Shaping the post-Covid World:

Moving towards wellbeing over the lifetime as the unit of analysis in policy

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Whatever our views on the responses to the current pandemic, we are all agreed that there are important lessons for how to 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. Our focus here is on how to better capture the full range of ***outcomes*** *of policy and their effects on the* ***distributions*** *of wellbeing across society. We also consider the* ***processes*** *by which decisions are made and set out some immediate* ***actions*** *that will go a long way towards ensuring that future harms are minimised.*

1. Outcomes

1.1. The main aim of government should be to improve wellbeing and reduce suffering by as much as possible in those whose suffering matters the most to society. A full appraisal of any policy intervention requires us to capture and quantify all its possible short and long-term ripple effects, and not simply the most immediate and obvious splash it creates.

1.2. The COVID-19 pandemic has revealed many challenges to effective policymaking. Decisions have relied almost entirely on evidence pertaining to virus transmission risks, hospitalisations and mortality. As such, the policy responses have been dictated by concerns for lives lost from COVID-19, which represent far too narrow a focus for a full impact assessment. Most people recognise that other outcomes matter too, such as the effects on livelihoods, and the life chances of children and young adults.

1.3. In dealing with any future crisis, and in calmer times too, we need to identify, measure and quantify a wide range of effects of policy responses that allow for the various consequences of value to be compared to one another. Ultimately, any policy will affect one or both of two main welfare concerns for individuals: **life expectancy and life experience**.

1.4. Life expectancy can be measured through life years lost or gained, and so, as a starting point, policymakers should be required to evaluate all policy interventions in terms of their estimated effects on life years lost/gained.[i] This would enable them to better balance competing objectives where life expectancy is a main consequence of a policy choice, e.g. the differential effects of interventions on mortality risks from COVID-19 as compared to those from cancer.

1.5. Life experiences must be properly accounted for too, and there are now established methods for valuing them and ways to combine life experiences with life expectancies. In the appraisal of health interventions, quality-adjusted life years (QALYs) have been developed to express the value of changes in quality and quantity of life in a single index.[ii] The expected changes in QALYs should be estimated for policy responses that affect health outcomes, such as those that impact upon mental as well as physical health.[iii]

1.6. For other impacts, we require a richer and more complete measure of life experience. This is provided by **assessments of subjective wellbeing** (SWB).

SWB represents an umbrella term for how people evaluate their lives overall, and/or how they feel about their moment-to-moment or daily experiences.[iv] SWB allows us to consider how the health, economic, and social effects of policies impact upon people's life experiences.

1.7. For measures of SWB to be used to evaluate policies that impact upon life expectancies and life experiences, we need to calculate a single measure analogous to the QALY.[v] Various attempts have been made to estimate wellbeing-adjusted life years, which have been referred to as WELLBYs.[vi] A single metric allows for the value of all possible uses of scarce resources to be estimated in terms of their relative **cost-per-wellbeing adjusted life year**.[vii]

2. Distributions

2.1. At the societal level, citizens and policymakers care not only about how many WELLBYs are being generated per pound spent but also about how those WELLBYs 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.

2.2. This is the classic efficiency-equity trade-off: we weigh up generating as much overall wellbeing as possible against ensuring that the gains in wellbeing go to those who are suffering the most. Social welfare will be maximised when a "sweet spot" is found between maximising WELLBYs and reducing inequalities in WELLBYs that are considered to be unfair.[viii]

2.3. One of the most important distributional considerations is **wellbeing over the lifetime**. We care not only about how well, or badly, different groups are doing at any one point in time, but also about their flow of wellbeing from birth to expected time of death.[ix] Concerns for future generations can be also accounted for within this approach[x].

