

**A. Voorhoeve, T. Tan-Torres Edejer, L. Kapiriri, O. Frithjof Norheim, J. Snowden, O. Basenya, D. Bayarsaikhan, I. Chentaf, N. Eyal, A. Folsom, R. H. Tun Hussein, C. Morales, F. Ostmann, T. Ottersen, P. Prakongsai, C. Saenz, K. Saleh, A. Sommanustweechai, D. Wikler, A. Zakariah**

## **Making fair choices on the path to universal health coverage: applying principles to difficult cases**

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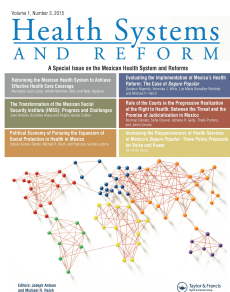
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## Research Article

# Making Fair Choices on the Path to Universal Health Coverage: Applying Principles to Difficult Cases

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**Abstract**—Progress toward universal health coverage (UHC) requires making difficult trade-offs. In this journal, Dr. Margaret Chan, the World Health Organization (WHO) Director-General, has endorsed the principles for making such decisions put forward by the WHO Consultative Group on Equity and UHC. These principles include maximizing population health, priority for the worse off, and shielding people from health-related financial risks. But how should

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one apply these principles in particular cases, and how should one adjudicate between them when their demands conflict? This article by some members of the Consultative Group and a diverse group of health policy professionals addresses these questions. It considers three stylized versions of actual policy dilemmas. Each of these cases pertains to one of the three key dimensions of progress toward UHC: which services to cover first, which populations to prioritize for coverage, and how to move from out-of-pocket expenditures to prepayment with pooling of funds. Our cases are simplified to highlight common trade-offs. Though we make specific recommendations, our primary aim is to demonstrate both the form and substance of the reasoning involved in striking a fair balance between competing interests on the road to UHC.

## INTRODUCTION

Universal health coverage (UHC) requires that all people have genuine access, at tolerable cost, to a comprehensive range of high-quality services that is well aligned with other social goals.<sup>1</sup> There are many reasons to make progress toward UHC, including bettering people's health, ensuring equitable access to health services, reducing inequalities in health, and reducing the shocks to income and wealth caused by ill health.

It is useful to conceive of progress toward UHC as occurring along at least three dimensions: expanding the range of covered high-quality services, increasing the share of people covered, and reducing out-of-pocket payments.<sup>2</sup> In advancing along these axes, governments confront the following questions:

1. For which services should one expand coverage first?
2. For whom should one expand coverage first?
3. How should one shift from out-of-pocket payment toward prepayment and pooling of funds?

Because of resource and institutional constraints, in answering these questions, governments often confront challenging trade-offs. Here, we focus on the deliberation involved in making these trade-offs in a fair or distributively just way. Our question is about what distributive justice permits a decision maker to choose from a specified feasible set of alternatives.<sup>[a]</sup> We are therefore not attempting to answer questions of politics or political economy. The latter rather form the background for our enquiry because they determine the content of the decision maker's feasible set. Our enquiry is, however, relevant for politics and the behavior of interest groups, because the opinions and actions of politicians, the public, and interest groups are often at least somewhat responsive to considerations of distributive justice. An evaluation of alternatives in terms of justice is therefore important not merely because it helps identify a fair alternative. It is

also important because this evaluation, if publicly discussed, may determine the degree of support for the proposed policy.

The World Health Organization (WHO) Consultative Group on Equity and Universal Health Coverage was convened to formulate guidance on how to conduct such deliberation. The Group issued its report, *Making Fair Choices on the Path to Universal Health Coverage*, in 2014.<sup>1</sup>

The Group conducted an extensive review of the literature on the values underlying UHC, paying special attention to WHO publications. As a result of this review and extended discussion among its diverse membership, *Making Fair Choices* argues that the following three principles should play a central role in evaluating policies:

