confuse hindsight with foresight.* To that end, I combine insights from policy analysis guides, policy theories, and critical policy analysis to frame this debate. I use the classic 5-step policy analysis structure - define the problem, identify solutions, use values to identify trade-offs, predict and compare outcomes, and recommend choices - to identify the politics of policymaking in complex systems. The pandemic exposes the need to act despite high ambiguity and uncertainty and low government control, using trial-and-error strategies to adapt to new manifestations of the problem, and producing highly unequal consequences for social groups. Lessons for the future will only have value if we take these policymaking limitations and unequal socioeconomic effects into account.

Introduction: how should we characterise the UK government response?

On the 23rd March 2020, the UK Government's Prime Minister Boris Johnson declared: 'From this evening I must give the British people a very simple instruction – you must stay at home' (Johnson, 2020a). He announced measures to help limit the impact of COVID-19¹, including *police powers to support public health*, such as to disperse gatherings of more than two people (unless they live together), close events and shops, and limit outdoor exercise to once per day (at a distance of two metres from others). These new actions add to *budgetary measures* to subsidise businesses and workers during their economic inactivity, change social security rules, facilitate mortgage holidays and prohibit evictions for unpaid rent, the *almost-complete closure* of schools, colleges, Universities, and airports, *new regulations* on behaviour, including on mental health-related detention and at-home abortion, and the *major expansion of healthcare capacity* via investment in technology and a consolidation of national, private, and new health service capacity (note that many of these measures relate only to England, with devolved governments responsible for public health in Northern Ireland, Scotland, and Wales). Overall, the coronavirus prompted almost-unprecedented policy change, towards state intervention, at a speed and magnitude that seemed unimaginable before 2020.

Yet, many have criticised the UK government's response as *slow and insufficient*. Criticisms include that UK ministers and their advisors did not: take the coronavirus seriously enough in relation to existing evidence (when its devastating effect was increasingly apparent in China in

¹ The novel coronavirus' full name is severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). COVID-19 is the infectious disease caused by SARS-CoV-2. For simplicity, I describe COVID-19 policy and coronavirus policy interchangeably.

January and Italy from February); act as quickly as some countries to test for infection to limit its spread, and/ or introduce swift measures to close schools, businesses, and major social events, and regulate social behaviour (such as in Taiwan, South Korea, or New Zealand); or introduce strict-enough measures to stop people coming into contact with each other at events and in public transport (Henley, 2020). They blame UK ministers for pursuing a mitigation strategy, based on reducing the rate of infection and impact of COVID-19 until the population developed ‘herd immunity’, rather than an elimination strategy to minimise its spread until a vaccine or antiviral could be developed (e.g. Sridhar, 2020a; 2020b). Or, they criticise the over-reliance on specific models, which underestimated the R (rate of transmission) and ‘doubling time’ of cases and contributed to a 2-week delay of lockdown (Yates, 2020; Taylor, 2020; contrast with Chivers, 2020; see also Rhodes and Lancaster, 2020). Many cite this delay, compounded by fatal errors in the treatment of care homes, as the biggest contributor to the UK’s unusually high number of excess deaths (Campbell et al, 2020; Burn-Murdoch and Giles, 2020; Scally et al, 2020; and some SAGE members now describe their regret at the late lockdown, Mason, 2020; Ball, 2020).

In contrast, scientific advisers to UK ministers have emphasised the need to gather evidence continuously to model the epidemic and identify key points at which to intervene, to reduce the size of the peak of population illness initially, then manage the spread of the virus over the longer term (e.g. Vallance on Sky News, 2020a). Throughout, they emphasised the need for individual behavioural change (hand washing and social distancing, such as by keeping a minimum two-metre distance from each other), supplemented by government action when required, in a liberal democracy in which direct imposition is unusual and, according to UK ministers, unsustainable in the long term (Johnson, 2020b). In each case, the UK government and its critics are relying on different beliefs or assumptions about (a) *the nature of the policy problem and the ability of a central government to solve it*, and (b) *what actually happened* (on the latter, compare Horton, 2020 with Allen et al, 2020, Freedman, 2020a; 2020b and Snowden, 2020).

To some extent, we can relate these debates to the general limits to policymaking identified in policy studies (summarised in Cairney, 2016; 2020a; Cairney et al, 2019) and underpinning the ‘governance thesis’ that dominates the study of British policymaking (Kerr and Kettell, 2006: 11; Jordan and Cairney, 2013: 234). First, *policymakers must ignore almost all evidence*. The amount of policy relevant information is infinite, and capacity is finite. So, individuals and governments need ways to filter out almost all information. Individuals combine cognition and emotion to help them make choices efficiently, and governments have equivalent rules to prioritise only some information. They include: define a problem and a feasible response, seek information that is available, understandable, and actionable, and identify credible sources of information and advice (such as from specific experts). Second, *policymakers have a limited understanding, and even less control, of their policymaking environments*. No single centre of government has the power to control policy outcomes. Rather, there are many policymakers and influencers spread across a political system, and most choices in government are made in subsystems, with their own rules and networks, over which ministers have limited knowledge and influence. Further, the social and economic context, and events such as a pandemic, often appear to be largely out of their control. Third, even though they lack full knowledge and control, *governments must still make choices*. Therefore, their choices are necessarily flawed. Finally, *their choices produce unequal impacts on different social groups*. Overall, the idea

that policy is controlled by a small number of UK government ministers is still popular in media and public debate, but dismissed in policy research (Cairney, 2020c).

However, to make more sense of current developments in the UK, we need to understand how UK policymakers *address* these limitations in practice, to see events through their eyes, reflect on external criticism about the relative speed and scale of the government's response, and widen the scope of debate to consider the impact of policy on social inequalities. A policy theory-informed and real-time account of the policy problem, and the government's response, helps us avoid the kinds of hindsight bias that downplay uncertainty and encourage after-the-fact wisdom. We want governments to learn from crises, such as the coronavirus, in a way that could actually help them (and the populations they serve) in the future, which requires us to identify the uncertain, contested, and political context they face at the time of action (see Dunlop, 2017). We want to be sure that they are better prepared to *anticipate* the next pandemic, rather than assume that more competent ministers could *react* decisively at any time.

To that end, I combine insights from policy analysis guides, policy theories, and critical policy analysis (supplemented by studies of the 'social determinants of health'), to analyse the UK government's initial coronavirus policy (focusing on January-June, but March in particular). I use the lens of 5-step policy analysis models: define the problem, identify solutions, identify trade-offs between each solution, predict and compare their effects, and recommend or make choices. I do not use these steps to suggest that there can be a 'rational' or straightforward way to *make* government policy. On the contrary, I use them to:

1. *explain* policymaking by categorising the limits to modern government in a complex policymaking environment where policy problems are ambiguous and contested, and
2. *highlight political choices*, which have profoundly unequal effects on the population, but are often hidden by the language of ministers guided by science.

I use this lens to identify (a) the policy instruments adopted by the UK government, and (b) the ways in which ministers and expert advisors have defended them in the public record. This paper's methods reflect the dynamic of an ongoing crisis, in which there is currently no feasible or defensible way to conduct a comprehensive study using elite interviews. Rather, I focus on sources in the public record, including oral evidence to the House of Commons Health and Social Care committee, and the minutes and meeting papers of the UK Government's Scientific Advisory Group for Emergencies (SAGE) and New and Emerging Respiratory Virus Threats Advisory Group (NERVTAG), and transcripts of TV press conferences and radio interviews (for a full account of information from these sources, see the online annexes in Cairney, 2020d-2020k).

This approach helps to assess criticism of UK government policymaking and hold ministers to account in a more meaningful way than trials by social media (in which there is a high amount of bad faith reporting of government action). Ministerial responses (and expert advice) have been deficient in important ways, but we need careful and systematic analysis to help us separate (a) well-informed criticism to foster policy learning and hold ministers to account, from (a) a naïve and partisan rush to judgement that undermines learning (including by comparing UK and devolved government approaches) and helps let ministers off the hook.

Three ways to assess the use of evidence-informed policy advice

Policy analysis comes with guidebooks designed to look simple and technical, only to be revealed as highly complex and political. These guides help us understand what analysts and policymakers need to do (their *functional requirement*), while policy theories help us gauge their ability to do it (their *actual capacity*), and critical policy analysis helps reveal the contested nature of expert and advisor-informed policy, in which there is unequal access to influence and policy has an unequal impact on populations. Combined, these approaches help to assess how the UK government has: used evidence selectively to analyse coronavirus-related policy problems, modified its approach continuously to reflect new information and political pressures, and exercised power to limit the scope of policy-relevant advice and propose solutions with profoundly unequal consequences on the UK population.

Policy analysis texts recommend pragmatic ways to ‘do’ policy analysis, based on the simplified assumption that one person or organisation conducts all steps on behalf of a client:

1. Define a policy problem identified by your client.
2. Gather evidence efficiently to identify technically and politically feasible solutions.
3. Use value-based criteria and political goals to compare solutions.
4. Predict the outcome of each solution.
5. Make a concise recommendation to your client (Bardach and Patashnik, 2020; Meltzer and Schwartz, 2019; Mintrom, 2012; Weimer and Vining, 2017; Dunn, 2017 also recommends monitoring and evaluating choices).

This advice reflects a modern story about policy analysis: it once resembled a club with a small number of analysts inside government giving technical advice about policy, but now there are many analysts inside and outside of government, competing to define policy problems and assign value to their evidence and solutions (Radin, 2019; Brans et al, 2017). As such, policy analysis is best seen as a series of styles that vary markedly by context (Hassenteufel and Zittoun, 2017), or a collection of activities that include research, policy design, argumentation, strategic advice, consultation, and mediation between political actors (Mayer et al, 2013: 43-50). In that context, Enserink et al (2013) compare ideal-type ‘rational’ policy analysis with analysis in the real world of uncertainty and complexity (Table 1).

Table 1: Competing visions of policy analysis for the real world

	The old story of ‘rational’ policy analysis	New policy analysis for the real world
Number of actors	Centralised process with few actors inside government	Multi-centric process, with many policymakers and influencers, inside and outside government
Role of knowledge	Translating the scientific evidence into policy	A competition to frame issues and assess policy-relevant knowledge
Finding solutions	An ‘optimal’ solution from one perspective	A negotiated solution based on many perspectives
Relevant skills	Analysing a policy problem and solution with one metric (e.g. cost benefit analysis, or CBA)	Stakeholder analysis, network management, collaboration, mediation, conflict resolution

Source: adapted from text in Enserink et al (2013: 17-34).

This story does not go far enough to explain two key dynamics. First, *policymakers must find ways to deal with their limited knowledge and control*. They need to ignore most evidence, since there is an almost infinite amount of information and a finite ability to process it (Baumgartner, 2017). People use two cognitive shortcuts, often described provocatively as ‘rational’ (such as using well-established rules to identify high quality sources of information) and ‘irrational’ (such as using gut instinct, emotion, and beliefs) (Cairney and Kwiatkowski, 2017). These shortcuts help explain the relationship between policymakers and the analysts and experts on whom they rely. Policymakers define a problem and a feasible response, seek information that is available, understandable (in relation to their own current knowledge), and actionable, and identify credible sources of advice. Their choice of experts relates strongly to the ways in which they frame the problem, and the priority they set for each frame. For example, they rely primarily on epidemiologists if concerned about the spread of disease, economists if concerned about an epidemic’s impact on the economy, and others (including legal experts and behavioral scientists) if their focus is on how to coerce or encourage behavioral change. Further, their willingness and ability to listen to, understand, and act on the advice by scientific experts depends strongly on their current beliefs about acceptable policies and their desire to avoid blame for the problem or reputational damage in relation to their choices (Boin et al, 2009; Flinders, 2020).

These dynamics take place in a policymaking environment in which no single ‘centre’ has the power to turn advice into outcomes (Cairney et al, 2019). There are many policymakers and influencers spread across a political system, and most public policy is made or delivered in many venues, with their own rules and networks, over which senior elected policymakers have limited knowledge and influence. Factors such as social and economic conditions and events are also largely out of their control. This lack of central control helps explain a tendency to engage in trial-and-error policymaking, particularly during periods of crisis in which the problem changes as policy progresses (Lindblom, 1959: 88; Sanderson, 2009: 707; Dunlop and Radaelli, 2015). It is characterized by a continuous process of adaptation: acting on advice despite high uncertainty about the current state of the problem and the likely impact of policy, gathering more information, and reflecting continuously on new events and policy impacts.

For example, this advice may come from epidemiological models used to predict the spread and impact of disease, information from the experiences of other countries, economic data, and a wide range of other policy-relevant information, such as measures of the disproportionate impact of any policy on different social groups. Further, coronavirus represents an extreme example of a problem with cross-cutting effects, prompting the UK government to change policy in multiple sectors, with minimal ability to predict the overall impact. Such problems prompt governments to adapt continuously to respond to uncertainty about the impact of their solutions. This process takes place in a Westminster system in which governments are trying to project a sense of central control and maintain an image of governing competence, prompting ministers to describe adaptive science-informed policy and their critics to describe U-turns.

