How can we decide a fair allocation of healthcare resources during a pandemic?

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ABSTRACT

Whenever the government makes medical resource allocation choices, there will be opportunity costs associated with those choices: some patients will have treatment and live longer, while a different group of patients will die prematurely. Because of this, we have to make sure that the benefits we get from investing in treatment A are large enough to justify the benefits forgone from not investing in the next best alternative, treatment B. There has been an increase in spending and reallocation of resources during the COVID-19 pandemic that may have been warranted given the urgency of the situation. However, these actions do not bypass the opportunity cost principle although they can appear to do so runs a risk of reducing overall population health while disproportionately worsening health in socially disadvantaged groups. We give the example of ethnic minorities in England who already had the worst health and, due to structural injustices, were hardest hit by the pandemic and may stand to lose the most when services are reallocated to meet the resource demands of the crisis. How can we prevent this form of health inequity? Our proposal is forward-looking: we suggest that the government should invest our limited resources wisely while taking issues of equity into account—that is, introduce cost–equity analysis.

INTRODUCTION

The COVID-19 pandemic has posed a serious challenge for the UK government, and, in particular, for the National Health Service (NHS). Both primary and secondary care in the UK were experiencing overcrowding, shortage of staff and excessive waiting times for patients before the pandemic. The situation was made much worse during the pandemic because of the additional problems created by a limited supply of ventilators and personal protective equipment available to healthcare workers. Therefore, a quick response was necessary. However, the government’s response was met with criticism and many have pointed out that the lockdown restrictions and cancellation of services have caused collateral damage. The government has been accused of transforming the NHS into a ‘Covid-only service’, where most of urgent healthcare services such as cancer diagnostic tests and cancer treatments have been postponed. This alone has had and will continue to have a huge impact on mortality and morbidity. In the UK, over 1 million patients had their surgery postponed, all non-urgent surgery was suspended for at least 3 months in England and at least 40 000 people did not receive their cancer treatment.1

Mental health services have also been completely shut down across England. The Royal College of Psychiatrists were worried they may not be able to face and deal efficiently with the ‘tsunami of referrals’ they expect after the pandemic.2 While in May this was merely a prediction, it has now become a fact. On 1 November, psychologists have published a letter to policy makers detailing the devastating mental health effects that lockdown restrictions have had on the UK population, in particular on children and adolescents: they report a significant increase in depression, self-harm and child suicide.3

The situation has created the impression that governments have made resource allocation decisions in an arbitrary manner, whereby only certain people have access to health resources.4 However, situations of crisis require tough decisions and prioritisation of resources. For instance, in a recent article, Mannelli speaks of the difficult decision that doctors had to make in Italy about which patients should be provided with a ventilator.5 Given that there weren’t enough ventilators for all patients, doctors found themselves in the position of ‘playing God’ to decide whose life to save and who to let die.6 As she points out, it is a fact of our society that we do not have the resources to treat everyone, this is, ‘something we already know’ but ‘we just try to forget about it’.7

But what does it mean ‘not to forget about it’? It implies a concern with issues of cost-effectiveness: we need to invest our limited resources wisely. This means two things: (1) We should use resources to save the lives which can be saved; to do this, we need good evidence that the treatment is clinically effective, instead of wasting money on futile treatment and (2) We should invest where we can do the most good and save the most lives, and this in effect means that we have a duty to also consider lives which could be saved in the future. This, indeed, is the aim of our national healthcare system: to generate health that is equitably distributed.8

However, something unprecedented has happened in the UK. In a rare act, during the COVID-19 pandemic, the government has made decisions that appear to put people first and save lives, and responded to the crisis with no apparent reference to costs or forgone benefits elsewhere in the healthcare system and outside of it. Contrast this with the immediate introduction of a set of austerity policies in the aftermath of 2008 global financial crisis which was justified by ministers in economic and ethical terms; reducing the budget deficit was presented to the public as an imperative
to promote growth and avoid an unfair tax burden on the next generation. Nevertheless, linking economic spending to a future distribution of resources in such difficult times as a pandemic seems inhumane and perhaps politically unwise.