1. Health benefit maximization. This involves generating the greatest total health-related well-being gain. Here, we express this gain in terms of an amount of health-related well-being equivalent to one year in full health. For example, a person gains the equivalent of one year in full health by living three additional years with health problems that leave them with just one third of the health-related quality of life that they would have had in full health. Various measures of health-related well-being exist, including Quality-Adjusted Life Years (QALYs) and Disability-Adjusted Life Years (DALYs).<sup>3</sup> For a given budget, one maximizes total health gain by choosing the interventions that cost the least for each such equivalent of a year in full health generated. These are referred to as the most cost-effective interventions.<sup>[b]</sup>
2. Fair distribution, which incorporates priority for the worse off. Coverage for and usage of health services should be determined by need. Special consideration should be given to the needs of those who are worse off with respect to health prospects and outcomes, access to health services, income and wealth, or social status.
3. Fair contribution and financial risk protection. Payments toward necessary coverage and services should align with ability to pay and should be independent of individuals' health risk profiles. Moreover, economic hardship due to health care costs and illness-related loss of income should be minimized.

*Making Fair Choices* holds that these three principles apply universally—that is, that they are relevant to determining the fair decision in all contexts. But it also holds that the weight given to each principle may reasonably vary from society to society and that particular contexts will make relevant further values and principles. Naturally, the process of applying these principles and balancing their demands is not

mechanical; it requires debate and the exercise of judgment. *Making Fair Choices* emphasizes that citizens are entitled to play a part in this process. It also stresses that inclusive and transparent deliberation contribute to the legitimacy of public decisions. It therefore recommends that mechanisms for public accountability are set up to enable citizens to evaluate and contribute to health policy decisions.

These principles and recommendations were endorsed by Dr. Margaret Chan, Director-General of the WHO, in a contribution to this journal.<sup>4</sup> In this article, we aim to advance understanding of the process of using the three substantive principles to make decisions. We add to the discussion of this process in *Making Fair Choices* by starting from stylized but realistic scenarios that were not analyzed in the report and by offering a more in-depth discussion of the relevant values and the trade-offs between them. To develop these scenarios, 20 contributors to a multiday “writeshop” were divided into teams with different expertise and diverse nationalities. Drawing on their experience, each team formulated several real-world cases involving a choice from a limited feasible set (usually of two policies) that raised challenging questions of justice. The choices in these cases were ones that governments they work for or work with had faced. These cases were presented to other teams. The ones that the group as a whole judged to be most useful were retained and given to a new group to refine; they were then presented to the whole group anew. In this process, the cases were simplified and generalized to each highlight one particular trade-off and discuss it in a manner that is accessible to professionals and students.

Here, we present three of these cases, each of which concerns trade-offs within the aforementioned three dimensions along which progress should be made, namely, which interventions to invest in first (case 1), which populations to prioritize for an expansion of coverage (case 2), and how to move from out-of-pocket expenditures to prepayment (case 3). They complement other recently published case studies that deal with trade-offs between these dimensions (e.g., whether to provide more services to people who already have access to a basic package or to grant access to the basic package to more people) and with the institutional mechanisms for setting priorities.<sup>5</sup>

Although we offer a verdict in each case, other judgments may be reasonable. Moreover, the correct judgment in any partly similar real-world case will depend on context-specific factors, including both a case-specific assessment of the likely impact of the options as well as further pertinent considerations of justice. These studies are therefore intended not as policy recommendations for analogous real-world circumstances but rather as discussion pieces, which demonstrate the forms of deliberation required to arrive at just case judgments.

## CASE 1. WHICH SERVICES SHOULD ONE EXPAND FIRST: DIALYSIS OR PREVENTION?

A middle-income country operates a predominantly government-financed UHC scheme for the informal sector, which makes up 70% of the population. At the moment of decision, this scheme covers neither dialysis for end-stage renal failure nor preventative services for people who have diabetes mellitus. Income per person is increasing and so this scheme’s package of covered services can be expanded. Within their budget constraint, the health authorities can do one of the following<sup>[c]</sup>:

1. Add coverage for dialysis. Due to limits on the budget and provider capacity, only the more cost-effective peritoneal dialysis will be covered, and there will be some copayments.
2. Add coverage for preventative services for people with diabetes mellitus.

Table 1 summarizes the data available to inform this choice. (We comment on each indicator below.) This information permits the following analysis.