Second, *policymakers must still act despite their limited knowledge and control, and each choice has an unequal impact on populations*. All policy analysis steps are subject to contestation, in which actors compete to determine:

- how to define problems in a way that assigns blame to some and support to others (Bacchi, 2009)

- whose evidence counts when defining problems, producing solutions, and predicting their unequal impact (Smith, 2012; Doucet, 2019)
- who should interpret the meaning of political values, rank their importance, and therefore rank the importance of each population (Stone, 2012), and
- the extent to which new solutions should reinforce or challenge a status quo that already harms marginalised populations (Michener, 2019; Schneider and Ingram, 1997).

In that context, Table 2 identifies the policy analysis steps associated with ‘how to’ guides, then uses policy process and critical approaches to widen discussion. To describe different forms of policy analysis is to provide different standards to assess the current substance and direction of government policy. Wider perspectives highlight the need to consider how (1) the expert analysis of policy problems relates to (2) the cognitive and environmental limits to policy analysis and action, and (3) the politics of choice, to determine whose knowledge counts as policy-relevant, and whose interests determine the final outcome.

Table 2 Three perspectives on 5-step policy analysis

	Policy analysis texts	Policy process research	Critical policy analysis
Step 1	Define a policy problem identified by your client	Incorporate a policymaker’s willingness and ability to understand and solve the policy problem	Challenge dominant ways to frame issues.
Step 2	Identify technically and politically feasible solutions	Identify the mix of policy instruments already being used, and why	Use inclusive ways to generate knowledge and perspectives on solutions
Step 3	Use values and political goals to compare solutions	Identify how actors cooperate or compete to define and rank values.	Co-produce the rules to produce and evaluate solutions
Step 4	Predict the outcome of each feasible solution	Emphasise uncertainty about the disproportionate effect of your solution on the existing policy mix	Identify the impact on marginalised groups, such as via gender and race analysis
Step 5	Make a recommendation to your client	Recommend how to adapt to policymaking systems. In the absence of uncertainty, how often do you act? In the absence of centralisation, how can you deliver this instrument?	Co-produce your recommendations with many stakeholders, to make sure that you anticipate and respect their reaction to your proposals.

Source: adapted from Cairney (2020b).

Multiple perspectives on UK COVID-19 policy analysis

These different perspectives are crucial to the analysis of UK government policy. First, they help reinterpret the strong UK ministerial rhetoric on being ‘guided by the science’ (see Cairney, 2020e). This rhetoric conjures the idea of ‘rational’ policy analysis, in which a single centre of government projects authority and control, and serves to depoliticise key choices about which experts are relevant and how their advice contributes to the choice to save some people and let others die. Second, they highlight conflicting messages from policy process research and critical perspectives. The former highlights the value of pragmatic policy analysis, focusing on what seems ‘doable’ and politically feasible, as a sensible response to limited

knowledge and control. The latter suggests that the rhetoric of pragmatism often fosters inaction and reinforces the status quo and social inequalities (Cairney, 2020b).

Attention to these perspectives helps us widen the debate about the governing competence of UK ministers, from:

- a highly visible focus on the extent to which the UK response was ideological- or evidence-based, and if ministers were listening to the right experts and acting quickly enough to protect the whole population, to
- a less visible focus on questioning whose ideology matters, who count as experts, and the unequal impacts of policy change on target populations.

In that context, this section uses the *three perspectives on 5-step policy analysis* structure (Table 2) to interpret early COVID-19 analyses and choices.

Step 1. Define the problem, what is possible, and who is important

COVID-19 as a *physical* problem is not the same as a *policy* problem. To define the former is to identify the varying physical impact on individuals and populations of a virus and disease with a worryingly high infection, incubation, and mortality rate and no known vaccine or cure (WHO, 2020). To define a policy problem, policy actors relate the physical problem to what they think a government can, and should, do about it. Put more provocatively, it is only a policy problem if policymakers are willing to define it as such and consider a solution (Kingdon, 1984: 115). This point may seem semantic, but it raises profound questions about: the capacity of any government to address a problem like a pandemic, who decides how quickly and far it should go to influence social behaviour, and which populations are rewarded or punished during problem definition.

Policy analysis: define the problem

This partial conflation of problem, solution, and social implications is reflected in descriptions in March by scientific advisors interviewed by TV and print media. For example, Professor Graham Medley – (a) Chair of the *Scientific Pandemic Influenza Group on Modelling* (SPI-M), which gives advice to the UK government on its response to a possible influenza (or other relevant infectious disease) epidemic, (b) participant of the *Scientific Advisory Group for Emergencies* (SAGE) – described this problem to BBC Newsnight (2020a) on 12th March:

- There will be an epidemic (a profound spread to many people in a short space of time), then the problem will be endemic (a long-term, regular feature of life).
- In the absence of a vaccine, the only way to produce ‘herd immunity’ (resistance to the spread of contagious disease within a population) is for most people to be infected and recover.
- The ideal spread involves all well people sharing the virus first, while all vulnerable people (for example, with pre-existing health problems that affect their immune systems) are protected in one isolated space, but it won’t happen like that, so governments are trying to minimise damage in the real world.
- We mainly track infectious disease spread via deaths, and the correct data showing a major spike will appear one month later, so the problem may only seem real to most people when it is too late to change behaviour (see also Oke and Heneghan, 2020 on different sources of death rate measures, Spiegelhalter, 2020a; 2020b and @BBCPolitics, 2020 on measuring ‘excess deaths’ and the UK government’s

misleading presentation of data, and Taylor, 2020 on categorising deaths in relation to the relative contribution of COVID-19).

- A lot of the spread will happen inside homes, where the role of government is lower (compared to public places) and policy may have unintended consequences. For example, the impact of school closures could be good (isolation) or make things worse (children spreading the virus to vulnerable relatives) (see also Viner et al, 2020).
- The choice *in theory* is between a rapid epidemic with a high peak, or a slowed-down epidemic over a longer period, but ‘*anyone who tells you they know what’s going to happen over the next six months is lying*’. Maybe this epidemic will be so memorable as to shift social behaviour, but so much depends on trying to predict (badly) if individuals will actually change (compare with Blakely, 2020 on Australia).

This type of expert account was quite common in media interviews in early March, and it reflects the discussions in SAGE minutes and meeting papers *and* oral evidence to the Health and Social Care committee (Cairney, 2020d; 2020e). Such accounts do not tell UK ministers what to do, but they informed the way in which the UK government defined the policy problem. In particular, they emphasise three key aspects of a policy problem over which policymakers could not possibly have full control:

1. The impact of COVID-19 could overwhelm the population, to the extent that it causes mass deaths, a level of illness that exceeds the capacity of health services to treat, and an unpredictable amount of social and economic damage (perhaps over a period of 3-6 months).
2. One (preferred) alternative is to contain the virus enough to make sure it (a) spreads at the right speed and/or (b) peaks at the right time. The right speed seems to be: a level that allows most people to recover alone, while the most vulnerable are treated well in healthcare settings that have enough capacity, perhaps over a period of eighteen months. NHS capacity relates to the ‘reasonable worst case scenario’ (RWC) of 11% of people with symptoms requiring hospital treatment of at least 8 days, and 1-2% requiring invasive ventilation treatment and intensive care (SAGE meeting 11, 27.2.20 in Cairney, 2020e: 6-7). The right time seems to be the part of the year with the lowest demand on health services (e.g. summer is better than winter).
3. They need to *encourage* and/or *coerce* people to change their behaviour, to look after themselves (e.g. by handwashing frequently and properly with soap for 20 seconds) and forsake their individual preferences for the sake of public health (e.g. by keeping a two-metre-minimum distance from almost all people, and self-isolating if feeling the symptoms associated with COVID-19, such as high temperature and persistent coughing). Perhaps we can foster social trust and empathy to encourage responsible individual action, or perhaps people will only protect others if obliged to do so (on this general topic, see Ostrom, 1990; 2011 and Stone, 2012). In either case, *we do not know in advance*.

Contemporary policy analysis advice emphasises the need to combine rhetoric and data to frame a problem’s severity, urgency, and cause, and the role of government in solving it (Cairney 2020b, summarising Bardach and Patashnik, 2020; Meltzer and Schwartz, 2019; Mintrom, 2012; Weimer and Vining, 2017; Dunn, 2017). In retrospect, it seems bizarre to think that analysts would *need* to emphasise coronavirus severity and urgency, and major state

intervention, but even by February 2020 the future was difficult for most people to envisage, and ministers appeared to downplay the urgency and severity of the threat until March (see Calvert et al 2020a; 2020b; Ward, 2020 for accounts blaming ministers for ignoring warnings from scientists, and contrast with Snowden, 2020; McConalogue and Knox, 2020; Landler and Castle, 2020). Further, although some claim that science can provide an objective account of a problem, the selective use and communication of evidence, to define a policy problem, is a political act which makes some solutions seem more feasible than others (Cairney, 2016).

For example, one of the most high-profile presentations and use of data in the UK relates to the Imperial College COVID-19 Response Team (2020a; 2020b) led by Professor Neil Ferguson. Its report dated 16th March (2020a) received disproportionately high attention outside of government, and is described in many commentaries as prompting a UK government policy U-turn (On the 16th March, the Prime Minister describes an ‘emergency’, and on the 23rd a ‘national emergency’, Johnson, 2020b; 2020a). Such accounts exaggerate the impact of one report, largely because the RWC was already discussed within government from late February:

- an 80% infection and 1% fatality rate would cause 3.6m people to require hospital treatment (at least 8 days) and over 500,000 deaths in the UK by COVID-19 alone (not including deaths caused by, for example, reduced cancer care or poverty).
- ‘Non pharmaceutical interventions’ (NPIs, or interventions to change social behaviour) may only reduce hospital demand by 50-70% and deaths by 35-50% (Cairney, 2020e: 6; 10). Ferguson noted that this data was already available to read inside government, while ‘a much wider range of scientific advice and modelling advice had gone into government in the previous two weeks, all of which pointed in that direction’ (Kelly, 2020; see also Grey and MacAskill, 2020; Taylor, 2020).

More importantly, its reporting style is consistent with policy analysis advice, to engage in framing to (a) predict the spread of the virus and its impact on population illness and mortality, (b) warn against insufficient intervention, (c) identify clearly-different forms of intervention (‘mitigation’ versus ‘suppression’), and (d) appear to rule some options out (including *no action*, and *complete elimination* of COVID-19) and temporarily downplay others (such as aggressive tracing and testing, geared towards elimination, on the assumption that the numbers and rate of infection are currently too high in relation to capacity to intervene):

1. Its ‘unmitigated epidemic scenario’ describes ‘the (unlikely) absence of any control measures or spontaneous changes in individual behaviour’, and predicts 510,000 deaths in the UK in 2020 (2020a: 7).
2. Its ‘mitigation strategy scenarios’ highlight the relative effects of partly-voluntary measures on mortality and demand for ‘critical care beds’ in hospitals: voluntary ‘case isolation in the home’ (people with symptoms stay at home for 7 days), ‘voluntary home quarantine’ (all members of the household stay at home for 14 days if one member has symptoms), government enforced ‘social distancing of those over 70’ or ‘social distancing of entire population’ (*while still going to work, school or University*), and closure of most schools and universities. It omits ‘stopping mass gatherings’ because ‘the contact-time at such events is relatively small compared to the time spent at home, in schools or workplaces and in other community locations such as bars and restaurants’ (2020a: 8). Assuming 70-75% compliance, it describes the combination of ‘case isolation, home quarantine and social distancing of those aged over 70’ as the most

impactful, but predicts that ‘mitigation is unlikely to be a viable option without overwhelming healthcare systems’ (2020a: 8-10). These measures would only ‘reduce peak critical care demand by two-thirds and halve the number of deaths’ (to approximately 250,000).

3. Its ‘suppression strategy scenarios’ describe what it would take to reduce the rate of transmission of infection (R) from the estimated 2.0-2.6 to 1 or below (in other words, the game-changing point at which one person would infect no more than one other person) and reduce ‘critical care requirements’ to manageable levels. It predicts that a combination of four options - ‘case isolation’, ‘social distancing of the entire population’ (the measure with the largest impact), ‘household quarantine’ and ‘school and university closure’ - would reduce critical care demand from its peak ‘approximately 3 weeks after the interventions are introduced’, and contribute to a range of 5,600-48,000 deaths over two years (depending on the current R and the ‘trigger’ for action in relation to the number of occupied critical care beds) (2020a: 13-14).

In that context, it argues that ‘epidemic suppression is the only viable strategy at the current time’ (2020a: 16). Although modelled over 5-months, the assumption is that – to avoid a ‘rebound in transmission’ (and another peak of infection) - such measures ‘will need to be maintained’ (perhaps two-thirds of the time, based on levels of hospital capacity use) ‘until large stocks of vaccine are available to immunise the population – which could be 18 months or more’ (2020a: 15).