But was it the right thing to do and should we do the same in the future whenever another crisis comes along? Although it seems that the decision expresses concern about issues of fairness, ignoring the principles of cost-effectiveness can itself lead to serious injustice, disadvantaging the very people we want to protect. In order to move forward and progress in a way which promotes fairness, we suggest that we need to pay attention to two things: who was mostly affected by the COVID-19 crisis and why? Who are the patients most likely to bear the true opportunity costs of the crisis?

Our argument will take the following form. We start with the plausible premise that a crisis will cause an increase in spending or reallocation of resources during a pandemic. We then argue that allocating resources based on a cost-effectiveness analysis is better, all things considered, than an arbitrary increase in spending, and this is because of the principle of opportunity cost. This principle, we argue, ensures that resources are allocated more fairly, that is, in a way which guarantees we save lives instead of unnecessarily sacrificing people’s health. Despite this, we then turn to argue that a cost–equity analysis is a better cost-effectiveness principle in general, but it becomes especially relevant in situations of crisis. This additional consideration should provide National Institute for Health and Care Excellence (NICE) and other governmental bodies with a reason to move to a cost–equity analysis and abandon the simple cost-effectiveness principle. Briefly, our main argument is that there is something special about a crisis where it is even more important to think in cost–equity terms: A crisis will exacerbate and magnify the consequences of societal injustices on health. We illustrate this point by focusing on Black, Asian and Minority Ethnic (BAME) communities, drawing on evidence which shows that racism is a cause of them being disproportionately affected by the COVID-19 crisis and the corresponding disinvestment of some services.

WHAT IS THE PURPOSE OF COST-EFFECTIVENESS ANALYSIS AND IS IT FAIR?

Conducting a cost-effectiveness analysis when human life is at stake may seem cruel, inappropriate, based merely on rational utilitarian calculus. Human life, after all, has a dignity and not a price, as Kant famously argued in his Groundwork of the Metaphysics of Morals. But is this true in our society? First of all, the NHS has always placed a price on human life. Since the introduction of NICE this has been made explicit, with cost thresholds beyond which an intervention will likely not be made available to the public even if it means that people will die. For a heart-breaking account of how NICE makes decisions of what treatments can be introduced in the NHS we recommend the documentary “The Price of Life.” This is devastating, and it may seem unfair and unseemly: how can a national public body introduce cost-effective treatments can be introduced in the NHS we recommend the documentary “The Price of Life.” This is devastating, and it may seem unfair and unseemly: how can a national public body introduce cost-effective treatments which activities are likely to be displaced and how these changes affect different social groups when NICE, perhaps under pressure from stakeholders and pharmaceutical companies, approves an intervention which the NHS cannot afford from its current budget. The answer is not that the NHS budget will be increased—it almost never is, and the growing economic crisis will not help. Instead, treatments which improve life expectancy and quality of life at a much lower cost will be made unavailable to NHS patients. Claxton estimates that the main disease areas displaced in the past have been cancer, mental illness, circulatory disease, respiratory and neurological diseases. Love-Koh et al similarly conclude that ‘the health effects from NHS expenditure changes are produced largely through disease areas in which individuals from more deprived areas account for a large share of healthcare utilisation, namely, respiratory and neurological disease and mental health’.

But should we expect the same after the pandemic? Will the same type of disinvestment take place and will it continue to affect the same deprived social groups? We believe that the current crisis has made this kind of prediction difficult and uncertain. This is for three reasons. One limitation of standard cost-effectiveness analysis is that it focuses on opportunity costs that fall exclusively on the NHS and social care budgets. In order to correctly evaluate a public health intervention during a national emergency we ought to take a wider social perspective on costs and benefits, and therefore, we would need to consider the health, non-health benefits and opportunity costs which fall on different sectors. An intervention may not produce sufficient health benefits to justify the additional costs placed on the NHS budget; however, a programme which introduces COVID-19 vaccination in the general population will result in positive externalities and benefits outside the health sector that can make the intervention more appealing.