### Health Benefit Maximization

As a measure of cost-effectiveness in relation to the resources the country has available, Table 1 reports an estimate of the multiples of the country’s income per person—gross domestic product (GDP) per capita—that an intervention requires to generate one equivalent of a year in full health. The lower this number, the more cost-effective an intervention is.

Table 1 reveals that preventative services under consideration are estimated to be far more cost-effective than dialysis—they yield between 2.9 and 59 times more total health benefit per unit of expenditure. Devoting a given amount of resources to these preventative services would therefore generate a far greater total gain in health-related quality of life.

### Priority for the Worse Off

In determining who is worse off, there is reasonable disagreement on whether only individuals’ health expectations matter or only their health outcomes or, indeed, that both matter.<sup>6,7</sup> We shall here consider both.

In terms of prospects, the health risks of the people in need of secondary preventative services, though substantial, are lower than those in need of dialysis, most of whom face certain early death without treatment.

In terms of outcomes, one way of determining who would be worse off if unaided is by considering who would bear the

	Health Benefit Maximization (Multiples of GDP per capita per equivalent of a year in full health gained)	Priority for the Worse Off (Average life years lost relative to maximum global life expectancy by patients for whom the condition would be fatal without intervention)	Financial Risk Protection (Multiples of GDP per capita to save one household from catastrophic health expenditure for a year, defined as >10% and >20% of household expenditure)
Dialysis	5.4	35	4.7 (>10%) 5.2 (>20%)
Preventative services for those with diabetes	Between 0.09 and 1.9	24	2.1 (>10%) 4.2 (>20%)

<sup>a</sup>Estimates of GDP per capita per equivalent of a year in full health are based on Teerawattananon et al.<sup>29</sup> for dialysis and Venkat Narayan et al.<sup>30</sup> for preventative services. Estimates for life years lost due to each condition are based on the Institute for Health Metrics and Evaluation.<sup>31</sup> Estimates of GDP per capita per household saved from catastrophic expenditure for a year through dialysis are derived using Teerawattananon et al.<sup>29</sup> and Prakongsai et al.<sup>8</sup> For preventative services, our estimates were derived as follows. Research suggests that it is primarily those with complications from diabetes who suffer large health-related expenditures.<sup>9,10</sup> We therefore focused exclusively on the impact of preventing such complications and their associated expenditure. We first estimated how much it would cost in terms of GDP per capita to avoid one case of diabetes-related complications for a year, using data from Venkat Narayan et al.,<sup>30</sup> Wattana et al.,<sup>32</sup> and the World Health Organization.<sup>33</sup> We then estimated how many cases of complications one would have to prevent in order to prevent one case of complications-related catastrophic expenditure, using Chatterjee et al.<sup>9</sup> Putting these together yields the reported estimate of the GDP per capita required to prevent one case of catastrophic expenditure via preventing complications from diabetes. (Because of the multiple steps involved in this estimate, we regard it as uncertain.) Full calculations by the authors are available in Appendix 1 (in supplemental material).

**TABLE 1.** Available Data for Comparing Dialysis and Preventative Services

largest individual burden of disease in the absence of intervention. Table 1 lists an indicator of this burden: the average number of healthy life year equivalents lost due to the condition by patients in whom it would be fatal if untreated. Both interventions alleviate very substantial individual disease burdens. Nonetheless, those with end-stage renal disease who die of the condition if untreated lose on average 11 more years of life than those who present with diabetes and die due to a lack of preventative services. This indicates that the population with end-stage renal disease is, on average, worse off in terms of lifetime health outcomes than those in the target population for preventative services.

In sum, dialysis patients generally face both worse health prospects and worse health outcomes. This is a reason for giving some extra weight to health improvements due to dialysis.