2.4. Some concerns for individuals and policymakers, however, might be considered to lie outside of a consequentialist account of welfare[xi]. Civil liberties are perhaps the most obvious example, particularly during the current pandemic. Whilst freedoms do play directly into wellbeing[xii], it is legitimate to see such concerns as constraints on optimising welfare; that is, to consider a certain level of liberty as a basic requirement for all individuals.[xiii]

2.5. Other attributes of social value might be seen as non-commensurate with wellbeing, such as animal and wildlife survival. Ideally, though, policymakers should seek to express all attributes of individual and social value into **equity-weighted wellbeing adjusted life years.**

3. Processes

3.1. Major policy decisions affect all of us in different ways. The policymaking process should therefore be informed by people with different voices, disciplines,

perspectives, and experiences. Diversity has been shown to increase performance in organisational settings[xiv]. Moreover, the decisions we take as public officials can never be completely cleansed of self-interest and bias, and so decision-making must urgently involve a **greater diversity** of professional perspective and personal experience.

3.2. International crises present a challenge for those policymakers who wish to implement policies different to those being pursued elsewhere. In academia, attempts have been made to encourage adversarial collaboration, which explicitly brings together academics with different prior beliefs to work on a research question[xv]. In a similar way, so that we are better prepared for future crises, we must start to embed practices in policy-making that actively encourage criticism and critique. In so doing, we will be better placed to **avoid the pitfalls of group think**[xvi].

3.3. The government should be required to be **more transparent** about the data it is using to inform its decisions, and from whom it is seeking advice. Part of this transparency aim should be to place any numbers in context. In the case of COVID-19, most national leaders have based all their statements on COVID-19 cases and deaths, ignoring basic comparisons with common illnesses and other causes of death.

3.4. The mainstream media can play a crucial role here in holding the government to account, and in ensuring that data are presented in context. There has been much discussion of fake news, but much less consideration given to "distorted news". We need more and higher quality discussion of when the media should be used to assist in government information programmes, and when it should challenge them.

3.5. There is good evidence from the literature on procedural justice that people benefit from having their voice heard.[xvii] Even in cases where this does not change the decision in any substantive way, it adds legitimacy to the decision. Fair processes are not only a goal themselves, but will also show up in improved wellbeing and, therefore, ultimately affect the acceptance and effectiveness of a given policy intervention.

4. Actions

4.1. The long-term aim is to generate data that will enable the estimation of wellbeing adjusted life years from different policy options. As a first step, and especially when seeking to respond to crises in a timely way, the most important impacts of major policy decisions should be **set out in a checklist**.[xviii] Checklists serve to draw us back away from situational blindness, whereby we can miss information crucial to a good decision because we are paying undue attention to a limited number of considerations, such as death.[xix]

4.2. A checklist can only get us so far, of course, and the long-term aim of a single wellbeing metric should help to frame the ways in which we analyse existing data

relating to the checklist and collect new evidence. In the very least, it will encourage policymakers to think about the wellbeing impacts of interventions that might not typically be thought of as being expressed in wellbeing units (e.g. educational outcomes).

4.3. The early work on QALYs in the early 1990s started with many assumptions and models estimating "exchange rates" between disease-specific measures and QALYs.[xx] In a similar way, we should increase our efforts to **map existing data** across different policy-specific outcomes into WELLBYs.

4.4. Against this background, we propose setting up a scientific **wellbeing impacts agency**.[xxi] This body will seek to bring together experts from a range of disciplines who have in-depth knowledge of various data sources across policy areas. Their tasks will be to a) synthesise diverse knowledge by mapping available data onto WELLBYs; and b) highlight where the most important data gaps are, thus informing priority areas for future research and data collection.

4.5. The foregoing discussion highlighted the importance of processes as well as outcomes, and so a separate **wellbeing commission**[xxii] should be established comprising different voices, including those from advocacy groups e.g. such as those involved in palliative care. The commission will ensure that the ways in which WELLBYs are generated have widespread support.

4.6. These two bodies will be ready to respond to future "wicked problems"[xxiii], which are characterised by radical uncertainty. They can also address on-going challenges such as how to prepare for a future pandemic, and how best to mitigate and adapt to climate change. They will also serve to enhance decision-making in calmer times too. Whatever shape the post-Covid world takes, the time has arrived for wellbeing over the lifetime to be the unit analysis in policy.