However, the COVID-19 Response Team (2020a) does not offer the equivalent of a cost-benefit-analysis to help manage the trade-offs associated with a long period of suppression (see Stage 3 below). Nor does it describe how suppression measures would work in practice in the UK. Rather, it suggests that:

‘The social and economic effects of the measures which are needed to achieve this policy goal will be profound ... [and it is] not at all certain that suppression will succeed long term; no public health intervention with such disruptive effects on society has been previously attempted for such a long duration of time. How populations and societies will respond remains unclear’ (2020a: 16).

Policy process research: define what is possible

Policy process research prompts us to incorporate, in problem definition, a policymaker’s willingness and ability to understand and solve a policy problem. Put simply, policymakers (a) do not know exactly what is happening or what will be the impact of their actions, and (b) are unsure about how to try to regulate social behaviour under those circumstances, especially when (c) any action or inaction will benefit some and punish others. For example, the amount of force necessary to change social behaviour radically would be too much for a government to consider in a liberal democracy, particularly if policymakers are still unsure about the likely impact over time (e.g. over 3, 6, or 18 months). If so, the UK government’s definition of the policy problem will incorporate this implicit question: what can we do if (a) we can influence, but not determine (or predict well) how people will behave, and (b) we can manage but not eliminate the spread of disease? Early examples include:

- A government cannot make people wash their hands frequently and well. Rather, it combines exhortation with some behavioural science-inspired tips (such as to sing a 20-second song while washing).
- In the absence of full suppression, it could restrict gatherings in some venues without being able to stop people gathering somewhere else with a potentially worse impact: banning attendance at a sporting event, prompting people to congregate in pubs; or, closing a school, prompting children to visit vulnerable older relatives (if workplaces remain open).
- In the absence of an immediate and indefinite suppression strategy, it needs to find a way to (a) get people prepared for, and (b) select the right time to initiate, manage, and relax, tight suppression measures (e.g. see Moots, 2020 on avoiding the repeat of a ‘phony war’, in which there is a spike in ‘spike in GP attendances and health-seeking behaviour’ weeks before a peak of infection).
- General uncertainty about (a) how to prepare people for suppression measures (such as by stocking up on supplies, and preparing to work at home – Moots, 2020) without causing panic, and (b) how much compliance to expect.

Newspaper accounts of deliberations in January and February suggest that a shift from communication and exhortation to direct regulation of behaviour did not seem feasible to ministers (Calvert et al, 2020a) or many scientific advisors (see Grey and MacAskill, 2020, Wickham, 2020, and Taylor, 2020 on scientists assuming that too few people in the UK would accept or follow months-long restrictions). UK government only accepted *in mid-March* the need to act quickly on predictions about the limited impact of mitigation on mortality and the likelihood of an overwhelmed National Health Service. The COVID-19 Response Team 16th March report (2020a: 16) describes conclusions ‘reached in the last few days’ based on the experience in Italy (about the high proportion of those infected needing hospital or critical care) and information from the NHS on ‘the limits to hospital surge capacity’. Grey and MacAskill’s interviews (2020) suggest that the ‘scientific committees that advised Johnson didn’t study, until mid-March’ the kinds of quarantine measures associated initially with the response in China, and made more politically feasible by ‘a lockdown in Italy that “opened up the policy space”’. Freedman’s (2020a; 2020b) analysis of SAGE minutes and government records suggests that scientific advisors did not emphasise to ministers (at least officially) the urgent need for suppression measures until mid-March, by which point many other countries had acted more quickly. Indeed, before the lockdown announced on March 23rd, there is no mention in SAGE minutes or meeting papers that it is likely (Cairney, 2020e).

In that context, early ministerial and scientific adviser messages seemed to involve some trial-and-error messaging in relation to two key beliefs about the policy problem. First, *we can influence social behaviour somewhat by communicating effectively*. For example, SAGE minutes and meeting papers describe the:

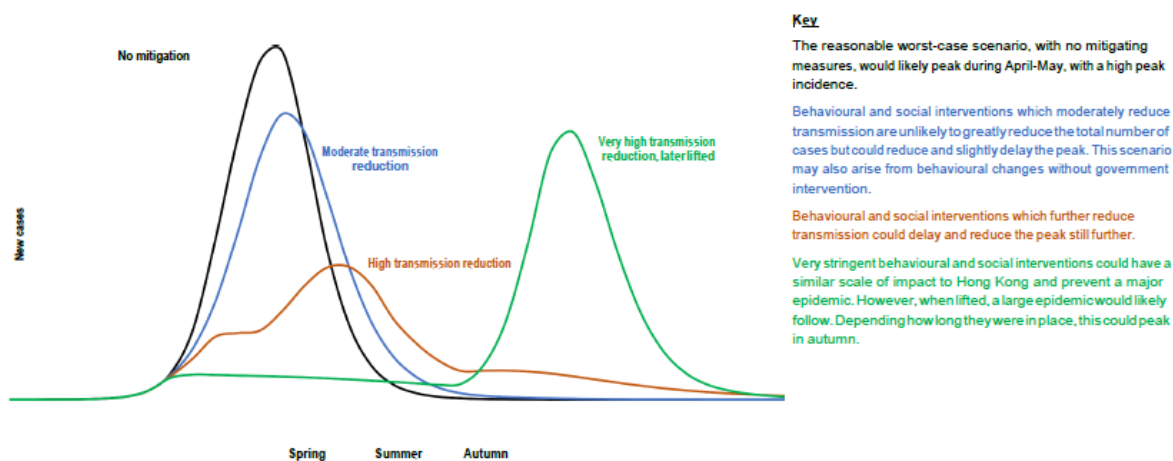
- Expectation of public scepticism and inaction until the first COVID-19 deaths in the UK are confirmed.
- Impetus to motivate people by relating behavioural change to their lives, stressing ‘personal responsibility and responsibility to others’, and clarity on which measures are effective (SAGE minutes, meeting 7, 13.2.20: 2-3 in Cairney, 2020e: 4; see also West et al, 2020), and

- Advice of SPI-B (the subgroup on behaviour that fed into SAGE advice) on the need for effective and continuous communication with citizens, emphasizing transparency, honesty, clarity, and respect, to maintain high trust in government and promote a sense of community action ('we are all in this together') (Meeting paper 25.2.20 in in Cairney, 2020e: 5).

Second, although complete elimination is highly unlikely in the short term, *we can influence the distribution of the epidemic to avoid overwhelming health services and repeated waves of infection*. For example, SAGE minutes and meeting papers stress continuously the need to (a) introduce isolation and social distancing measures to reduce the rate of transmission, but also (b) avoid excessive suppressive measures on the first peak that would contribute to a second peak, including:

- 'Any combination of [non-pharmaceutical] measures *would slow but not halt an epidemic*', 25.2.20: 1).
- 'Mitigations can be *expected to change the shape of the epidemic curve or the timing of a first or second peak, but are not likely to reduce the overall number of total infections*'. Therefore, identify whose priorities matter (such as NHS England) on the assumption that, 'The optimal shape of the epidemic curve will differ according to sectoral or organisational priorities' (27.2.20: 2).
- 'A combination of these measures [school closures, household isolation, social distancing] is expected to have a greater impact: *implementing a subset of measures would be ideal. Whilst this would have a more moderate impact it would be much less likely to result in a second wave*. In comparison combining stringent social distancing measures, school closures and quarantining cases, as a long-term policy, may have a similar impact to that seen in Hong Kong or Singapore, but this could result in a large second epidemic wave once the measures were lifted' (Meeting paper 4.3.20a: 3).
- '*SAGE was unanimous that measures seeking to completely suppress spread of Covid-19 will cause a second peak*. SAGE advises that it is a near certainty that countries such as China, where heavy suppression is underway, will experience a second peak once measures are relaxed' (also: 'It was noted that Singapore had had an effective "contain phase" but that now new cases had appeared) (13.3.20: 2)
- Its visual of each possible peak of infection emphasises the risk of a second peak (Meeting paper 4.3.20: 2).

Illustrative impact of behavioural and social interventions lasting several months on a reasonable worst-case epidemic (Figure 1)



Please note: The scale and timings of the epidemic curves in this diagram are illustrative only, but their patterns are robust.

SAGE secretariat, valid as of 1430 on 04 March 2020

- ‘The objective is to avoid critical cases exceeding NHS intensive care and other respiratory support bed capacity’ ... SAGE ‘advice on interventions should be based on what the NHS needs’ (16.3.20: 1)
- The fewer cases that happen as a result of the policies enacted, the larger subsequent waves are expected to be when policies are lifted (SPI-M-O Meeting paper 25.3.20: 1)
- ‘There is a danger that lifting measures too early could cause a second wave of exponential epidemic growth – requiring measures to be re-imposed’ (2.4.20: 1) [see Cairney, 2020e; *emphasis added* to each quotation]

Critical policy analysis: identify who is important

Critical accounts encourage us to challenge the dominant ways to frame issues which benefit the powerful and discriminate against the relatively powerless (see Bacchi, 2009 and Stone, 2012; compare with Schneider and Ingram, 1997; Crow and Jones, 2018). In the case of COVID-19, these frames can relate to who receives disproportionately positive/ negative and high/low attention. The lack of specific attention to some people is sometimes understandable, since governments need to present a simple, uniform message when trying to influence mass behaviour via communication (‘stay home, protect the NHS, save lives’). For example, its mid-May message ‘stay alert’ suffered in comparison to the original ‘stay home’ (BBC News, 2020b), because it is ambiguous and difficult to relate simply to many different audiences. Further, the government’s more nuanced mid-March messages about the timing and relative impact of specific interventions had been overshadowed disastrously by more simplistic debates, such as when their description of the *inevitability* of herd immunity (since an epidemic was inevitable) was mislabelled as a *strategy* to foster herd immunity by not intervening (Hancock, 2020; Full Fact, 2020a; Vallance, 2020).

However, low levels of policymaker attention have major distributional consequences (Jones and Baumgartner, 2005), such as when:

- some early rhetoric about coronavirus being a ‘great leveller’, presumably to foster the sense that ‘we are all in this together’, seemed to suggest (wrongly) that all populations are equally vulnerable, and reduce attention to a range of inequalities that require policy responses (BBC Newsnight, 2020b; Aiken, 2020).
- initially low (then high) attention to personal protective equipment (PPE) caused major problems for NHS staff (British Medical Association, 2020)
- the delay in advice for vulnerable people caused high uncertainty and anxiety about shielding (Talbot, 2020)
- disproportionately high attention to some victims (such as doctors and nurses) takes attention from others (such as care workers, cleaners, and drivers).

In general terms, we can link attention and framing to studies of health equity which treat health as a human right and oppose the unfair distribution of health inequalities (see the Helsinki Statement on Health in All Policies, 2013). The WHO (2020) defines the ‘social determinants of health’ as ‘the unfair and avoidable differences in health status ... shaped by the distribution of money, power and resources [and] the conditions in which people are born, grow, live, work and age’. Whitehead and Dahlgren (2006: 4) argue that ‘all systematic differences in health between different socioeconomic groups within a country’ are unfair and avoidable, since ‘there is no biological reason for their existence’ and ‘systematic differences in lifestyles between socioeconomic groups are to a large extent shaped by structural factors’. A country’s socio-economic and political context underpins variations in education, occupation, and income in relation to class, gender, and ethnicity, which influence people’s ‘living and working conditions’, mental health, and behaviour, which contribute to their health (Solar and Urwin, 2010: 6).

A focus on social determinants challenges a tendency to relate health inequalities primarily to ‘lifestyles’ and individual choices, in relation to healthy eating, exercise, and the avoidance of smoking and alcohol. Rather, the most profound impacts on population health come from (a) environments largely outside of an individual’s control (e.g. in relation to threats from others, such as pollution or violence), (b) levels of education and employment, and (c) economic inequality, influencing access to warm and safe housing, high quality water and nutrition, choices on transport, and access to safe and healthy environments (Bhala et al, 2020; Briggs and Rutter, 2020; Hill et al, 2020; Barker, 2020; Goodair et al, 2020; Healthier Societies for Healthy Populations Group, 2020; Kelly-Irving, 2020; Salisbury, 2020; Resolution Foundation, 2020; Office for National Statistics, 2020f). In that context, the epidemic highlights provides stark examples of inequalities in relation to:

Income and wealth. Some people are able to: buy 2-3 weeks’ worth of food and medical supplies, own homes and private spaces to self-isolate, access open places to exercise away from others, and to work comfortably from home. Many people have insufficient access to food and medical supplies (and more limited access to food banks), no private space and few places to go outside, and either juggle caring and work responsibilities at home or face stark choices between minimising risk versus travelling to work to maintain low paid jobs.

Gender. The lockdown and school closures exacerbate inequalities, in which women and girls are relatively vulnerable to domestic abuse (Home Affairs Select Committee, 2020; Moreira,

2020), and the distribution of caring responsibilities is skewed towards women (Close the Gap, 2020; Fazackerley, 2020). Access to abortion services is more difficult, particularly for women in Northern Ireland who would otherwise travel to England (McDonald, 2020). Women in prostitution or sex work are vulnerable to illness and assault (BBC News, 2020c).