Public spending on the COVID-19 interventions so far has reached £190 billions in July. This figure already exceeds the entire health budget for 2020–2021. It would be deceptive to think that just because the government did not carry out a...
cost-effectiveness analysis during the pandemic that consid-
erations of the costs incurred will be forever ignored. What is
likely to happen and has already started is that other budgets are
reduced (as of November, overseas aid and public sector pay) or
the deficit will increase and this debt will eventually be passed
onto the taxpayers (in the form of increased taxation or infla-
tion), who in turn will become poorer economically, which again
will have an impact on health. Another issue to consider which
cannot be fully addressed here, is the fact that the more we spend
now the less we have available for future emergencies unless,
somehow, gross domestic product raises quickly. This kind of
opportunity cost should also be taken into account because it is,
after all, taking resources from use in a future pandemic that
could be even worse.

Finally, another source of uncertainty in making predictions
about which groups bear the opportunity costs of COVID-19
spending comes from the fact that changes which were intro-
duced in the healthcare system may be retained, and these
changes may save money in the long run. One such example is
the telehealth—GP consultation via phone or internet which
could be cost saving. Another attractive change announced
recently by the minister of health is that the NHS COVID-19
testing system could be used for fighting the seasonal influenza,
which would reduce the community spread of influenza. This
could save money from reducing absenteeism at work due to
illness.

Regardless of the reasons for uncertainty, given the magnitude
of spending and services changes under the pandemic there is an
imperative to carefully consider displaced activities to minimise
population health losses caused by displaced activities which, as
Claxton and colleagues have shown, regularly occurs even in
circumstances when the cost-effectiveness of spending has been
considered.

We turn now to argue that a cost–equity analysis is the right
way to move forward. It is an approach that considers both the
magnitude of the losses and who stands to lose, and without
such explicit considerations of fairness the consequences of
discrimination on poor health is worsened in a crisis. In doing
this, we defend the claim that it is sometimes permissible not
to maximise health in the population in order to protect values
such as justice.

COVID IMPACT ON BAME COMMUNITIES

Health economists have already argued that equity concerns
should be part of economic evaluations. They have focused
their attention on economic deprivation and socioeconomic
status as the main unfair social determinants of health. To date,
this appeal has been unsuccessful, and NICE continue to reject
introducing explicit equity weights in order to prioritise treat-
ments for certain groups of people. We believe that the crisis
brings to the foreground the need for a definite move to cost–
equity analysis that NICE should consider seriously.

Evidence from Public Health England (PHE) published in
June this year shows that COVID-19 has not impacted all
group populations equally. In fact, there is a great disparity in
mortality and morbidity between BAME groups and their British
white counterparts. BAME communities do worse in terms of
higher death rates (four times higher in this period), higher
probability of infection and higher risk of developing serious
complications once infected. Why is this the case? Socioeco-
nomic deprivation is statistically correlated with excess mortality
and morbidity from COVID-19 and BAME communities are
more likely to come from poorer socioeconomic backgrounds
and work in jobs where infection risk is higher. There is also
strong evidence that BAME groups suffer from health conditions
which are likely to increase the severity of disease and there-
fore cause death—obesity, diabetes, hypertension, smoking and
mental health illness.

This is not news, of course, but only proves what we suspected
all along: long-standing inequalities are made worse by the
COVID-19 crisis, will further disadvantage those in poor health,
and will worsen socioeconomic deprivation in a country which
is already very unequal. We know this because research spanning
for over thirty years from health economists shows that there is
a steep gradient in life expectancy and quality of life between
the rich and the poor in the UK. For instance, researchers at the
Centre for Health Economics at York show that ‘The richest
fifth of people in England can expect to live at least 12 more
years of life in full health than the poorest fifth’. Furthermore,
these stark health inequalities are stubbornly difficult to improve
since they are rooted in structural inequalities related to wealth,
income, socioeconomic background, level of education and
occupation—known as the ‘the social determinants of health’. Therefore, the rise in health inequality from COVID-19 is likely
to persist long after the pandemic is over, further entrenching
social inequalities.

We choose to focus on the PHE report because they include
in their analysis important social determinants of health. Three
things came as a great surprise to us, which we believe consti-
tute original findings. First, after controlling statistically for age,
and economic deprivation, ethnicity is statistically significant, that is, BAME communities were disproportionately
affected by COVID-19.

