

### 3. Accounting for Consequences and Claims in Policy

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Fully appraising any policy requires us to capture all of its ripple effects and not simply the size of the splash when the pebble of intervention hits the water. It also requires that we weight the value of those effects according to morally relevant characteristics of people, such as their age. In this chapter, I discuss the consequences that should feed into policy appraisal and the claims that different groups may have on resources.

#### 1. Introduction

One of the main aims of government is to reduce misery and suffering by as much as possible, subject to resource constraints. Fully appraising any policy requires us to capture and quantify all its possible short- and long-term ripple effects, and not simply the size of the splash when the pebble of intervention hits the water. Indeed, sometimes the ripple effects might turn out to be much more significant than the initial splash, especially in the longer term.

In their response to the pandemic, policy-makers have prioritised preventing deaths from COVID-19 above everything else. Concerns for lives have trumped concerns for life expectancies, let alone concerns for life experiences, which have

been largely ignored. Policies have focused on the splash with much less regard for the ripple effects. This has resulted in the use of very restrictive mandated non-pharmaceutical interventions (NPIs), or ‘lockdowns’. Regardless of what our individual views on such responses may be, important lessons can be learned in terms of how policy-makers can and should respond to future crises. Indeed, there are lessons that come out of COVID-19 for how to make better policy decisions in calmer times too.

**Figure 3.1** sets out, in a highly stylised and linear way, the ten main steps to effective decision-making. It illustrates how step 3 – the expected splash – has dominated decision-making, whilst steps 4–9 – properly accounting for the ripple effects – have largely been bypassed. But these are crucial steps if governments are to minimise the harms caused by a pandemic, as well as if they are to use their resources wisely at any time. Anyone who understands the reality of living in a society with limited resources will recognise the incongruence of trying to make good policy decisions whilst ignoring the broad aggregated effects that those decisions have across society.

### **Figure 3.1: Ten steps to effective decision-making**

1. Reason for action (e.g., COVID-19)
2. Proposed pebble of intervention (e.g., MNPIs)
3. Expected splash (e.g., change in mortality rate)
4. Gather up ripple effects in each sector (e.g., cancers, loneliness, etc.)
5. Quantify effects in each sector (e.g., expected effects of loneliness)
6. Aggregate across sectors into a single metric (QALYs, WELLBYS)
7. Monetise benefits and disbenefits (note: could skip this stage)
8. Compare to costs (i.e., cost-benefit analysis or cost-effectiveness analysis)
9. Account for distributional concerns (equity weighted CBA or CEA)
10. Decision based on expected effects (compared to counterfactual)

In this chapter, I will focus on steps 6 and 9, and especially distributional concerns, which can sometimes be an afterthought for economists. I will consider the ways in which we might bring together the myriad ripple effects of any policy decision into a single metric. Much as the ripples on a pond can be quantified in a single metric of displaced water, so do we need to construct a single metric for policy purposes that shows the cumulative effects of a pebble of intervention. Given that we all care strongly about how long we and other people live, as well as about the quality of those lives [1], we need measures that can better capture changes in both life expectancy and life experience.

This single metric should also account for distributional concerns. Accounting for who gains and who loses, as well as by how much, will enable us to allocate resources fairly as well as efficiently. Such accounting requires us to consider the legitimacy of the various claims that different groups may have on resources. In the case of COVID-19, the mortality and morbidity risks have been concentrated amongst older people, so we need to address the ethical justification of asking younger people to make enormous sacrifices for people they cannot expect to live as long as.<sup>1</sup>

## **2. A Single Metric**

Any policy designed to counter the threat of a pandemic will affect at least one, if not both, of life expectancy and life experience. Let us start slowly in our journey towards a single metric by focusing on life expectancy. Even if we moved away from lives to life years, it is possible to account for the expected effects on the life expectancies of those affected by COVID-19, plus those who will die sooner due to health services being displaced from

elsewhere to treat COVID-19 patients, or due to patients missing urgent cancer diagnoses and treatment due to sticking to a 'stay at home' message [2]. At the same time, any appraisal of policy should acknowledge that reductions in educational opportunities and in people's mental health also reduce life expectancy [3]. Loneliness is another good example because it is a significant risk factor for all-cause mortality [4].

The next step would be to adjust life-years to take into account their quality, here using quality-adjusted life-years (QALY). QALY values are obtained by asking individuals to make hypothetical trade-offs between length of life and particular quality-of-life-limiting health states, including limitations in areas such as mobility, self-care, ordinary activities, pain and discomfort, and mental health. By trading off life-years for improvements in each of these health states, the value that people attach to a particular state can be located on a scale between zero for death and one for full health [5]. Given the widespread use of QALYs in the UK, it is surprising that they have not featured prominently in appraisals of pandemic response policies either; see Miles et al. (2020) [6] as an exception.