[i] Cost per life-years gained have been used to assess a range of interventions, including physical activity interventions (Munro et al. 1997), ICU admittance (Graf et al., 2008), smoking cessation (Cromwell et al., 1997), and genetic conditions' screening (Marks et al., 2002).

[ii] A quality-adjusted life year is "a measure of the state of health of a person or group in which the benefits, in terms of length of life, are adjusted to reflect the quality of life, (National Institute for Health and Care Excellence).

[iii] Most QALY metrics contain a broad range of dimensions of health and wellbeing, such as mobility, pain, and anxiety/depression, with weights attached to the relative importance; see, for example, Dolan (1997).

[iv] For more in-depth exposition of SWB and how it can be measured, see Diener (2009), and Dolan and Kudrna (2016).

[v] The dimensions of health traditionally measured in the calculation of QALYs are not necessarily the ones that affects people's subjective wellbeing (for example mental health matters much more to subjective wellbeing than suggested by the QALY approach), but whichever dimensions are used and however they are valued, they can still be combined with life years to generate a single index (see Dolan, 2011).

[vi] See Johnson et al., (2016) for a comparison of mental wellbeing and self-reported health, as well as an examination of the requirements of a WELLBYs approach. See also The Happiness Research Institute, 2020.

[vii] For the purposes of this report, we leave open precisely how SWB show be measured in order to be combined with life expectancy, but ideally the measure should allow for the duration of different levels of SWB to be properly accounted for (see Dolan and Kahneman, 2008).

[viii] Not all inequalities are considered unfair. Most people think it is fair that people that people who work hard earn more money than those who do not. Similarly, perceptions of fairness depend on the degree to which people are considered to be held to account for their poor health, with more weight being placed on the health of those whose illness is the result of events beyond their control (bad luck), compared to those who are perceived to have contributed to their illness (bad choices). See Olsen et al. (2003).

[ix] The fair innings argument proposes that everyone is entitled to some "normal" span of life, or WELLBYs (see Williams, 1997), meaning a person's priority diminishes as they accumulate more WELLBYs. This is not without critics (see Dunlop, 2002), but it does garner widespread public support (see Tsuchiya et al, 2003). All that is required here is that inequalities in WELLBYs are accounted for in *some way* that considers the lifetime, and not just at one point in time.

[x] The Stern Review quantifies potential losses from climate change, and proposes a reduced discount rate (different from the pure social time preference) in order to account for the welfare effects on future generations. Since the publication of the Stern review, the Green Book recommends using a reduced discount rate in those cases where there are significant and irreversible wealth transfers from the future to the present, as well as those policy with expected effects lasting beyond 50 years (Lowe et al, 2008).

[xi] Although the unit of analysis in a person's lifetime, we also care about the aggregation of wellbeing over lifetimes between generations.

[xii] Life satisfaction has been found to be highest in countries where human rights and political freedom are respected (Veenhover, 1996); Graafland (2015) finds that the quality of the legal system is positively correlated with life satisfaction, and the highest level of SWB are found in countries where social and political institutions are effective, with high trust and low corruption.

[xiii] See Williams and Cookson (2000). Civil liberties might also be seen to lie within consequentialism because they affect subjective wellbeing.

[xiv] See Jehn et al. (1999), Ely and Thomas (2001), and Cummings (2004).

[xv] See Cowan et al. (2020).

[xvi] Diversity also helps ameliorate groupthink, by allowing for different opinions and reducing conformity with a single narrative (Fernandez, 2007).

[xvii] See Shapiro (1993), who argues that feeling part of the decision-making process allows individuals to feel in control. Additionally, Dolan et al. (2007) review the characteristics of procedural justice, suggesting that an individual may value his involvement, irrespective of the final decision.

[xviii] Some elements on the checklist here could include: patients with C19, patients displaced by those with C19, patients who do not attend hospital, fear of Covid and health-related concerns, physical health effects (e.g. obesity), divorce and relationship problems, Civic participation, Changes in time use (social contact, commuting),

Unemployment and economic activity, Fear of job losses and economic-related concerns, Air pollution, Road accidents, Mental health problems and addictions, Loneliness, Child welfare, Domestic violence, Widening inequalities in LY, Widening inequalities in LE, Widening inequalities in income and careers, Widening inequalities in educational outcomes.