### Financial Risk Protection

A large share of individuals with end-stage renal disease and their families will purchase dialysis privately at great expense if it is not covered, often selling off family assets or going into debt to do so.<sup>8</sup> Adding coverage for dialysis will therefore prevent many cases of catastrophic health expenditure. (There is no universally accepted definition of *catastrophic expenditure*. We therefore report estimates for two thresholds that are sometimes used: expenditure exceeding 10% and 20% of total household income.) However, precisely because dialysis is so costly, it takes a large amount of resources to prevent one such case. Indeed, as reported in Table 1, it is estimated that, if we use the higher of our two thresholds, the government

would have to spend 5.2 times GDP per capita on coverage for dialysis to prevent one such case for a year.

By contrast, the financial risk protection of adding coverage for preventative services is less obvious. After all, one might reason that the yearly cost of these services is lower and therefore less likely to push people into financial hardship. However, this reasoning ignores that coverage for, and the subsequent expansion of the use of, preventative services will avert many complications from diabetes, including loss of sight, renal disease, heart disease and stroke. Such complications cause high costs, even for people with health insurance. These costs include copayments for medicines and care, as well as costs of travel to and from clinics. They also include the cost of informal care by relatives.<sup>9,10</sup> Indeed, research indicates that in countries like the one under consideration, around one fifth of people with complications from diabetes face catastrophic health expenditure. (Calculations based on Chatterjee et al.<sup>9</sup>; details are in Appendix 1 in supplemental material.) Because preventative services generate far greater health gains per unit of expenditure than dialysis, it is possible that, by averting cases of complications and associated health spending, these services offer a more efficient way of generating financial risk protection. Indeed, the tentative estimate reported in Table 1 is that the government would have to spend 4.2 times GDP per capita on coverage for preventative services to avoid one case of catastrophic expenditure (assessed at the >20% of household expenditure threshold) for a year, which is less than what is required to avoid a case of catastrophic expenditure through coverage for dialysis. Naturally, this measure is only one indicator of

financial risk protection. Because it counts only how many people exceed a threshold level of expenditure, it is insensitive to how much this threshold is exceeded. Given the high cost of dialysis, it is possible that the cases of catastrophic expenditure averted by coverage for dialysis would be more severe than the cases averted by coverage for preventative measures. The safest conclusion is therefore that neither intervention has a clear advantage in terms of financial risk protection.

We also note that providing coverage for dialysis may more quickly begin to reduce the number of cases of catastrophic expenditure, because it will help families who are spending money on dialysis now (as well as those who, in the future, will develop the need for it). In contrast, coverage for preventative services avoids only future cases of catastrophic expenditure by stopping complications. This raises the question of whether cases of catastrophic expenditure prevented in a few years' time matter less than cases prevented in the more immediate future—that is, whether one should apply what is known as a “discount rate” in assessing the impact of these two policies. In answering this question, one should draw a distinction between purely monetary costs and more fundamental ways in which people’s lives are affected. It is sensible to discount a given sum of future monetary costs by a relevant market rate of interest, because money can now be invested at that rate. However, this reason for discounting *money* does not apply to *fundamental harms* such as a family’s destitution; after all, the magnitude of harm will, on average, be the same whether it occurs in, say, one year’s time to one family or in two years’ time to a different family.<sup>11</sup> Indeed, we believe that it is reasonable not to apply a discount rate at all to cases of destitution prevented, because the harms averted are just as bad, morally speaking, whenever they would have occurred. But even if one were to apply a discount rate to cases of catastrophic expenditure prevented, this reasoning demonstrates that this rate ought to be substantially lower than the discount rate for purely monetary quantities. In other words: it should matter little, if at all, that preventative services avert destitution at a later time than dialysis. The difference in timing of the cases of catastrophic health-related costs averted should therefore not change our conclusion that the two policies are more or less on a par with respect to financial risk protection.

**Other Considerations**

Many of those who would benefit from coverage for dialysis are identifiable. By contrast, though the people whose risks are lowered by the provision of preventative services are known, those among them whose lives would be extended by

these services are not easily identifiable. There is reasonable disagreement about whether this difference in identifiability matters from the point of view of distributive justice.<sup>12</sup> One may therefore reasonably give the needs of identified beneficiaries some (limited) additional weight. This implies that when two options are very similar with respect to all considerations except for the fact that one saves identified people and another unidentified people from harm, it is reasonable (though not morally required) to decide in favor of the former. But it also implies that when there are substantial differences between the two policies (e.g., the total harm prevented to the unidentified people is much larger), then it is wrong to choose the policy that saves the identified people.