Using QALYs as an established and widely used welfare metric allows us to readily account for lives as well as life experiences in appraising policies. There are two main problems here, though. This first is the hypothetical nature of eliciting values: we know that people are not particularly good at predicting how certain health states will actually impact their quality of life. For example, they may overestimate the duration of the impact that a change in their health may have on their lives, they may underestimate their capacity to adapt, or they may

overly focus on specific details of that change without seeing the broader picture [7].

The second challenge is that QALYs focus only on health-related life experiences. It is true that most health state descriptive systems do include a wide range of dimensions, but they will only capture the effects of loneliness, for example, through its effects on those dimensions, such as a person's usual activities. But being asked to stay at home in a single-person household for several months will directly and indirectly affect wellbeing through its effect on multiple health-related dimensions of wellbeing. The use of QALYs is a huge advance beyond using life-years alone, but it will continue to skew resource allocation decisions towards health-related interventions.

The next and final step, then, is to use people's self-reports of how they are feeling to adjust life-years by their quality. Subjective wellbeing (SWB) measures include people's overall life evaluation or their hedonic experiences on a day-today basis. Unlike QALYs, people are not asked to make hypothetical trade-offs but are surveyed about their wellbeing as they go about their lives. This makes these measures less prone to the bias resulting from the hypothetical nature of QALY-type trade-offs. It also allows us to express changes in wellbeing that occur due to changes in health, economic, and social conditions in a single unit of account [8]. Combining this unit of account with life-years yields a wellbeing adjusted life-year (WELLBY).

There are important yet unresolved issues about how best to capture SWB for the purposes of generating WELLBYs. Any measure must be able to properly account for the duration as well as the intensity of wellbeing. It has therefore been proposed

that we measure wellbeing as the flow of feelings over time [9]. I define this flow as including hedonic (pleasure-related) feelings such as joy, pain, and worry and eudemonic (purpose-related) ones such as worthwhileness, pointlessness, and futility [10]. This distinction matters. For example, working is an activity that is experienced as low in pleasure but relatively high in purpose [11]. How people's SWB is measured will affect conclusions about how societies can be structured and about how individual lives can be organised to maximise it.

Notice the focus is on a person's experiences, rather than on their evaluations of, say, life satisfaction. Evaluations of this sort will be relevant only when we are paying attention to how well, or badly, we think life is going, and even then only in terms of how they feed into our feelings of pleasure or purpose. Evaluations are also heavily influenced by relative comparisons and therefore are shaped by the attentional stimuli to which people are exposed [12]. In this way, much like preferences, evaluative measures of SWB feed into our feelings. Indeed, reports of life satisfaction are arguably closer to a preference-based account of welfare than they are to the mental state account [13]. The extent to which this is a good or a bad thing is beyond the scope of this chapter.

Whatever measure(s) of SWB we use, for the purposes of economic appraisal, it is entirely possible and legitimate to express its benefits in a single, non-monetary metric that can then be compared to its costs, so generating a cost-per benefit unit. Cost-per-QALY estimates, for example, allow us to determine the allocation of resources that would generate the most QALYs for a given budget allocated to healthcare. If all benefits across different sectors could be captured in WELLBYs, then the resources

devoted to the public sector could be distributed in a way that would generate the greatest number of WELLBYs. This would be to use resources as efficiently as possible.

For the purposes of cost-benefit analysis (CBA), benefits need to be expressed in the same monetary units as costs. This will enable us to determine whether a policy intervention was worth it per se – by generating more benefits than costs – in addition to whether it was worth it compared to other interventions. In principle, this will enable us to determine the size of the public sector and how best to allocate resources within it. There are several ways of monetising wellbeing, but each raises several challenges beyond the scope of this chapter. Suffice to say that cost-per-WELLBY for analysis might be where we finally end up.

Wherever we do end up, we must be able to show just how much water is displaced when the pebble of policy intervention is dropped into the water. The consequences of policies introduced now are likely to have tidal waves of effect across many sectors and domains of society for years to come. These must be taken into account in deciding what action to take.

### **3. Distributional Concerns**

At the societal level, citizens and policy-makers care not only about how many life years, QALYs, WELLBYs or whatever are being generated per pound spent but also about how those benefits are distributed across people. Just as we care about national income and about inequalities in income, we care about the size of the wellbeing cake and about how fairly the slices are distributed. The fairness of the distribution will be determined by the

legitimacy of the claims that different individuals or groups can make on resources [14].