Race and ethnicity. East Asian (and particularly Chinese) populations are often scapegoated for the spread of coronavirus (Meinhof, 2020) and Black, Asian, and Minority Ethnic (BAME) populations were more likely to be fined for lockdown offences (ITV News, 2020b), which takes attention from the relative vulnerability BAME populations to COVID-19's effects. Early reports suggested that BAME populations are less able to isolate (Atchison et al, 2020) more vulnerable to COVID-19 related death, particularly among NHS staff (Siddique, 2020; Platt and Warwick, 2020; Kirkby, 2020; Bailey and West, 2020; Georghiou and Appleby, 2020; Keval, 2020). The UK government announced a review of NHS deaths on 16th April (and the Equality and Human Rights Commission announced a wider review on structural racism in June - Topping, 2020), while Taiwo Owatemi MP reported BAME NHS staff facing high levels of discrimination and low levels of senior representation, which contribute to a greater likelihood of working at the frontline (14.5.20: q99 in Cairney, 2020h). In June, SAGE described 'an increased risk from Covid-19 to BAME groups, which should be urgently investigated through social science research and biomedical research, and mitigated by policy makers' (4.6.20: 1-3, in Cairney, 2020e: 38), and Public Health England (2020) published preliminary findings in June, including:

'people of Bangladeshi ethnicity had around twice the risk of death when compared to people of White British ethnicity. People of Chinese, Indian, Pakistani, Other Asian, Caribbean and Other Black ethnicity had between 10 and 50% higher risk of death when compared to White British. Death rates from COVID-19 were higher for Black and Asian ethnic groups when compared to White ethnic groups' (2020: 4; see also Independent SAGE, 2020c; and, Bhopal, 2020; Karlsen, 2020 on intentional delays to the publication of all relevant advice to the UK government)

Age. Older people are more vulnerable to COVID-19 related death and the long-term heart and lung conditions now associated with COVID-19 (particularly within care homes), more affected by limited access to emergency and non-emergency hospital care, and many people living with dementia in care homes are 'deteriorating' because they are isolated from their close family (Abrahams, 2020; Banks et al, 2020; Office for National Statistics, 2020a; Berg, 2020).

Disability. Disability Rights UK (2020) produced an open letter to NHS England expressing concern that people with 'existing health conditions or impairments' and 'significant levels of social care and support needs' should be involved (and not be discriminated against) in 'decisions about our own lives, including life and death decisions'. Tidball et al (2020) describe the unusually high vulnerability to COVID-19 illness and death among people with disabilities.

Mental health. 'Mental ill health is a major cause *and* indicator of health inequality' (Cairney and St Denny, 2020: 156), since social determinants contribute to inequalities of mental illness, and 'people with mental illness die on average fifteen to twenty years earlier than those without' (Chief Medical Officer, 2014: 12, 217). The potentially long periods of isolation and loneliness, associated with 'social distancing', can exacerbate mental health problems and contribute to physical problems (Miller, 2020), during a period in which access to child and adult mental health services is severely diminished (Cairney, 2020i).

These inequalities intersect with each other in many ways, such as when:

- Corburn et al's (2014: 627-8) US study (of 'health in all policies') highlights the impact of 'structural racism' on a series of contributors to ill health, including the relative vulnerability of BAME populations to violence, pollution, eviction from housing, discrimination in public service treatment, imprisonment, and discrimination in relation to existing work and opportunities for high paying work. Consequently, for example, BAME populations are often more likely to be in housing not conducive to self-isolation, use public transport, perform work that cannot be done at home, and perform key worker jobs without sufficient protection (Keval, 2020; Georghiou and Appleby, 2020; Younge, 2020). Further, their political marginalisation fosters the perception that a successful challenge to these practices and outcomes is unlikely, and would require a level of support that is usually not forthcoming (Schneider and Ingram, 1997; Bhopal, 2018: 1; see also Step 2 on attention to Black Lives Matter).
- Men account for 2/3 of COVID-19 deaths, with rates of mortality particularly high in relatively low-paid jobs (including security and social care, Office for National Statistics, 2020b). Of the 17 occupations with higher death rates in men, 11 have relatively high 'proportions of workers from Black and Asian ethnic backgrounds' (2020b).
- Women are more likely to combine work and caring responsibilities, fulfil many of the key worker roles that make people more vulnerable to infection (such as supermarket and cleaning work, nursing and social care) and are less able to find suitable PPE, while 'financial dependence and poverty' exacerbate their vulnerability to domestic violence (Close the Gap, 2020).
- The economic crisis associated with the coronavirus lockdown exacerbates poverty which contributes quickly to problems such as housing precarity and long-term problems with mental and physical health (see Chief Medical Officer Chris Whitty (rev.com, 2020a) and Banks et al, 2020). BAME populations and migrant workers are more likely to have 'no recourse to public funds' and therefore face low wages, unsafe working conditions, and no ability to isolate safely at home (Clark et al, 2020). Disabled BAME women are relatively unable to seek support successfully (Women's Budget Group, 2020).

So, what exactly is the policy problem?

These three perspectives help us develop a more detailed picture of the UK Government's problem definition by mid-March 2020:

1. We are responding to an epidemic that cannot be eradicated. Herd immunity is only possible if there is a vaccine or enough people are infected and recover.
2. We need to use a suppression strategy to reduce infection enough to avoid overwhelming health service capacity, and shield the people most vulnerable to major illness or death caused by COVID-19, to minimize deaths during at least one peak of infection.
3. We need to maintain suppression for a period of time that is difficult to predict, subject to compliance levels that are difficult to predict and monitor.
4. We need to avoid panicking the public in the lead up to suppression (Moots, 2020), avoid too-draconian enforcement (Johnson 2020b described *the measures of the 16th*

March as ‘very draconian’), and maintain wide public trust in the government (Duffy and Allington, 2020; Cairney and Wellstead, 2020).

5. We need to avoid (a) excessive *and* (b) insufficient suppression measures, either of which could contribute to a second wave of the epidemic of the same magnitude as the first (Freedman, 2020a; see Vallance, 2020: ‘if you suppress something very, very hard, when you release those measures it bounces back and it bounces back at the wrong time’).
6. We need to transition from suppression measures without allowing a major rise in R (the ‘exit strategy’), to ‘keep the economy growing’ (2020b), find safe ways for people to return to work and education, and reinstate the full use of NHS capacity for non-COVID-19 illness. In the absence of a vaccine, this strategy will likely involve social distancing and (voluntary) track-and-trace measures to isolate people with COVID-19.
7. Any action *or inaction* has a profoundly unequal impact on social groups.

In other words, it is almost impossible to sum up the problem concisely (‘this is a public health emergency’) *and* reflect the government’s ability so solve it or address it equitably. Further, note that the long definition definition is still *incomplete* and *contradictory*, reflecting:

- *future uncertainty*, which undermines clarity about a viable ‘exit strategy’
- *contradictory aims*, to regulate behaviour for public health *and* avoid regulating behaviour for economic and ideological reasons (producing the trade-offs explored further at Stage 3).

Under most circumstances, we would expect policymakers to resolve this ambiguity by exercising power to set the agenda and make choices that close off debate. Their attention rises, they act, and their attention moves on to something else. With the coronavirus, policymaker, media, and public attention to many different aspects of the problem has been lurching remarkably quickly. The definition of the policy problem often seems to be changing daily or hourly, and more quickly than the physical problem, such as when personal stories of death or despair highlight social inequality or a major problem with government action. If the policy problem keeps changing in these ways, how could a government solve it?

Step 2. Identify feasible solutions and their impact on existing policy and marginalized populations

Policy ‘solutions’ are often better described as ‘tools’ or ‘instruments’, largely because (a) it is rare to expect them to solve a problem, and (b) governments combine many instruments to make policy (Cairney, 2020a: 20-22). They can be categorised broadly in relation to key functions, such as regulatory, distributive, or redistributive (Lowi, 1964), or *nodality* (communication/ information sharing), *authority* (regulation), *treasure* (funding), and *organization* (e.g. staffing and capacity to deliver) (Hood and Margetts, 2007). These categories help us provide a narrative of:

- Economic models, including choices on public expenditure, tax, economic incentives, and reflecting more general choices about the balance between the state and market.
- Models of public service provision, including free or charged, provided directly or indirectly, and well- or under-funded.
- Ways to try to influence individual and social behaviour, including the use of formal regulations and legal sanctions, versus spending, public education, exhortation,

voluntary agreements, and/ or behavioural public policies to ‘nudge’ behaviour (on the latter, see John, 2011; Pykett et al, 2017).

They also help us gauge commitment to policy change, from a minimalist focus on information sharing and exhortation, to a maximalist focus on the redistribution of income and wealth, provision of state services, and direct regulation of behaviour. In that context, we can identify two phases of UK government intervention, from:

1. a focus on exhortation to modify behaviour, coupled with the desire to maintain existing ways of social and economic life, to
2. direct regulation and imposition, coupled with an unprecedented collection of measures to address the social and economic consequences.

By late March 2020, the UK government broke the boundaries of what used to seem politically feasible in the UK. By all measures – size, speed, direction, and substance (Giordano and Cairney, 2019) – the coronavirus has prompted profound policy change in the UK.

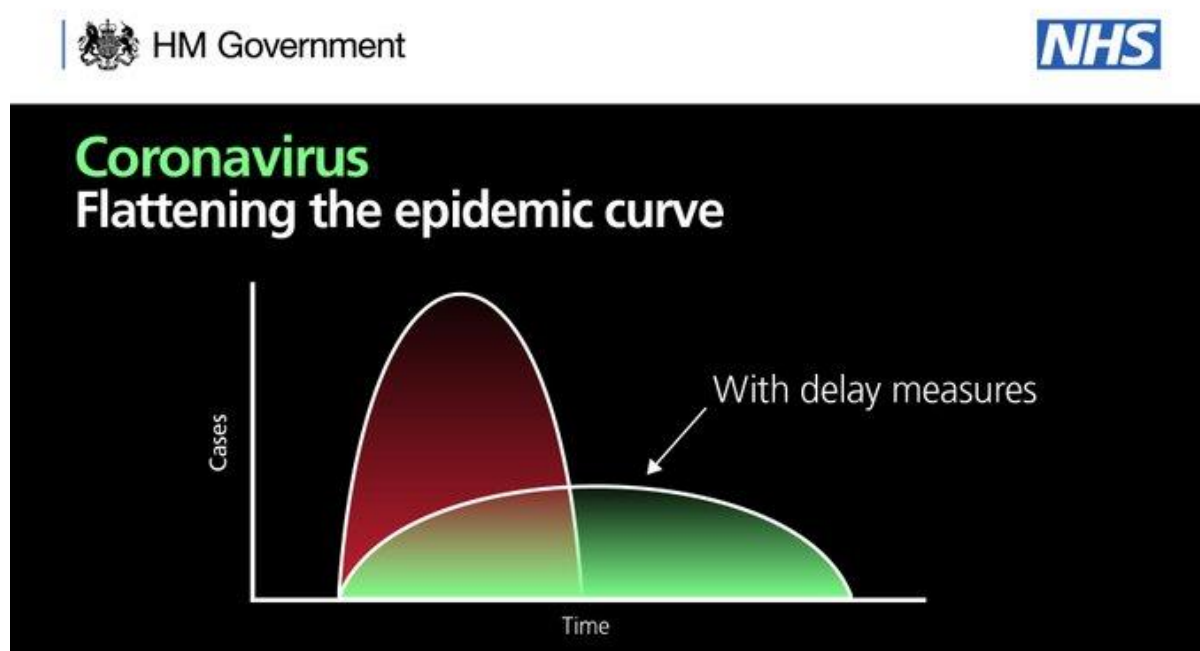
Policy analysis: identify technically and politically feasible solutions

Contemporary policy analysis advice emphasises the need to identify only the solutions that your audience or client might consider (to avoid wasting analytical time on politically infeasible solutions), explain solutions in sufficient detail to predict their costs and benefits compared to current policy, and predict their effects, perhaps by considering the effect of comparable policies elsewhere (Cairney 2020b). This advice is not particularly useful to *help solve* a novel policy problem, but it helps us track rapid policy change during a period in which the political feasibility of choices changed dramatically, there was little time to examine their costs and benefits, and their comparability to previous UK (or current international) policies was unknown.

Normally, the rub is that there is a gap between technical and political feasibility: popular solutions may not work as intended if implemented, and the things that we think will be most likely to work would often receive the least support or most opposition (Lowi, 1964). For example, redistributing income and wealth to reduce socio-economic inequalities seems to be less politically feasible than distributing public services to deal with the consequences of health inequalities. Or, providing information and exhortation seems more feasible than the direct regulation of behaviour (at least in a liberal democracy). Governments use these distinctions as heuristics to help them make modest policy changes while remaining sufficiently popular (partly by looking competent – Green and Jennings, 2017), or contributing to the sense of incremental change towards an ambitious goal.