[xix] Checklists and other cognitive aids have long been used by high-risk industries, as tools to aid in crisis management (Hepner et al., 2017). They are associated with improvement in surgical care (Arriaga et al., 2003; Verdaasdonk, 2009), and are considered a defence against equipment and human error in aviation (Dismuker and Berman, 2010).

[xx] See Brazier et al., (1999) for a review of the health status measures used in economic evaluation, and Brazier et al., (2010) and Mukuria et al., (2019) for a systematic review of the mapping between non-preference based and generic preference-based measures.

[xxi] Such a Wellbeing Impacts Agency would be mandated to manage and maintain a common set of figures for wellbeing impacts of various policies, to be used across government, as well as to oversee a standardised, transparent, and scientifically rigorous process for updating these figures. It would complement existing institutions such as the What Works Centre for Wellbeing, and potentially collaborate with the former, with the National Insitute for Health Researc, and the ONS.

[xxii] This could be a National Institute for Wellbeing Research with a Wellbeing Impacts Agency and Wellbeing Involvement Group.

[xxiii] See Skarbukis, 2008.

References

Arriaga et al., (2013). Simulation-Based Trial of Surgical-Crisis Checklists. *N Engl J Med*; vol 368:246-253

Brazier J., Deverill M., Green C., (1999). A Review of the Use of Health Status Measures in Economic Evaluation. *Journal of Health Services Research & Policy,* vol 4(3):174-184.

Brazier, J., Yang Y., Tsuchiya, A., Rowen D.L., (2010), A review of studies mapping (or cross walking) non-preference-based measures of health to generic preference-based measures. *Eur J Health Econ*, vol 11:21[xxiv]5–22

Cowan N., Belletier, C., Doherty, J., Jaroslawska, A.J., Rhodes, S., Forsberg, A., Naveh-Benjamin, M., Barrouillet, P., Camos, V., Logie, R.H., (2020). How do scientific views change: notes from an extended adversarial collaboration. *Perspectives on Psychological Science*, vol 15(4):1011-1025.

Cromwell J., Bartosch W.J., Fiore M.C., Hasselblad V., Baker T., (1997). Cost-effectiveness of the Clinical Practice Recommendations in the AHCPR Guideline for Smoking Cessation. *JAMA,* vol 278(21):1759–1766

Cummings J.N., (2004). Work Groups, Structural Diversity, and Knowledge Sharing in a Global Organization. Management Science, vol 50(3):352-364

Diener E., (2009). Subjective Well-Being. In: Diener E. (eds) The Science of Well-Being. *Social Indicators Research Series*, vol 37.

Dismukes, Key & Berman, Ben., (2010). Checklists and monitoring in the cockpit- Why crucial defenses sometimes fail. NASA

Dolan, P., Kahneman, D., (2008). Interpretations of Utility and Their Implications for the Valuation of Health, *The Economic Journal*, vol 118(525):215-234

Dolan P., (1997). Aggregating Health State Valuations. Journal of Health Services Research & Policy, vol 2(3):160-165.

Dolan P. (2011). Using happiness to value health. Office for health economics.

Dolan, P., Edlin, R., Tsuchiya, A., Wailoo, A., (2007). It ain't what you do, it's the way that you do it: Characteristics of procedural justice and their importance in social decision-making. *Journal of Economic Behavior & Organization*, vol 64(1):157-170

Dolan, P., Kudrna, L. and Stone, A., (2017). The Measure Matters: An Investigation of Evaluative and Experience-Based Measures of Wellbeing in Time Use Data*. Soc Indic Res* vol 134:57–73

Dunlop W., (2002). Revisiting the fair innings argument. *N Z Bioeth J*. vol 3(2):22-6