### 3.1 Five claims on resources

There are some general statements that most of us would agree with when considering where different groups of people should be placed in the queue for scarce public resources. Other things being equal, those with the greatest claim on resources (those with the most ethically justifiable reasons for being towards the front of the queue) are those who most fully satisfy the five conditions discussed later.<sup>2</sup> In principle, all five could be considered when setting priorities. There is no simple way to resolve any ‘dispute’ between the conditions, and different trade-offs between competing claims will doubtless be deemed acceptable in different circumstances. In determining how to weight each competing claim, public preferences over various trade-offs can help reach conclusions, so I discuss some of this evidence here.<sup>3</sup>

#### *Those who have the most to gain*

This is a claim to resources based on an individual’s ‘capacity to benefit’ as a result of any intervention. The more a person can expect to benefit from intervention, the closer to the front of the queue they should be. If Person A can expect to gain ten years of extra life from an intervention, then their claim is greater than Person B, who can expect to gain only ten months of extra life. Allocating resources only on this basis would mean that resources were being used so as to maximise the bang for the buck. Capacity to benefit is all that matters when we conduct CBA or cost-effectiveness analysis (CEA), for example, and it



would mean generating as many WELLBYs as possible. On a fundamental level, capacity to benefit is a prerequisite for a person to even be in the queue: it would be a waste of resources to ‘treat’ them if there was no expected benefit at all. But it is not all that matters in determining their position in the queue. There are other morally relevant claims too.

*Those who are currently suffering the most*

This is a claim to resources based on ‘severity of condition’ in the absence of intervention. Let us take the two individuals discussed above. If Person B will die shortly without an intervention and Person A will live for another five years regardless, then our priorities might change. There are now good ethical grounds for putting Person B in front of Person A in the queue for resources because their prospects are more immediately severe in the absence of intervention. The ethical grounds for putting Person A in front of Person B on the grounds that they will benefit from treatment more remain, however. Herein lies a classic trade-off between claims based on benefit and those based on severity.

I have conducted various empirical investigations into what the public thinks about how these competing claims should be accounted for and traded off against one another. In a nutshell, they suggest that a person’s capacity to benefit and the severity of their condition both matter in every decision context I have enquired into, from triage decisions to macro resource allocations [15]. Context matters, of course, and it is impossible to provide a consistent value for the exchange rate between them. Suffice to say that the public would want policy-makers to account for what

happens to people both in the presence and in the absence of an intervention when deciding what to do.

*Those who will suffer the most over the lifetime*

Capacity to benefit and severity of condition are both prospective assessments of what the profiles of future wellbeing look like in the presence and absence of intervention. But some people might have a legitimate ethical claim to be further up the queue based on a retrospective assessment of what happened in their past, as well as based on what is expected to happen over their lifetime. Imagine that capacity to benefit and severity of condition are the same for two individuals or groups, but that one has experienced more suffering – or less wellbeing – in the past than the other. We might prioritise them on this basis. Or we may wish to afford higher priority to those who are expected to experience more suffering over their entire lifetime. We might also decide to prioritise those who have had less opportunity for wellbeing, such as when we prefer to give a given benefit to younger over older people.

It is also clear from public preference data that members of the public wish to account for wellbeing over the lifetime [16]. In one of my empirical studies on priorities by age, we controlled for capacity to benefit by asking people to prioritise a fixed five-year gain in life expectancy for people at age 5, 20, 35, and 55. In the study, 70–96 per cent of people had one of the three youngest ages ranked first [17], with ‘having lived less’ life being the main reason for prioritising younger people [18]. This is consistent with the fair innings argument (FIA) – the egalitarian principle

that everyone is entitled to some ‘normal’ span of health (usually expressed by life-years) and that anyone failing to achieve it has been ‘cheated’ [19].

*Those who are suffering because of ‘bad luck’*

How well or how badly our life turns out is determined by factors that lie on a spectrum from being entirely outside of our control (exogenously determined) and entirely within our control (endogenously determined). Although nothing is ever truly chosen, most people would locate illness caused by a genetic cancer to be closer to the exogenous end of the spectrum than illness caused by the ‘choice’ to go mountaineering, for example. As such, someone suffering because of ‘bad luck’ would have a claim to be closer to the front of the queue than someone suffering, at least in part, because of ‘bad choices’ [20].