This insight helps explain the initial UK government approach, based on the putative benefits of exhortation coupled with the gradual introduction of more ambitious measures. Initially, they focused on ramping up measures gradually to ensure that the greatest action took place at the right time in relation to the peak of infection. It began with exhortation, emphasising effective handwashing, to stay a safe distance from other people, and to stay at home if experiencing COVID-19 symptoms (for example, @10DowningStreet, 2020, in which the UK Prime Minister interviewed Deputy Chief Medical Officer, Dr Jenny Harries on handwashing and self-isolation on the 11th March). Such actions would contribute to ‘flattening the epidemic curve’ during ‘the Delay phase of our #COVID_19uk Action Plan’ (Figure 1).

Figure 1: exemplar of UK Government initial messaging



Source: @DHSCgovuk (2020)

On the 13th March, the UK Government's Chief Scientific Advisor, Sir Patrick Vallance, described voluntary self-isolation measures as 'a big change ... with the biggest impact at the moment', then signalled the future need for whole household isolation, and emphasised that more stringent measures (such as to protect older and more vulnerable people) would 'go on for weeks' to coincide with the peak of infection. Forthcoming measures such as schools closures would have to last for months to be effective, and halting mass gatherings would have a relatively small impact (and possible unintended consequences) during this period (in other words, in the absence of a major suppression strategy) (BBC News 2020a; see also Vallance, 2020, and note the ongoing criticism of not postponing the Cheltenham festival). On the 16th March, the Prime Minister announced the need for: (1) all members of the household to stay at home for 14 days if one member has symptoms, (2) 'people to start working from home where they possibly can', and 'avoid pubs, clubs, theatres and other such social venues', (3) 'those with the most serious health conditions' to be 'largely shielded from social contact for around 12 weeks', and (4) the removal of emergency service support for large social gatherings (Johnson, 2020b).

Further, SAGE ruled out many solutions as technically infeasible and/ or with low practical impact. For example, it advised against the routine screening of people flying into the UK from regions with high infection rates, since most would not show symptoms on arrival and an effective policy would require an almost-complete ban on travel or a universally precautionary quarantine period of two weeks to deal with likely infection from multiple countries (SAGE meetings 1-4, 22.1.20-4.2.20 in Cairney 2020e: 1-2; FT Reporters, 2020; a more limited version of this policy was not introduced by the UK government until June)

The shift from exhortation and encouragement to regulation and economic support

The Prime Minister’s speech on the 23rd March symbolises a major shift in policy (although the language to describe it – e.g. from mitigation to suppression – is not clear). Johnson (2020a) combines:

1. *A statement on allowable behaviour.* ‘People will only be allowed to leave their home for the following very limited purposes: shopping for basic necessities, as infrequently as possible; one form of exercise a day - for example a run, walk, or cycle - alone or with members of your household; any medical need, to provide care or to help a vulnerable person; and travelling to and from work, but only where this is absolutely necessary and cannot be done from home’.
2. *A signal of enforcement.* ‘If you don’t follow the rules the police will have the powers to enforce them’.

The UK government initially related such action to the general public good or relatively vulnerable people, before stressing the impact of COVID-19 on NHS capacity and staffing, using one short phrase for simple communication - ‘Stay Home, Protect the NHS, Save Lives’ (see Hope and Dixon, 2020) – and a longer banner on all UK government online communication: ‘Stay at home. Only go outside for food, health reasons or work (but only if you cannot work from home). If you go out, stay 2 metres (6ft) away from other people at all times. Wash your hands as soon as you get home. Do not meet others, even friends or family’. It also introduced an unprecedented amount of measures to support radical policy change.

Table 3: Examples of UK policy changes, by category of policy instrument

Policy instrument	Coronavirus policies
Regulations and legal sanctions	Obliging people to stay at home, prohibiting social gathering, and closing most indoor public places (backed by police powers to disperse crowds and close premises, but focusing on warnings then small fines)
Formal regulations versus voluntary agreements	A shift from encouraging to making indoor businesses (such as pubs) close
Public expenditure and borrowing	Unprecedented employment ‘furlough’ schemes, plus increases in social security and business support
Tax expenditure	The deferral of VAT payments by business and self-assessed income tax, and continuation of tax credits without further assessment
Linking benefit entitlement to behaviour	To stop the assessments (on fitness to work, and proof of job-seeking), and job centre appointments that determine eligibility to social security payments, and suspend attempts to recover benefits
Public services provision	Major additional spending on public services such as the NHS, coupled with emergency measures to boost recruitment. The closure of childcare, school, and further and higher education (or shift to online provision)
Public education or advertising	To publicise messages on hand-washing and social distancing
Behavioural public policy	Initially to encourage behaviour, such as handwashing. Subsequently, to support the introduction then relaxation of regulations to impose social distancing

Organisational change, and additional resources to help change behaviour	The establishment (from June) of a new Test and Trace system (contact tracing and isolation, manually and via a proposed new app), and the Joint Biosecurity Centre (JBC) to coordinate data, respond to local outbreaks (clusters/ super-spreaders), and develop Alert Levels. Both measures are described as supporting the easing of lockdown measures, when the R in the community is low, and the focus is on local outbreaks.
Funding scientific research and commissioning reviews	£250m announced to fund vaccine research PHE research on the disproportionate impact of COVID-19 on BAME populations, followed by a wider government review of racism in public policy.

Note: this table does not capture all policy changes.

Table 3 summarises key examples of the new measures, focusing on UK Government action for England (public health) and the UK (economic policy). A clear and concise summary of UK policy is difficult, partly because there is scope for policy divergence between the UK and devolved governments in Northern Ireland, Scotland, and Wales. The UK Government is primarily responsible for economic policy, and legislates for the UK in some cases, and England, Wales and Northern Ireland in others. The Scottish Parliament legislates for criminal law (implemented by Police Scotland). The devolved governments each have responsibility for public services such as healthcare and education (see Birrell, 2012; Cairney and St Denny, 2020). They are also each responsible for their own communications policies, including press conferences and public health messaging. This potential for divergence (a) makes the initially-similar UK and devolved government response seem particularly significant, but (b) raises problems of coordination and communication as they release lockdown measures in different ways (Sheldon and Kenny, 2020; Paun et al, 2020).

First, the most radical temporary policy change relates to legislation, and associated measures such as statutory instruments, to regulate social behaviour to an extent that seems unprecedented outside of wartime. They were passed by Westminster as the *Coronavirus Act 2020* (25.3.20) and supported by (for example) *The Health Protection (Coronavirus, Restrictions) (England) Regulations 2020* and by the Scottish Parliament as the *Coronavirus (Scotland) Act 2020*². Every entry in the following list (coupled with the speed of passage, via emergency procedures, and supplemented by further regulations not subject to routine scrutiny) would qualify as a major policy change in its own right, including to:

1. Regulate social and business behaviour
 - Oblige people to stay at home in the absence of a reasonable excuse or exceptions (primarily to work if you cannot work at home, pick up essential food or medicine, access essential public services, and/ or exercise outdoors).
 - Prohibit almost all gatherings of more than two people (unless in the same household).
 - Oblige the closure of many businesses - including bars, cinemas, theatres, bingo and concert halls, fitness centres, and museums – and reserve the right to close schools and childcare services (schools had closed on the 20.3.20).
 - Enable police powers to enforce the measures through checks on public behaviour, and fines (or arrests) for non-compliance.

² The full relevant list can be found in a [legislation.gov.uk search](http://www.legislation.gov.uk/search) <http://www.legislation.gov.uk/primary+secondary?title=coronavirus>

- Boost resources for security at borders.
- 2. Boost public service recruitment by changing the rules to recruit and register large numbers of NHS and social work staff (see also Department of Health and Social Care, 2020a).
- 3. Reduce the safeguards on detaining someone with reference to their mental health or capacity (see also RK, 2020).
- 4. Modify rules on medical negligence, discharge, the registration of deaths, the disposal of bodies, inquests, and who can provide vaccinations to patients.
- 5. Modify rules on judicial commission appointments, the retention of fingerprint and DNA data, online court proceedings, postpone the completion of community service (as an alternative to imprisonment), and provide more scope for early prison release.
- 6. Give the UK government powers to compel private companies to provide information on the food supply.
- 7. Postpone national and local elections.
- 8. Protect people from eviction, and businesses from lease forfeiture (see also Ministry of Housing, Communities & Local Government, 2020).

Second, the most radical long-term change relates to the scale of the boost to public spending and borrowing. Initially, the Office for Budget Responsibility (OBR, 2020a, 14 May) presented a scenario (to reflect high uncertainty) to estimate spending at £123 billion. It revised its estimate to £132.6 (OBR, 2020b, 19 June). It includes spending on public services, charities, and local authority schemes (£17.3bn), additional social security payments (£8bn), a ‘coronavirus job retention scheme’ in which the government pays 80% of the salary of ‘furloughed’ staff in the public and private sector (net £54bn) for 8 months, the equivalent scheme for the self-employed (£15bn), tax reliefs, grants, and loans to businesses (£33bn), and deferred Value Added Tax and self-assessed income tax (£3.1bn). These changes grew as the size of the economic problem appeared to grow (e.g. the furlough scheme began as a 4-month commitment), and sometimes in relation to public pressure (for example, after a successful campaign by Marcus Rashford for the government to extend free school meal provision over the summer break). The next aim is to transition from direct support to employment support via economic stimulus (HM Treasury and Sunak, 2020), fuelled by fears that a too-long lockdown would cause a ‘jobs bloodbath’ (Shipman, 2020).

These changes were supported by the ability to borrow over the long term at very low interest rates. The UK ‘government gross debt was ‘£1,891.8 billion at the end of 2019, equivalent to 85.4% of gross domestic product (Office for National Statistics, 2020c) and it rose to 100% by June. Emmerson and Stockton (2020) describe the size of the initial £123bn package as ‘unprecedented’ (albeit proportionately smaller than in Japan, the US, Canada, and Germany), and the likely level of government borrowing in 2020 as ‘the largest share of national income in peacetime’.

Policy process research: identify the impact of new instruments on the policy mix

What we call ‘policy’ is really a complex mix of instruments adopted by one or more governments. As such, it is difficult to define or identify exactly what ‘coronavirus policy’ is because:

- Each new instrument adds to a pile of existing measures (with often-unpredictable consequences)

- Many instruments designed for individual sectors tend, in practice, to intersect in ways that we cannot always anticipate
- A commitment to policy change does not ensure its delivery, and its implementation does not ensure its intended outcome.
- Most policy is processed out of the public spotlight, and often made as it is delivered
- There are always unintended consequences to policy (Cairney, 2020a; Page, 2018).

Viewed through this lens, rapid policy change on paper lacks meaning without evidence of its impact on policy outcomes (and governments often build this limitation into problem definition and planning).

First, new legislation on social regulation and distancing relates imperfectly to (a) outputs such as police capacity to encourage compliance and (b) outcomes such as infection rates. Throughout this temporary period, the amount of time that the UK government is willing and able to maintain its regulations effectively is uncertain, and there is no reliable knowledge of levels of compliance to regulations (coupled with often highly visible non-compliance in public). For example, SAGE minutes and meeting papers describe:

1. Their inability to measure the impact (on R) of each measure, because their data is limited (necessitating R estimates with a wide confidence interval) and many lockdown measures were introduced at the same time (see e.g. meeting 25 14.4.20 in Cairney, 2020d: 50 and note that SAGE focuses on R in three settings: hospital, social care, community).
2. Their inability to estimate the impact (on R) of relaxing each measure (such as reopening non-essential shops, bars and restaurants), or the relative impact of different relaxations (such as to open primary and not secondary schools, or have in-school classes on alternate weeks) (e.g. meeting 31 1.5.20 in Cairney, 2020d: 57).
3. Specific problems – regarding trust in government, and managing ‘us v them’ grievances - in relation to the transition from national lockdown to location-specific measures during local outbreaks (e.g. meeting 28 minutes/papers 23.4.20 in Cairney, 2020d: 53-4).
4. A profound lack of knowledge on virus transmission in ‘forgotten institutional settings’ and behaviour among vulnerable ‘hard to reach groups’, which can undermine attempts to eliminate local outbreaks and exacerbate transmission among NHS and social care staff (e.g. meeting 39 minutes/papers 28.5.20 in Cairney, 2020d: 67-8).
5. Continuous uncertainty about the value of ‘the general public wearing facemasks as a preventative measure’ (4.2.20: 3), which could have small positive effect in ‘enclosed environments with poor ventilation, and around vulnerable people’ (14.4.20: 2) in enclosed spaces where social distancing is not possible’ (partly because people can be infectious with no symptoms), as long as people know that it is no substitute for social distancing and handwashing (21.4.20 in Cairney, 2020d: 49-52; compare with Greenhalgh, 2020; Royal Society, 2020; Perski et al, 2020). This uncertainty initially informed fairly weak UK government advice on their public use, followed by the legal obligation for users of public transport and visitors to hospitals to use them (15.6.20), and an extension to shop visitors (24.7.20), coupled with the exhortation ‘if you can, you should also wear a face covering in other enclosed public spaces where social distancing isn’t possible’ (Cabinet Office, 2020; [The Health Protection \(Coronavirus, Wearing of Face Coverings on Public Transport\) \(England\) Regulations 2020](#)).