**Recommendation**

Various ways of weighing these considerations are reasonable. We offer the following as one way to arbitrate between cost-effectiveness and other criteria.<sup>1</sup> First, create a partial classification of services into high-, medium-, and low-priority categories on the basis of cost in relation to GDP per capita per healthy life year gained and then complete this classification on the basis of priority for the worse off, financial risk protection, and other criteria. This procedure is indicated in Figure 1. The horizontal arrows indicate which priority class the services can be associated with: green indicates high priority, yellow medium priority, and red low priority. When an intervention’s cost-effectiveness falls in a range with only one color, then it is incontrovertibly assigned to the linked category. A service located in an overlapping interval is not categorized on the basis of cost-effectiveness alone; instead, the classification also uses information on people’s disadvantage, their financial risks, and other relevant considerations, such as, in this case, the identifiability of the beneficiaries of dialysis. (The cutoffs between categories in Figure 1 are illustrative only. They need to be determined in a country-specific way with attention to the activities for which the expenditure in question could be used instead.<sup>13,14</sup>)

One reason for using such a procedure is the very large differences in the cost-effectiveness of possible interventions. The proposed process directs resources to where they

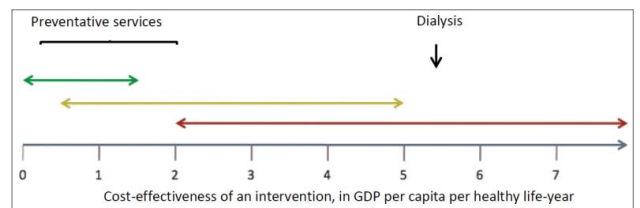


FIGURE 1. Classifying Services



will be especially good at producing more health-related quality of life. Moreover, an expansion of especially cost-effective services will often offer relatively large benefits to the poor, because they are least likely to have access to these services. Nonetheless, the proposed procedure does not pursue only maximal cost-effectiveness. Indeed, across a substantial range, it permits concern for the worse off, for financial risk protection, and for other relevant values to determine into which priority class a service should fall. It also gives these considerations a role in choosing between services that fall within the same priority class.

In our case, this procedure yields the verdict that one should add coverage for preventative services first. As is visible in Figure 1, the estimated cost-effectiveness of these services places them in the high-priority category or in an overlapping high-/medium-priority range. By contrast, the cost-effectiveness of dialysis places it in the low-priority category. This procedure therefore generates the judgment that the more concentrated risks and somewhat greater average individual disease burden faced by those who have renal failure, as well as their identifiability, are not sufficient to outweigh the far greater total health gains from preventative services. (In terms of financial risk protection, neither intervention is clearly superior. Financial risk protection therefore also does not provide any reason to override the strong case for preventative services on the basis of health maximization.)

Though we believe that the reasons for prioritizing preventative services in this case are compelling, this decision may prove controversial. The same compassion for clearly identified, urgent cases that drives families to fund relatives' life-saving dialysis may also prompt the public to demand government funding for it. In this case, therefore, public consultation and accountability for the decision is important not merely because of people's right to an explanation of how limited resources are spent but also because careful communication of the reasons for prioritizing preventative measures is likely to be essential for persuading the public that this choice is justified.

## **CASE 2. FOR WHOM SHOULD ONE EXPAND COVERAGE FIRST: THE FORMAL SECTOR OR THE POOR?**

A low-income country is committed to achieving UHC in the long term. The health system is financed through a combination of the government health budget, private health insurance, and out-of-pocket payments. The population includes the following segments.<sup>15</sup>

The formal sector (10% of the population) consists of salaried workers and their families. They are generally toward the top of the income distribution. Through their employer, a

quarter of these households have insurance that gives access to both private and public health care. The rest either pay out of pocket for private health care or use publicly financed health care, which is subsidized but which for many services (including in-patient services and medicines) involves substantial copayments.

The nonpoor informal sector (25% of the population) consists of informal-sector workers and their families with incomes above the poverty line. They typically lack health insurance and pay for health care out of pocket.