The cause of any need for an intervention is a hotly contested area of ethical discourse, and public preferences are mixed and malleable. In some of my own work, people became much less ‘harsh’ on bad choices when they had been given opportunity to discuss and reflect upon why some people make very poor decisions, at least insofar as their health is concerned [21]. For what it’s worth, as I understand more about how so much of what we do is outside of our control, I am less convinced about the moral relevance of the causes of the need for resources than I was a couple of decades ago [22]. But if we accept that we have a modicum of agency (which most people do), then truly exogenous ‘bad luck’ will reflect a legitimate claim to be closer to the front of the queue for resources [23].

*Those who have the greatest impact on others*

Imagine that you are responsible for allocating one donor kidney, and you have two people whom it matches equally well. One is a 40-year-old homeless man with no family, and the other is a 40-year-old happily married man with two young children and parents that he supports emotionally and financially. Whom would you choose? Either decision is morally justifiable (including tossing a coin to decide), and your instincts might be to discount the wider benefits that might come from treating one person over the other. (The homeless person might also have experienced ‘bad luck’, which shows how interconnected the various claims can be.) In any case, the important point here is that it is legitimate to choose the married man on the grounds that he has the greatest capacity to benefit other people.

Unsurprisingly, the expected impact on other people is also hotly contested [24]. The utilitarian solution, which is embedded in the principles of CBA, is to treat benefits to other people no differently than benefits that go directly to the recipients of the intervention. Why treat the ripple effects any differently from the splash? Admittedly, not all of us are utilitarian, but there will most likely come a point at which most of us would want to account for spillover effects: imagine our married man was an integral part of a team that was on the verge of a cure for cancer. This somewhat extreme example illustrates how complex ethical decisions can be and how no single principle can be seen to dominate any other in all contexts.

**3.2 Claims in the context of COVID-19**

Based on the foregoing discussion, we would expect policy-makers to account for a person’s capacity to benefit, severity of

condition, and lifetime suffering in their prioritisation decisions. And yet in the case of COVID-19, arguably only severity has been considered. It has been very interesting to me that any attempts to raise concerns about capacity to benefit and lifetime wellbeing have been greeted with moral outrage. Despite the public outrage, this is morally relevant.

This in no way suggests that we simply let people die, but rather that we manage their deaths properly so as to create as much benefit as possible both for the dying person and, crucially, for those left behind. We must do more to accept death, especially in old age, and to minimise the impact death has on family and friends. Some of you might have baulked at the idea of treating a cancer specialist over a homeless person, but the utilitarian arguments for maximising the benefits from an intervention become much more compelling when they are framed around minimising the suffering of all those affected by someone's death.

The impact of a death is unquestionably affected by the age of death. The average life expectancy for an 18-year-old in the UK today is around 81. According to the ONS, around 60% of the deaths from COVID-19 in the UK have been in people who are 81 or older. Substantively, most of those bearing the biggest burden from COVID-19 won't live for as long as those who are dying from it. If people's lifetime prospects are an important measure of human welfare, then we have engaged in one of the biggest redistributions of resources from those who have the least to those who have the most in human history.

It is baffling to me that there has not been more – or any – real discussion of the potential injustice of this. Ever since I worked with Alan Williams at the University of York in the 1990s, I have

supported the FIA. I contend that it is a sentiment shared by most of the public. You could say that we are ageist, and we are. But not all *-isms* are unfair. If we afford a 35-year-old priority over a 70-year-old now, then in 35 years' time, the current 35-year-old will be given less priority as a 70-year-old, so everyone is treated equally over the lifetime. This is assuming that we are all lucky enough to live that long, which about one in five current 35-year-olds won't. When we look at a cohort of older people, we are subject to 'survivorship bias' – we see only the lucky ones who have survived and do not properly consider all those who have been cheated out of a fair innings.

I should again stress here that the FIA I have in mind here does not suggest that older people should simply be allowed to die because they have already achieved a fair innings, but only that they should be afforded less priority for life-saving interventions than those who have not yet lived as long. During the pandemic, younger people have been denied access, for instance, to cancer diagnoses and treatment to prevent the deaths of older people from COVID-19. This represents a gross violation of the FIA. You might say that it is all well and good to have rational principles in calmer times, but that a pandemic represents an immediate threat to life, so all efforts should rightly be directed towards mortality risks (severity of condition). Perhaps, but times of crisis arguably make rational considerations even more important.