Second, while the economic package is large, its impact is unclear. Indeed, the OBR's (2020b) revised scenario planning highlights the government's uncertainty about who would need to use its schemes. For example, the 'job retention scheme' cost a lot less than expected, 'reflecting the apparent concentration of furloughing among part-time and lower-paid jobs' in a way not anticipated by ministers, who were making policy too quickly to estimate accurately what would happen (compare with the announcement of £250m of funding for vaccine research, Department for International Development and Foreign & Commonwealth Office, 2020). Most importantly, the scheme was a stopgap, initially without a clear 'exit strategy' (Portes and Wilson, 2020).

There are similar examples of action-without-known-consequences in other sectors. Home Office (2020a) action on domestic violence includes advice that the 'stay at home' message does not apply to domestic violence victims, and on ways to seek help, combined with some additional funding for relevant services, but it has limited information on the size of the problem and even less control over outcomes. The Home Office (and other organisations) also failed to enforce powers to close down companies defying lockdown or otherwise undermining public safety and modern slavery laws (compare Home Office, 2020b with Wheeler et al, 2020). Further, driven by events and the consequences of its major choices, the UK Government made a large number of additional important choices at the same time, suggesting that attention to many of their impacts may be disproportionately low. For example, it introduced temporary measures to allow the abortion of a foetus under 10 weeks (using Mifepristone and Misoprostol coupled with a video medical appointment). This change extends to Northern Ireland to address (without knowing the impact) a previous compromise in which many women would travel to England for treatment (Department of Health and Social Care, 2020c; Romanis et al, 2020; @bpas1968, 2020; House of Commons Library, 2020a).

Third, the limitations to, and unintended consequences of, UK government policy have contributed to a high number of excess deaths, particularly in health and social care settings. The major limitations are connected strongly, regarding (a) limited capacity to test people for infection and (b) protect them from infection in high-vulnerability areas such as hospitals and care homes.

The inadequate stockpile and supply of personal protective equipment (PPE), for NHS and other staff, is a constant feature of oral evidence sessions of the Health and Social Care committee (see Cairney, 2020j), and worryingly-high levels of nosocomial infection is a regular feature of SAGE meetings (Cairney, 2020e). Oral evidence sessions exposed a gulf in feedback to the committee: representatives of government bodies emphasised adequate supplies and related problems to PPE misuse or temporary distributional issues, while representatives of NHS and care home managers or workers describe a PPE shortage crisis in which NHS staff had to use inadequately protective (or ill-designed or ill-fitting) PPE and care homes had to source their own. This disconnect prompts several MPs to describe PPE as a policy 'fiasco' (caused initially by poor long-term planning for a pandemic, despite multiple calls in the past to treat a possible pandemic as an urgent priority), note its impact on already decreasing trust in government, and suggest that this problem led the government to produce poor PPE guidance to match its inadequate supply. When responding to the committee in April, the UK Health Secretary Matt Hancock described PPE supply (and NHS and testing capacity) as a key element of his 'battle plan'. Subsequently, the Treasury announced in July that it would

set aside £15bn for PPE, reinforcing concerns that it was not securing a consistent supply of high quality and value-for-money equipment (Roberts, 2020; Proctor, 2020).

Inadequate testing capacity (and the need to prioritise its use) is also a routine feature of oral evidence sessions and SAGE meetings, with both suggesting that (a) the initial policy response could have been very different: more data would have informed more accurate modelling, and more diagnostic capacity outside of hospital settings would have aided early containment and contact tracing (although SAGE also notes that contact tracing is not feasible during high transmission, Vize, 2020 describes historically-low local public health capacity (compare with Local Government Association, 2020), and Brye et al, 2020 describe limited NHS ‘resilience’), and (b) testing is indispensable to an ‘exit strategy’ based on testing, contact tracing, and isolating infected people (Cairney, 2020k; 2020e; Taylor, 2020). The UK government then responded to unfavourable comparisons with high-testing countries such as Germany by setting a target on coronavirus testing: to go from 2-7000 tests per day in March to 100,000 tests per day by the end of April (including existing antigen testing for viral infection, and the future development of antibody testing to detect recovery). It met the target via antigen testing and *definitional fiat*, without producing a clear link between: (a) meeting the target and (b) producing an intended public health outcome, such as by using the data to identify and respond effectively to local outbreaks (Full Fact, 2020b; Sky News, 2020b; note that a viable antibody test was not announced until 14th May, Department of Health and Social Care, 2020b). As such, the high profile target’s primary aim may have been to reassure or distract the public (see Boswell, 2018), rather than form part of a clear strategy to exit lockdown (Davies, 2020).

In the meantime, the lack of testing (and PPE) capacity combined with a key policy decision to contribute to a crisis of deaths in care homes (Giles, 2020). A high priority for NHS England was to maximise hospital capacity in the run up to a peak of infection. It pursued an initial target of 15000 discharges from hospital beds, primarily to care homes, without routine testing or quarantine measures, and redeployed medical and nursing care from care homes. Oral evidence suggests that this experience compares unfavourably with Germany, where patients were not discharged to care homes unless they could quarantine, and South Korea, where people were taken from care homes to be quarantined (Cairney, 2020k). The National Audit Office (2020) reports 25000 discharges with testing limited only to people with symptoms (17 March to 15 April), and a 30000 testing cap in care homes at the end of April, which helped prioritise NHS capacity and staff but produce profound unintended consequences in care homes. The Office for National Statistics (2020a) survey of 9,081 care homes in England estimates that: they house 293,301 and employ 441,240 people; *so far*, there is at least one confirmed COVID-19 test in 56% of homes; and, of the 56%, 20% of residents and 7% of staff tested positive (with the former caused partly by the use of agency nurses/ carers working in multiple homes, and inconsistent agency rules on sick pay). Although it is difficult to find consistent records of deaths, each measure (by the ONS, from Care Quality Commission data) identifies a high amount of COVID-19 deaths in care homes, and that care home resident deaths account for a high proportion of the overall total. One provisional study reports 17,478 COVID-19-related deaths (in a care home or hospital) of all care home residents in England (27% of relevant deaths recorded 2 March to 12 June - Office for National Statistics, 2020d); another records 12,327 deaths *in* care homes in England (up to 3rd July), or a quarter of the 47,705 overall deaths in England during the same period (Office for National Statistics, 2020e).

Overall, it seems impossible to propose policy changes based on a well-informed prediction of their effect. Rather, policymakers seek ways to anticipate or react to consequences, such as to rule policy options out as unrealistic (such as more extreme measures on social distancing), foster some future ‘resilience’ (for example, by stockpiling supplies that may never be used), or address unintended consequences (such as in care homes).

Critical policy analysis: use inclusive ways to generate solutions

Policy requires a combination of evidence and values, to determine whose knowledge is valuable and who should benefit most from government action and inaction. If public policy is what governments ‘choose to do or not to do’ (Dye, 1972), then our definition of coronavirus policy is necessarily subjective because it is *evaluative*, such as in relation to (a) what we think a government *should* have done in relation to the size of the problem and its unequal impact (e.g. acted more quickly and with more intervention), and (b) our views on the adequacy of the existing policies on which governments build (e.g. regarding pandemic preparedness and NHS capacity, or the level of social security being boosted).

Yet, during crises such as pandemics, policymakers argue relatively strongly (and misleadingly) that they are primarily engaged in ‘evidence-based policymaking’, to assure the public that the government is in control of the facts and the situation (Cairney, 2016; Weible et al, 2020; Smith and Cairney, 2020a; 2020b). As such, phrases such as ‘following the science’ are not only misleading (Stevens, A, 2020) but also *exclusionary*. They describe being guided internally by information from bodies such as SAGE rather than wider sources of policy relevant knowledge. They symbolise a style of policymaking designed to be *centralised* (to project ministerial control) and *insulated* (to limit participation to a small number of experts). This approach undermines most attempts to foster the ‘co-production’ of policy solutions: centralisation excludes the participation of a wider group of stakeholders and citizens, and treating policy as a technocratic problem for scientific experts rules out knowledge generated by other means (Durose et al, 2017; Cairney, 2020c; Cairney and Oliver, 2017).

As a result, *many changes to policy in practice are only visible when people or organisations raise concerns*, either after key choices are already made or when politically embarrassing anomalies arise. Therefore, the following examples of the unequal distribution of policy outcomes are unrepresentative since they did receive further attention:

- *Reinforcing economic inequalities.* Alves and Sial (2020) note that the UK budget package largely reinforces economic inequalities, in which the main spending is to support businesses via direct support and wage schemes rather than households (and some businesses more than others), while maintaining ‘unequal distribution’ and failing to protect the most vulnerable (see also Hunter and Nixon, 1999 on the unequal treatment of ‘Landlords, Lenders, Borrowers and Tenants’).
- *Reinforcing inequalities relating to disability.* Disability Rights UK and Liberty (2020) criticised the loss of rights, among many local authority areas in England, to the forms of care that are ostensibly guaranteed in the Care Act and were provided before 2020.
- *Reinforcing inequalities in relation to migration status.* The UK government responded to pressure on the unequal impact of new and existing policies, including: NHS workers without UK citizenship paying for visas and to access health services (waived temporarily - ITV News, 2020a; Department of Health and Social Care & Home Office, 2020; Busby, 2020); and, the routine condition of ‘no recourse to public funds’ for

people granted indefinite leave to remain the UK but without UK citizenship. The latter appeared to surprise Boris Johnson during his evidence session with the Liaison Committee on 27th May, while the Home Office News Team (5th May 2020) describes the measure as generally in the ‘public interest’, with exceptions available during the crisis. So far, exceptional circumstances do not include access to public funds to escape domestic abuse (Southall Black Sisters, 2020; Step-Up Migrant Women Coalition, 2020).

- *The impact of public service discretion on racialised outcomes.* In May, Akpan (@paulaakpan, 2020) described concern about the impact on BAME GCSE and A-Level students when teacher discretion replaces exams to set final grades. In July, the House of Commons Education Committee (2020) highlighted similar evidence from multiple sources (including exams regulator Ofqual), including the Runnymede Trust which described a vulnerability to under-estimated grades among ‘higher attaining working-class students—but also particular ethnic minority students and specifically black Caribbean boys, as well as Gypsy Roma and Irish Traveller students’.
- *The alienation of many target populations* (Schneider and Ingram, 1997). Issues include the spread of disease among prisons and low levels of early release (House of Commons Library, 2020b), uncertainty about asylum detention and the movement of asylum seekers to hotels (Refugee Council, 2020; Goodwin, 2020), and the limited provision of controlled drugs and other support to treat addictions (Advisory Council on the Misuse of Drugs, 2020; Hamilton, 2020). Further, ‘forgotten institutional settings’ are more likely to be receive attention in relation to local outbreaks of disease transmission (e.g. meeting 39 minutes/papers 28.5.20 in Cairney, 2020d: 67-8) than wider debates on health equity.

In that context, it is significant that unusually high attention by UK policymakers to race and health inequalities relates primarily to high profile international protests led by the Black Lives Matter movement (BBC News, 2020d), rather than routine inclusion in relation to UK Government processes and public sector practices (for example, see Stevens, S. 2020 on NHS England action and Chakelian, 2020 on UK ministerial inaction).

Steps 3 and 4. Identify your values, predict the outcome of feasible solutions, and confront their trade-offs

Steps 3 (identifying values) and 4 (predicting outcomes) are worth considering together, partly because the tasks both contribute to the comparison of solutions, and because there are so few publications describing how the UK government is, or should be, comparing solutions and possible outcomes systematically.

Step 3 introduces the need to make choices between policy aims and identify criteria to compare solutions. Governments have multiple and contradictory aims, such as to regulate behaviour to save lives, but avoid regulation to foster individual freedom. They may also seek policies that benefit all or most people, but accept that their benefits are never shared equally. One way to confront these trade-offs is to express them in relation to a prioritisation of some *values* over others, including efficiency, equity, individual freedom, security, democracy, and human dignity. This process informs Step 4, to predict, compare, and evaluate the outcomes of the most technically and politically feasible solutions.

Throughout, Weimer and Vining (2017: 25-6) suggest that we treat values as ‘self-evident’ goals that exist alongside the ‘instrumental goals’ necessary to generate support for policy solutions (such as ‘sustainable public finance or political feasibility’). Yet, clearly, the assignment of meaning and priority to values is necessarily political: any value-based policy choice will benefit some and not others, and the process to set priorities includes some and excludes others. As such, political actors cooperate or compete to assign meaning to values, and use those values to support policies with unequal effects. Prospective evaluation should never be seen as a technical or objective process. Rather, for example, gender or race focused analyses help highlight the unequal impact of outcomes on marginalised groups.

Regardless, coronavirus policy accentuates a routine finding in policy studies: policy is a collection of instruments whose independent effects are difficult to disentangle, and the addition of a new instrument or modification of existing policy can have a disproportionate effect. We may seek to compare and evaluate outcomes, but accept our remarkably limited ability to do so.