The poor (65% of the population) consist of informal-sector workers living below the poverty line as well as the unemployed and their families. It also includes people with disabilities and elderly citizens with low incomes. Almost none of them have health insurance; moreover, they can afford only minimal out-of-pocket expenses for health care, so their access to both private health care and the publicly provided services for which there are copayments is severely limited.

The government has committed to using a social health insurance and/or community-based health insurance model. Due to constrained financial resources and limited administrative and institutional capacity, the government cannot expand coverage for all groups at once and must choose between the following strategies:

1. First develop social health insurance for the formal sector. This involves mandating enrollment of formal-sector employees financed by a mix of employer and employee contributions and government subsidies.
2. First develop community-based health insurance that targets the poor. This involves starting in areas that have both a relatively high poverty rate and medical facilities that are of a sufficient standard to make gaining access to local health care worthwhile. Enrollment is subsidized to keep premiums affordable, and the poorest receive a fee waiver. To build capacity and ensure community support, the scheme would start with voluntary enrollment. (In the long run, for reasons articulated in case 3, the plan is to transition to mandatory enrollment.) To ensure that not only the ill enroll, only entire families can join.<sup>16</sup>

The decision requires careful assessment of these strategies' possible effects, over the medium term, on different segments of the population. Such an assessment is complex and its results will be sensitive to country context. Nonetheless, common country experiences permit the following general analysis.



### Health Benefit Maximization

Starting with social health insurance for the formal sector may have the following advantages in implementation. Formal-sector workers can be readily identified and enrolled. By contrast, it can be difficult to effectively target the poor.<sup>15,17-19</sup> It may therefore be easier to develop the capacities needed for operating a prepaid health plan with the formal-sector population. Moreover, the possibility of collecting premiums through payroll taxes helps ensure that the plan has a sound actuarial basis. In time, it may generate a surplus that could later be used to extend coverage to the poor and those in the nonpoor informal sector.<sup>15,17-19</sup> For these reasons, a large majority of now-developed countries that opted for a social health insurance and/or community-based health insurance model began their moves toward UHC with the formal sector.<sup>17</sup>

The formal-sector-first strategy also has some disadvantages, however. Because the formal-sector population is better off, they will typically care less than the poor about coverage for low-cost and very cost-effective services (because they could afford to pay for these themselves out of pocket). They will also be willing to contribute more than the poor to coverage for very costly and less cost-effective services (such as dialysis). If one were to design a package solely in response to the preferences of the better off, one would find it ill-suited to the needs of the poor and unaffordable to offer universally. If one pursues the formal sector-first strategy in response to the better-off's demands, it may be more difficult to later expand the same scheme to the nonpoor informal sector and the poor, leading to fragmented benefit packages and financing.

Now consider the strategy of starting with community-based health insurance. As indicated, one challenge is that in poorer, typically more rural areas, it may be more difficult to find competent staff to set up and enforce contracts with public and private health providers and to administer payments than it is to find staff who can perform these activities for a health plan involving formal-sector workers in cities. Moreover, it has often proven difficult to identify the very poorest for fee waivers. The very poorest therefore sometimes do not gain effective access to community-based health insurance.<sup>20</sup> Nonetheless, some countries' experiences indicate that these problems can be addressed.<sup>16,21</sup> For example, if there is already a reasonably well-functioning safety net program for poor households, then the government can leverage this program to inform the poor about community-based health insurance and to identify households in need of a fee waiver.<sup>16</sup> If the poor can be targeted effectively, the following can be said in favor of the poor-first strategy. The poorest tend to benefit most from insurance schemes, because they

face greater financial (and other) barriers and have greater unmet health needs.<sup>22</sup> A given reduction in costs of access (and other barriers) is therefore likely to generate greater total health benefits when directed toward the poor. Moreover, because the poor lack even the most essential services, a benefit package designed for their needs can focus on a basic minimum of interventions that have high priority on grounds of cost-effectiveness, priority for the worse off, and financial risk protection.<sup>15</sup>

### Priority for the Worse Off

On average, the poor face greater disease burdens and have worse access to health services. If their enrollment in community-based insurance can be effectively subsidized, the poor-first strategy therefore does more for the worse off. By contrast, the formal-sector-first strategy prioritizes those who are, on average, better off along a variety of dimensions and leaves the worse off behind. The formal-sector-first strategy can therefore be said to be consistent with concern for the worse off only if (1) there is a clear pathway for eventual expansion to the whole population and (2) capacity constraints render the poor-first strategy substantially less likely to succeed.