Besides, concerns for lifetime wellbeing don't just disappear during a pandemic, to which empirical work I conducted with Amanda Henwood and Aki Tsuchiya attests [25]. We conducted an online discrete choice experiment (DCE) to elicit the

preferences of the UK public on two occasions: May 2020 ( $n = 6,153$ ) and February 2021 ( $n = 1,024$ ). The DCE asked people to make trade-offs across four attributes, including excess deaths above age 70 and excess deaths below age 35. We found that the relative value of mortality above 70 to below 35 is roughly 1:24. These preferences were stable across the two surveys and across respondents of different ages.

A more sophisticated version of the FIA would account for life experience as well as life expectancy. It is impossible to know what ripple effects COVID-19 would have caused if we had pursued a different set of policy options (step 10 in **Figure 3.1** above), such as the focussed protection of older people [26], so we must all be measured in our judgements of what should have been done. But we do know that lockdowns have disproportionately affected families of low income [27], that domestic violence has increased for those at risk [28, 29], that school closures will further widen the attainment gap [30], and that social distancing causes greater harm to those with pre-existing mental health conditions [31], lower starting wellbeing [32], younger people [33], women [34], and children from disadvantaged backgrounds [35]. Some of these effects on mental health may not be easily restored [36].

#### **4. Conclusion**

This chapter is not only, or even primarily, about COVID-19. The 10 steps to effective decision-making set out in **Figure 3.1** are always required for policy-makers. The process of going through each step, especially steps 4 and 5, ensures that the important downstream effects of policy are properly accounted for. These consequences might affect a population group that is largely

ignored (such as young adults who do not go to university), a dimension of wellbeing that falls between the cracks of government departments (such as loneliness), or that will occur some time into the future (such as the effects of childhood development on later life). We should be doing all we can to ensure that equity-weighted wellbeing measures are developed as quickly as possible and used as widely as possible.

The significance of these steps has been magnified during the pandemic. Around the world, the dominant response to COVID-19 was to seek to significantly reduce social contacts through MNPIs, or 'lockdowns'. This pebble of intervention – perhaps the biggest stone that ever has been dropped into the water – has been assessed almost entirely in terms of its effects on the splash of mortality risks (step 3 in **Figure 3.1**). Most of the significant ripple effects have barely been listed (step 4) let alone quantified (step 5). We must do better in the future. In this chapter, I have focused partly on generating a single index (step 6) and mostly on distributional concerns (step 9), which will come after the single index has been monetised (step 7) and compared to costs (step 8).

All policy responses, especially lockdowns, have had enormous distributional consequences [37]. Based on evidence from previous and less impactful pandemics, we can be confident that inequalities in health and wealth will widen [38]. We also need to be alert to the fact that what feeds into the wellbeing of the worst off may be different to that which matters on average, or to those who are doing the best in society. The policy responses to the pandemic have reminded us just how much policy can shape the distribution of wellbeing across society.



Whatever our own views on the measures taken – and the absence of a good counterfactual (step 10) makes it impossible for any of us to be sure about what should have done [39] – we need more public preference data on how people weigh up competing claims to resources and precisely which principles of justice matter most in which contexts. Despite the widespread support for MNPIs from polling data, when people are asked to consider their effects beyond mortality risks amongst older people, there exists a potential disconnect between public preferences and the policy responses.

Empirical investigation of these issues can only get us so far. We also need to ensure that the policy-making processes better reflect the myriad concerns and impacts of policies, and we need to consider that there is a constant backdrop of a powerful social narrative to preserve life at almost any cost [40]. But that's another story. For now, the two main messages from this chapter are that in times of calm as well as at times of crisis, we should (1) seek to express all the consequences of a given policy in a single metric and (2) properly account for the legitimate claims that different people may have on resources that extend beyond any snapshot in time and encompass wellbeing over their entire lifetimes.

### **Author Contributions**

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## Notes

<sup>1</sup> Effective decision-making not only requires distributive justice (an efficient and fair allocation of resources) but also requires procedural justice (that the processes by which decisions are made are seen to be fair). Processes will be especially important when there is uncertainty about the outcomes. In court cases, for example, we don't know whether they 'did it' or not, so we seek to ensure that the trial process by which we reach that conclusion is a fair one. This paper focuses only on distributive justice. For more on details on what I would propose in relation to better processes, see Dolan et al. (2021) and Dolan and Henwood (2021).

<sup>2</sup> In what follows, I will assume that (1) there is an agreed measure of welfare – life-years, health, happiness, or whatever – and (2) the measure allows for some degree of interpersonal comparability.

<sup>3</sup> It should go without saying (but I'll say it anyway) that public preference data can never resolve the normative debate about the legitimacy of claims – and neither can they resolve the normative debate about the degree to which those preferences should be used to inform moral judgements in the first place.

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