Policy analysis: use values and political goals to predict and compare the outcome of each feasible solution

Some aspects of assessment seem, at first, to be technical. For example, the aim of ‘comprehensiveness’ describes how many people, and how much of their behaviour, you can influence while minimizing the ‘burden’ on people, businesses, or government (Meltzer and Schwartz, 2019: 113-4). However, prospective evaluation is primarily the political choice between normative criteria such as:

1. *Effectiveness*. The size of a policy’s intended impact on the problem (2019: 117).
2. *Equity (fairness)*. The impact in terms of ‘vertical equity’ (e.g. the better off should pay more), ‘horizontal equity’ (e.g. couples should not pay more tax if unmarried), ‘intergenerational’ equity (e.g. don’t impose higher costs on future populations), or in relation to fair process and fair outcomes (2019: 118-19).
3. *Feasibility (administrative, technical)*. The likelihood of this policy being adopted and implemented well (2019: 119-21).
4. *Cost (or financial feasibility)*. Who would bear the cost, and their willingness and ability to pay (2019: 122).
5. *Efficiency*. To maximise the benefit while minimizing costs (2019: 122-3). Governments can promote ‘efficient’ policies by (a) producing the largest number of winners and (b) compensating losers (Mintrom, 2012: 51-2). Or, they define efficiency in relation to (a) the number of outputs per input and/or (b) a measurable or predictable gain in outcomes, such as ‘quality-adjusted life years’ in a population (Weimer and Vining, 2017: 25-6).
6. *Sustainability*, such as in relation to natural resources and climate change (Mintrom, 2012: 52-7; Ostrom, 2011: 16).
7. The protection of human rights, human dignity, or ‘human flourishing’ (Mintrom, 2012: 52-7).

These values inform step 4, to ‘Assess the outcomes of the policy options in light of the criteria and weigh trade-offs between the advantages and disadvantages of the options’ (Meltzer and Schwarz, 2019: 21). Policy analysis texts describe a relatively simple procedure of identifying criteria and producing a table for your client (with a solution in each row, and criteria in each

column) to compare the trade-offs between each solution. They recommend describing potential solutions in sufficient detail to predict the costs and benefits of each, while recognising that resource constraints and short deadlines will prompt you to ‘be guided by logic and theory, rather than systematic empirical evidence’ (Weimar and Vining, 2017: 25-7), focusing on the outcomes that policymakers care about (Bardach and Patashnik, 2020), relating costs and benefits to specific populations (Mintrom, 2012: 21), and/ or monitoring the impact of chosen solutions because unintended consequences are inevitable (Dunn, 2017: 250). In doing so, some methods – such as cost benefit analysis (CBA) – seem to dominate policy analysis. CBA is used to identify the most efficient solutions by translating their costs and predicted benefits into a single measure, on the assumption that we can compare the experiences of individuals in this way, and that the winners from policy can compensate the losers (Weimer and Vining, 2017: 352-5, 398-434). Or, limited faith in CBA can prompt the use of cost effectiveness analysis without the need to translate outcomes into one measure (Meltzer and Schwartz, 2019: 181-3).

Policy process research: identify how actors cooperate or compete to define and rank values, and anticipate the disproportionate effect of your solution

This process might be manageable if only one policy analyst and client were involved and we could predict the future. However, modern policy processes are characterised by many analysts, inside and outside government, competing with other actors to interpret facts and predictions, find an audience, and give advice to many different clients (Radin, 2019: 2; Brans et al, 2017). If our client were a single UK government minister, they would be responsible for a small proportion of coronavirus policies. If our client were the UK government, the scope of policy advice would be overwhelming. In any case, our analysis would be one of a large number of documents to consider.

In such a crowded and competitive process, values and goals are ambiguous and contested: ‘behind every policy issue lurks a contest over conflicting, though equally plausible, conceptions of the same abstract goal or value’ (Stone, 2012: 14). Actors exercise power to resolve these debates in their own favour, such as by constructing stories to engage the emotions of their audience, encouraging people to take certain social situations for granted even though they produce unequal outcomes, while enjoying unequal access to resources to gather and disseminate evidence (2012: 311-30).

Examples of competing interpretations of valence issues include definitions of: *equity*, based on competing notions of merit and the balance between individual, communal, and state-based interventions (2012: 39-62), *efficiency*, based on who determines the main goal, and who decides if public spending is a sunk cost or social investment (2012: 63-84), *need*, according to measures of poverty or inequality and debates on the effect of social security on individual motivation (2012: 85-106), *liberty*, defined as *freedom from coercion* versus *freedom from the harm caused by others*, prompting debates on individual versus state responsibilities, and decisions on whose behavioural change to prioritise to reduce harm to particular populations (2012: 107-28), and *security*, according to our limited ability to measure risk scientifically, perceptions of threat versus experiences of harm, debates on how much risk-to-safety to tolerate before state intervention, and the effect of surveillance and regulation on perceptions of democracy (2012: 129-53).

The connection between these abstract debates on values (step 3) and concrete predictions of outcomes (step 4) is not strong, largely because it is difficult to separate the consideration of one new instrument from the existing policy mix. The overall effect of a mix of individual policy changes is ‘non-linear’, difficult to predict, and subject to emergent rather than cumulative outcomes (Spyridaki and Flamos, 2014; Munro and Cairney, 2020). In other words, complex policymaking systems dampen or amplify the impact of policy, suggesting that an additional intervention can have a disproportionate impact on policy outcomes, from minimal to maximal, and outside of the control of governments.

Critical policy analysis: co-produce the rules to produce and evaluate solutions, and identify the impact on marginalised groups

In critical accounts, a common theme is to encourage forms of co-production, to produce the knowledge to inform policy and inform debates on competing meanings and values (step 3), and therefore to challenge the dominant accounts of problems and solutions (steps 1 and 2) that undermine already marginalized communities (Bacchi, 2009; Doucet, 2019; Smith, 2012). Further, the uncertainty caused by policy complexity accentuates this need for collaborative action. A highly technical model of evidence-based and predictive analysis is not possible or desirable. Therefore, public and stakeholder involvement seems particularly crucial, to foster deliberation and the types of ‘ownership’ of policy that seem crucial to public support, as well as use wider knowledge to anticipate the consequences of policy (Lowther, 2020; Ham, 2020; lifestsee also True and Davies, 2020 on gender inclusion in policymaking as a whole). In other words, the collaborative process of making policy to address policy ambiguity (what is the problem, and how should we seek to solve it?) is particularly useful when it is so difficult to reduce uncertainty (what will happen?).

Steps 3 and 4 in practice: minimal deliberation, implicit choices

UK policy is marked by the *absence* of widespread deliberation about values and trade-offs (as well as an initial reluctance to share the evidence underpinning choice – Alwan et al, 2020; Forman et al, 2020; Kupferschmidt, 2020). It is a political process that ministers would like to avoid doing publicly because it involves making explicit the ways in which government action or inaction helps some people and punishes others. Yet, ministers are clearly making profound choices between values, to produce unequal outcomes. Further, most trade-offs are multi-faceted and difficult to categorise, to the extent that even the framing of the trade-offs is a political act to emphasise some groups over others.

Pre-lockdown visions of freedom, security, and equity

Initially, the most simple and visible trade-off related to freedom and security in relation to the risk of harm. In other words, (a) freedom from state coercion versus (b) freedom from the largely-unintentional harm caused by others when spreading disease. In comparison with many countries (in particular China, then Italy and Spain), UK Government ministers initially seemed reluctant to enforce state quarantine measures, and they were often supported by scientific advisors (see Vallance, 2020 describing initial measures as ‘actually quite extreme’). For example, the Health Secretary’s phrase ‘We must all do everything in our power to protect lives’ (Hancock, 2020) emphasised individual responsibility even when the government was pivoting towards a lockdown (compare with Sweden’s ‘trust-based’ approach – Paterlini, 2020). Further, many pre-lockdown SAGE meeting papers warned against the loss of benefits caused by certain interventions, including:

- School closures would remove emotional support, education on hygiene, social services such as free school meals, and the leadership from teachers and head teachers (SPI-B meeting paper 4.3.20b: 1-4 in Cairney, 2020e: 9).
- Social isolation and distancing measures would diminish the mental health of vulnerable populations and exacerbate the impact of poverty (meeting 14 10.3.20 in Cairney, 2020e: 9).

Comparing the costs and benefits of lockdown

Initially there were two notable attempts to prompt ministers to approach these comparisons systematically (see also Stewart, 2020 on wealth versus wellbeing; Gulland, 2020 on ‘no health, no economy’; Harkness, 2020 on state versus individual calculations of risk; Walsh, 2020 on weighing up risks and benefits). First, Paul Johnson (2020a; 2020b) highlights the unequal impact of lockdown and support measures. Giving priority to the lives of coronavirus patients contributes to the deaths of others, in the short term when people avoid hospital for other conditions (affecting older and poorer people disproportionately), and in the longer term when the lockdown exacerbates deaths and chronic health problems associated with ‘poverty, unemployment and mental health problems’ (2020a; 2020b). The latter are as important but less visible, akin to the deaths from air pollution that are less salient than deaths in road accidents (2020a; see also ‘SAGE noted that evidence suggests a prolonged/ deep recession would have significant health impacts’, meeting 25, 14.4.20 in Cairney, 2020d: 19). The lockdown also highlights ‘distributional choices’ since the marked effect on people facing gaps in education is starker in state than private schools, while the recent loss in employment is more likely among the under-25s and the lowest-earning workers (2020a; 2020b). Further, economic policies provide unequal incentives, in which the employment furlough scheme prompt more women than men to stop work to look after children (2020b).

Second, Layard et al (2020: 1) attempt to translate the impact of policy on COVID-19 and other deaths, and ‘incomes, unemployment, mental health, public confidence and many other factors’ into a single metric called the ‘the number of Wellbeing-Years resulting from each date of ending the lockdown’. The WELLBY is akin to the QALY (quality-adjusted life year) measure used frequently in health CBAs, but focused on the idea of ‘individuals’ satisfaction with their lives’ (2020: 3). They use the argument that ‘average wellbeing in the UK is approximately 7.5 measured on a scale of 0-10’ to describe ‘the loss of one year’s life as 7.5 WELLBYS lost’ (2020: 3; in other words, a WELLBY is not equivalent to 0.75 of a good year of life). They then describe a ‘time to release the lockdown’ (while maintaining social distancing and isolating vulnerable people) when the ‘net benefits of doing so become positive’. This calculation is based on comparing positive and negative effects, when the lockdown release: ‘increases people’s incomes’, ‘reduces unemployment’, ‘improves mental health, suicide, domestic violence, addiction, and loneliness’, ‘maintains confidence in the government’, and ‘restores schooling’; but also ‘increases the final number of deaths’ from COVID-19 and the illnesses not treated by an overstretched NHS, and ‘increases road deaths, commuting, CO2 emissions, and air pollution’ (2020:2). Based on their assumptions, a lockdown release on June 1st would have a net benefit to the entire population of 10,000 WELLBYs, rising to 330,000 in July and 630,000 in August. (2020: 2; contrast with ‘Independent Sage’, 2020a; 2020b; Rae and Friedman, 2020, who prioritises the lockdown and a slower release to minimise deaths; for more on WELLBY, see O’Donnell et al, 2014; Cookson et al, 2016).

Although providing only ‘rough valuations’, to prompt the UK government into performing and debating a more sophisticated analysis (2020: 8), this report serves a wider analytical function by highlighting three big challenges to cost-benefit analysis under uncertainty (see Cairney, 2020b). First, in terms of step 3, Layard et al (2020) do not identify their values, relate them to the unequal distribution of positive and negative effects among the UK population, or attempt to oblige the winners from policy change to compensate the losers. Rather, they present the correct date of the lockdown release as an overall win for the UK.

Second, they highlight a tendency for people to avoid the necessity of putting a price on a life, and therefore avoid confronting the trade-offs regarding whose lives to save, and the relative efficiency of different measures. They suggest that:

- NHS organisations such as NICE *value a year of life at £25,000* when rationing medicines, and some health scholars advocate £60,000 (in other words, UK health authorities would not routinely spend over £25,000 per year on life-saving medicines). If so, both valuations would have suggested that no lockdown was necessary.
- Their calculations, to recommend lockdown release in June, *value a year of life at £750,000* (2020: 16; compare with Hargreaves Heap et al, 2020 on an overall ‘statistical value of life’ at around £3m).
- The UK government effectively treated life as priceless during the initial phase of the lockdown. Although heart-warming at first, (a) this action reduces the ability of governments to assign a value-to-life consistently across public policy, while (b) the assignment of such a value-of-life during a period of heightened public, media, and policymaker attention reduce the value-of-life calculation in less visible areas.

In other words, in terms of step 4, Layard et al’s (2020) analysis makes explicit the heroic assumptions and problematic calculations that CBAs tend to require in the absence of future certainty, and highlights the otherwise implicit and rough judgements on how to make trade-offs between the lives of some people and wellbeing of others.