Ely R.J., Thomas D.A., (2001). Cultural Diversity at Work: The Effects of Diversity Perspectives on Work Group Processes and Outcomes. *Administrative Science Quarterly.*;46(2):229-273

Fernandez, C., (2007). Creating Thought Diversity: The Antidote to Group Think, *Journal of Public Health Management and Practice*, vol 13(6):670-671

Graf, J., Mühlhoff, C., Doig, G.S. et al., (2008). Health care costs, long-term survival, and quality of life following intensive care unit admission after cardiac arrest. *Crit Care* 12, R92

Graafland, J., Compen, B., (2015). Economic Freedom and Life Satisfaction: Mediation by Income per Capita and Generalized Trust*. J Happiness Stud* vol 16:789–810

Hepner D.L., Arriaga A.F., Cooper J.B., et al., (2017). Operating Room Crisis Checklists and Emergency Manuals. *Anesthesiology,* vol 127(2):384-392

Jehn, K. A., Northcraft, G. B., & Neale, M. A., (1999). Why differences make a difference: A field study of diversity, conflict, and performance in workgroups. *Administrative Science Quarterly,* vol 44(4):741–763.

Johnson, R., Jenkinson, D., Stinton, C. et al., (2016). Where's WALY?: A proof of concept study of the 'wellbeing adjusted life year' using secondary analysis of cross-sectional survey data. *Health Qual Life Outcomes,* 14, 126

Lowe, J., (2008) Intergenerational wealth transfers and social discounting - supplementary green book guidance. *HM Treasury Supplementary guidance.*

Marks D., Wonderling D., Thorogood M., Lambert H., Humphries S.E., Neil., (2002), Cost effectiveness analysis of different approaches of screening for familial hypercholesterolaemia *BMJ,* 324:1303

Mukuria, C., Rowen, D., Harnan, S., Rawdin, A., Wong, R., Ara, R., Brazier J., (2019). An Updated Systematic Review of Studies Mapping (or Cross-Walking) Measures of Health-Related Quality of Life to Generic Preference-Based Measures to Generate Utility Values. *Appl Health Econ Health Policy*., vol 17(3):295-313

Munro, J., Brazier J., Davey, R., Nicholl, J., (1999). Physical activity for the over-65s: could it be a cost-effective exercise for the NHS?, *Journal of Public Health*, vol 19(4):397-402

Olsen, J.A., Jeff Richardson, J., Dolan, P., Menzel, P., (2003). The moral relevance of personal characteristics in setting health care priorities. *Social Science & Medicine*, vol 57(7): 1163-1172

Shapiro, D. L., (1993). Reconciling theoretical differences among procedural justice researchers by re-evaluating what it means to have one's views "considered": Implications for third-party managers. In R. Cropanzano (Ed.), *Series in applied psychology. Justice in the workplace: Approaching fairness in human resource management (*p. 51–78). Lawrence Erlbaum Associates, Inc.

Stern, N. H., & Great Britain. (2007). The economics of climate change: The Stern review. Cambridge, UK: *Cambridge University Press.*

Skaburskis, A., (2008). The Origin of "Wicked Problems", Planning Theory & Practice, vol 9(2):277-280

The Happiness Research Institute & Leaps by Bayer, (2020). Wellbeing Adjusted Life Years 2020.

Tsuchiya A., Dolan P., Shaw R. (2003). Measuring people's preferences regarding ageism in health: some methodological issues and some fresh evidence. *Soc Sci Med*. vol 57(4):687-96.

Verdaasdonk, E.G.G., Stassen, L.P.S., Widhiasmara, P.P. et al., (2009). Requirements for the design and implementation of checklists for surgical processes*. Surg Endosc,* vol 23:715–726

Williams, A., (1997). Intergenerational Equity: An Exploration of the 'Fair Innings' Argument. *Health Econ.,* vol 6:117-132

Williams, A., and Cookson, R., (2000). Equity in health, ch. 35, p. 1863-1910 in Culyer, A. J. and Newhouse, J. P. eds., Handbook of Health Economics, vol. 1, Elsevier.