The second surprising finding was that poor mental illness
is a big risk factor for COVID-19 severity and death. BAME
communities and people from deprived socioeconomic back-
grounds are more likely to develop mental illness and less likely
to have access to NHS mental health support, according to the
Adult Psychiatric Morbidity Survey. For example, only 6.5% of
black men receive mental health treatment for their illness
compared with 14.5% for white men.

Finally, a plausible explanation for the high mortality and
morbidity is racism (see section of the report on ‘Racism,
discrimination, stigma, fear and trust’). Consequently, PHE
recommends that ethnicity should be a specific concern in
future policy actions: ‘Fully funded, sustained and meaningful
approaches to tackling ethnic inequalities must be prioritised’.

We defend the claim that BAME communities should be
favoured in economic analysis because we have reasons to believe
their disadvantage is inequitable. (1) First, as proven by the PHE
report, they have poorer health outcomes even after controlling
for age and gender. What makes (1) inequitable is that a likely
explanation of the different health outcomes is racism, and
therefore unfair discrimination. (2) Second, BAME communi-
ties have poorer socioeconomic circumstances which lead to
poorer health outcomes. To the extent that these disadvantages
are the result of unfair social circumstances, they constitute a
further inequity. The policy response may have exacerbated this
inequality on account that some of the health services tempo-
rally displaced (cancer treatment’ and mental health services) are
mostly needed by lower socioeconomic groups (see Love-Koh et
a119) and by BAME communities. In the next section we propose

1There is also evidence that the BAME communities in the UK relied the most on cancer treatment as they are at higher risks
of developing advanced cancers and have poorer survival rates compared with the white British.23

that introducing cost–equity analysis in the future has the potential to correct for this unfair discrimination and prevent further disadvantage.

HOW SHOULD WE MOVE FORWARD?
We need a very good reason to justify a reduction in population health. One such reason, we suggest, is that it is sometimes permissible to sacrifice the value of maximising health in order to uphold other values, that is, justice. We cannot ignore that the members of the BAME communities are already systematically disadvantaged in our society and thus ‘an adequate engagement with health equity also requires that the considerations of health be integrated with broader issues of social justice and overall equity’.21 Therefore, we propose that measures aimed at improving health in general should be implemented such that they always benefit the most the worse-off groups of society in a way which compensates for their unfair disadvantage.

How can we then aim at reducing health inequalities between groups and still incorporate cost-effectiveness principles? We suggest that the government should move to adopt a cost–equity analysis, where equity weights on health can be introduced to give some priority in our policies to vulnerable groups. This in effect would translate to accepting a higher threshold for interventions which directly impact the health of the BAME communities.

One difficulty is how much priority can and should be given to reducing unjust health inequalities. How much more weight should we place on an additional unit of health gain if we are to make good the balance of health inequality between social groups?22 We suggest that, given that the question is how to allocate resources from a publicly funded system, the answer may need to incorporate the view of the general public.22 There is a lot of support in the empirical literature for the claim that people do care about health inequalities.10 22 We need to know whether people would prioritise patients from vulnerable groups and, above all, to what extent the citizenry is willing to redirect NHS resources from highly cost-effective treatments to those which will reduce the most health inequalities.

CONCLUSION
BAME communities already suffer from poorer health in everyday medical contexts through no fault of their own. What this crisis has shown is that they are also the ones most vulnerable during exceptional medical emergencies. However, these two things are not independent. Their poor health during normal conditions, which has its roots in unfair social disadvantage, puts them at high-risk during pandemics. The existence of health inequalities therefore gives us additional reasons to care about redressing social injustices. We need to correct for this unjustified inequality by introducing a type of cost-effectiveness analysis which takes equity into account.

The solution is not to ignore the rule of opportunity cost. If we want to protect the BAME communities in the future and thus reduce health disparities between social groups, the government should consider and make explicit the displaced treatments and programmes. They should make sure they do not disinvest from the very activities that promote the health of the BAME communities, as already acknowledged by PHE: ‘Local and national policy initiatives will need to be sensitive to BAME communities to ensure existing health and economic inequalities are not widened due to the extraordinary measures taken during the pandemic’.17

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