Third, one key assumption underpinning Layard et al’s (2020: 18) initial calculations proved to be wrong: the release of lockdown did not ‘maintain confidence in the government’, and the non-resignation of Boris Johnson’s special adviser Dominic Cummings showed that the lockdown itself was not a strong predictor of levels of confidence/ trust in government. Initial compliance with the lockdown related primarily to the perceived threat of COVID-19 (Devine et al, 2020) and ‘social norms’ (Jackson et al, 2020), and high support for government policy seemed partly dependent on the sense of ‘social solidarity’ symbolised by a universal lockdown, which is difficult to generate during a gradual release with more visible unequal impacts generating a greater sense of muddle and favouritism (Skleparis, 2020; Gill, 2020). In addition, the Prime Minister’s support for Cummings seemed to undermine all SPI-B advice to government on maintaining trust in policy and policymakers (@ReicherStephen, 2020 thread; Boseley, 2020, although its impact on social behaviour may be to give some people a reason to break the rules, and others strengthen their resolve to follow them - Jackson et al, 2020). The overall result is a reduction in trust in government during the release of lockdown, exacerbated by the Cummings affair. On the 26th May, Savanta ComRes (2020) described the ‘government’s approval rating ... at -2%, dropping 16 points in just one day, while the Prime Minister’s own approval is now also below zero (-1%), having dropped 20 points since the end of last week’, The Policy Institute (2020) suggests that ‘the public were losing faith in the UK

government's response to coronavirus, even before the Prime Minister's adviser Dominic Cummings was widely reported to have travelled to Durham during the lockdown'.

Step 5. Recommend policy, taking into account what is possible, and who should be involved

Policy analysis texts emphasise key practical elements to recommendations: keep them simple and concise, tailor them to the beliefs of your audience, make a preliminary recommendation to inform an iterative process with clients (Meltzer and Schwartz, 2019: 212), and 'Unless your client asks you not to do so, you should explicitly recommend one policy' (Weimer and Vining, 2017: 28). Policy process research suggests that you take into account the inability of governments being able to predict, far less control or deliver, the outcomes associated with each proposed instrument. Critical accounts emphasise the need to extend co-production and inclusive policymaking to the recommendations process, to anticipate and respect the reaction of many different social groups or stakeholders to your proposals.

Step 5 as the alleged end of a process

An overall story of steps 1-5 for a single policy solution is as follows. Define the problem with one framing at the expense of the others. Romanticise and support some people (and prioritise their lives) and demonise, coerce, or punish others (knowing that many will suffer or die). Do it despite your lack of expertise and profoundly limited knowledge and information. Learn from experts, but reject the idea that only scientific experts have relevant knowledge. Recommend choices that, if damaging, could take decades to fix. Consider if a policymaker is willing and able to act on your advice, if your proposed action will work as intended, and if a government is willing and able to bear the economic and political costs. Protect your client's popularity and trust in your client. Consider if your advice would change if the problem would seem to change. Further, if you are writing your analysis, keep it to one sheet of paper and think carefully about what should, and should not, become part of the public record.

UK coronavirus policy as a continuous series of trial-and-error recommendations

However, the scope of coronavirus policy is unusually wide, rendering useless the idea of a single recommendation at one point in time. Rather, governments necessarily engage in *trial-and-error policymaking*: to adapt to continuously changing circumstances, information, and attention, which prompts different ways to interpret the policy problem, assess the feasibility of solutions, confront trade-offs, predict outcomes, and make recommendations. This focus on trial-and-error is *generally* necessary but also problematic in relation to a *specific* UK context and in relation to UK government coronavirus policy.

Generally, many relevant policy theories – and complexity theory in particular - recommend some form of adaptive policymaking to recognise a lack of singular central government control and the need to tailor policy to changing circumstances (Cairney et al, 2019). Common descriptions of complex policymaking systems suggest that: consistent or law-like behaviour is difficult to identify, so a policy that was successful in one context may not have the same effect in another; policymakers should not be surprised when their interventions do not have the desired effect; environments change quickly, so organisations must adapt quickly and not rely on a single fixed strategy; to deal with uncertainty and change, encourage trial-and-error projects or pilots that can provide lessons then be adopted or rejected quickly; and, encourage better ways to deal with alleged failure by treating 'errors' as sources of learning (rather than

a means to punish organisations) or setting more realistic parameters for success (Cairney, 2020a: 104-7).

However, they also tend to criticise governments who deal with their lack of control by trying to reassert control. Policymakers in the UK have been too driven by the idea of order: maintaining rigid hierarchies, and producing top-down, centrally driven policy strategies and performance indicators to monitor and control the public sector, which may simply result in policy failure and demoralised policymakers (Geyer, 2012; compare with Bevir and Rhodes, 2003). The alternative is to delegate decision-making to local public sector actors, to rely less on central government targets, in favour of giving people more freedom to learn from their experience (of a tendency for outcomes to ‘emerge’, out of their control) and adapt to their rapidly-changing environment (Geyer, 2012).

It is difficult to imagine the UK Government taking that advice in general, and particularly in relation to coronavirus, because Westminster systems encourage stories of accountability based on central government control (Cairney, 2020c). Rather, it pursues a version of a trial-and-error and adaptive approach that is not envisaged in studies recommending this approach: centralising the adaptive process, while projecting the sense that it is in control and (often) that any modification to policy is part of a consistent approach. Further, many of its critics focus on the actions of a small number of people ostensibly in power at the heart of government, tending to use the language of errors of judgement, incompetence or U-turns. As such, it is difficult to witness a transparent form of policy learning based on tentative policy changes followed by modifications based on new information and perspectives. Rather, ministers project to the public – and commentators criticise - a single, fixed and coherent, grand strategy even if it does not exist.

Discussion and conclusion: don’t confuse hindsight with foresight

Clearly there should be a sustained and intense period of reflection (such as a public inquiry) on the UK government’s coronavirus policies, the processes they used to gather evidence to make policy, and the outcomes of their choices on populations. This exercise will be crucial to informing new policies to anticipate rather than react to global pandemics. It requires us to do the following.

First, hold policymakers to account in a thoughtful and systematic way that does not mislead the public or exacerbate the problem. For example, avoid reflection only with the benefit of hindsight. If we want governments to learn from such experiences, we need to understand them through their eyes as they happened, and in relation to the resources they had at their disposal at the time.

Second, recognise that ‘policy learning’ is an inherently political exercise that can undermine research-driven or deliberative forms of generating knowledge (Dunlop, 2017). It is difficult to envisage the UK Government publicising the thinking behind its choices (Step 3) and predictions (Step 4) in a way that would encourage effective public deliberation (rather than a highly technical debate between a small number of academics, or a highly charged debate between political opponents uninterested in each other’s perspectives). People often call for the UK Government to publicise its expert advice and operational logic, but I am not sure how they would separate it from their normative logic, or provide a frank account without unintended consequences for public trust or anxiety. If so, government policy involves (a) to

keep some choices implicit to avoid a lot of debate on trade-offs, and (b) to make general statements about choices when they do not know what their impact will be. A more open discussion may be possible in the longer term, but many of these problems of contestation will remain, encouraging hyperbolic criticism and defensive policymakers.

Third, set realistic expectations, to recognise that policymakers will always have very limited knowledge of policy problems and control over their policymaking environment. They make choices to frame problems narrowly enough to seem solvable, rule out most solutions as not feasible, make value judgements to try help some more than others, try to predict the results, and respond when the results do not match their hopes or expectations.

Finally, recognise that public attention is always limited. Therefore note the trade-offs between the time to analyse (a) the competence and motivations of individual policymakers, or (b) wider and more enduring issues, including the unequal impact of policies on populations already marginalised by policy and society. For example, the immense attention to Dominic Cummings in late-May seemed to focus primarily on the unfairness of him breaking the rules that other people followed, and only secondarily on the unfair distribution of resources that allow some people to socially distance with relative ease.

With these requirements in mind, this paper's approach is to combine insights from policy analysis, policy process research, and critical accounts of marginalisation, to highlight a range of different ways to explain and help evaluate UK coronavirus policy. It helps us supplement the most frequently-expressed question – did the UK government act in the right way, at the right time, based on 'the science'? – with a series of questions on each element of its approach (based on Table 2):

1. Define the problem, what is possible, and who is important

Was the government's overall definition of the problem appropriate? Much analysis of its competence and timing relates to its focus on intervening in late March to protect healthcare capacity during a peak of infection, rather than taking a quicker and more precautionary approach. This judgement of timing relates partly to forecasting errors, but also a series of elements of the policy problem, described by the UK government in terms of: the absence of the possibility of herd immunity via mass vaccination and the necessity of a long term focus on managing the R, the need to identify and shield vulnerable people for relatively long periods, uncertainty about likely levels of sustained compliance to lockdown measures, the need to maintain trust by avoiding excessively draconian measures, the need for an exit strategy to maintain economic and social activity, and the initially low but growing recognition that policy inaction has a disproportionate impact on already marginalised groups.

In that context, we should note that SAGE evidence and advice played an important role in UK ministerial deliberation and action. Further, from their perspective, many elements of its general response should only be judged while reflecting on its long-term consequences, such as what happens when people become infected over the next 1-2 years in the absence of a vaccine. As such, its narrative contrasts heavily with that of 'Independent SAGE', which recommends suppressive measures designed to eliminate rather than manage COVID-19 (2020a; 2020b). Further, this evaluation is of a different order to specific deficiencies in preparation (such as shortages in PPE) and immediate action (such as to discharge people from hospitals to care homes without testing them for COVID-19).

2. Identify feasible solutions and their impact on existing policy and marginalized populations.

Did the government select the right policy mix at the right time? In March 2020, the urgency of the epidemic helped change radically the political feasibility of measures to regulate behaviour and borrow to support workers and businesses. Alongside questions on initial inaction and timing, and the substance of these measures, will come assessment about their intended and unintended consequences and their distributional consequences. Although the UK government introduced unprecedented regulations on social behaviour, it initially relied on effective communication and exhortation, based on voluntarism and an appeal to the social responsibility to protect others (in a liberal democracy). Then, the ‘stay at home’ requirement had a major unequal impact, in relation to the income, employment, and wellbeing of different groups (more or less able to stay at home and go outdoors safely). The economic measures focused strongly on business, and reinforced existing income and wealth inequalities. Initial policy inaction had unequal consequences on social groups, including people with underlying health conditions, BAME populations more susceptible to mortality at work or discrimination by public services, care home residents, disabled people unable to receive services, non-UK citizens obliged to pay more to live and work in the UK while less able to access public funds, and populations (such as prisoners and drug users) that tend to receive minimal public sympathy.

3. Identify key values to underpin choice, noting how they are contested and might be co-produced.
4. Predict the outcome of feasible solutions, and confront their trade-offs, emphasising uncertainty and the unequal impact of outcomes on marginalised groups.

Did the UK government make the right choices on the trade-offs between values, and what impacts could the government have reasonably predicted?

Initially, the most high profile value judgement related to (a) freedom from state coercion to reduce infection, versus freedom from the harm of infection caused by others, followed by (b) choices on the equitable distribution of measures to mitigate the economic and wellbeing consequences of lockdown, interspersed with (c) debates on fairness in relation to who is most willing and able to follow social distancing rules. As Layard et al (2020) argue, there has yet to be much discussion comparing the number of deaths to overall population wellbeing, even though such difficult conversations are necessary to public policy. As such, value-based choices on the unequal valuation of the lives and wellbeing of different social groups remains largely implicit, exacerbating a tendency towards inaction to reduce health and other inequalities.

One explanation for this unresolved focus on values relates to a tendency for the UK government to project centralised and ‘science based’ policymaking as a way to assert an image of authority, control, and competence. The unintended consequence is a lack of systematic public deliberation on the trade-offs between policies, and insufficient attention to knowledge from the wider public sector, stakeholders, and the marginalised groups most vulnerable to policy inaction (perhaps with the exception of high attention to Black Lives Matter in June). The latter will be crucial to future debates on the trade-offs associated with lockdowns (common in ‘Western’ democracies) and the measures to anticipate and address pandemics in the absence of lockdown (associated with countries such as Taiwan).

5. Recommend policy, taking into account what is possible, and who should be involved.

Did the UK government combine good policy with good policymaking? A problem like coronavirus requires trial-and-error policymaking on a scale that seems incomparable to previous experiences. As such, it requires further reflection on how to foster transparent and adaptive policymaking, fostering widespread public ownership for unprecedented policy measures, in a political system characterised by (a) accountability focused on strong central government control and (b) adversarial politics that is not conducive to consensus seeking and cooperation. Many aspects of this problem are out of the control of policymakers (although one - the fallout from the Prime Minister's support for Dominic Cummings - demonstrated the strong relationship between policymaker action and public trust in government).

These additional perspectives and questions show that too-narrow questions – such as was the UK government ‘following the science’? - do not help us understand the longer term development and wider consequences of UK coronavirus policy.

To do list not completed

- Timeline of events and choices, incorporating multiple perspectives
- Twitter bookmarks
- Other Select Committees (including liaison)
- Transcripts of daily press conferences and similar sources
- Systematic comparison of UK and devolved governments
- Get a life outside of work

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