### Financial Risk Protection

In our case, even among formal-sector workers, health insurance coverage is low. Some unenrolled formal-sector workers will therefore face catastrophic health expenditures. The formal-sector-first strategy mitigates these through mandating and subsidizing enrollment. However, if successful, the poor-first strategy will offer greater protection for worse-off groups. For the poor, even small out-of-pocket expenses can be catastrophic. The poor are also less able to absorb the lost earnings caused by untreated illness. They therefore generally reap greater benefits from insurance schemes in terms of lowering risks of destitution due to out-of-pocket expenditures and ill health.<sup>22</sup>

### Recommendation

If the capacity for targeting the poor and offering them adequate services in return for their contributions exists or can be developed, then starting with community-based health insurance for the poor is likely to be superior to starting with insurance for the formal sector on grounds of benefit maximization, priority for the worse off, and financial risk protection. Under these circumstances, it is therefore fairest to pursue the poor-first strategy. Countries who choose this strategy can learn from others who have pursued it with some success.<sup>15</sup>

Starting with social health insurance for the formal sector is just only if the alternative poor-first strategy is unlikely to succeed because of limitations in administrative capacity and in the ability to effectively target the poor. Countries pursuing this strategy should be mindful of the potential for exacerbating health inequalities. They should focus on high-priority services to avoid creating a package that, due to its expense, would delay the enrollment of the poor and those in the nonpoor informal sector.

Given the large and competing interests at stake, public participation in decision making and public accountability for the choice of strategy are required.

### CASE 3. VOLUNTARY OR MANDATORY INSURANCE FOR THE “MISSING MIDDLE”?

A lower-middle-income country is committed to pursuing UHC via a social health insurance path. It currently operates mandatory social health insurance for the formal sector, which comprises 30% of the population. It has also embedded in the social health insurance plan a program that pays insurance contributions for the poor, who make up 40% of the population. The poor have thereby achieved reasonably high rates of coverage. The lowest rate of coverage is among the nonpoor informal sector, which consists of the remaining 30% of the population. (This phenomenon is known as the “missing middle.”<sup>15</sup>) The government is seeking to address this coverage gap for the nonpoor informal sector.

The government is considering the following two strategies:

1. Voluntary enrollment for the nonpoor informal sector. This involves encouraging enrollment through information campaigns and making contributions depend on indicators for household income and wealth. The less well-off receive subsidies.
2. Mandatory enrollment for the nonpoor informal sector. This involves requiring all nonpoor to enroll, with enforced contributions depending on indicators for household income and wealth. The less well-off receive subsidies.

Both strategies are expected to make roughly equal demands on the health budget. Though mandatory enrollment will cover a larger population, as explained below, the scheme would be designed to balance these greater expenditures with greater contributions.

A first step is to estimate the benefits and costs of each strategy. Such an estimate will be context specific. The following considerations draw on general country experiences.

### Health Benefit Maximization

Though voluntary enrollment can be part of a transitional phase in the development of health insurance (as discussed in case 2), it has generally not proven successful at generating truly universal coverage. It has resulted in low levels of enrollment in a number of countries, even when coupled with partial subsidies and information campaigns.<sup>15,18,19,23</sup> One reason for low enrollment is a common reluctance to pay up front for services one may not need. Another is that voluntary enrollment tends to generate an insurance pool in which individuals with the highest health costs predominate.<sup>24</sup> This problem arises as follows. To avoid unfairly burdening those who have higher health risks with higher premiums, premiums need to be made independent of each individual’s risk profile. (This is a process known as “community rating.”) Suppose one were initially to set this premium at a rate that would cover the average expenditure on health care in the population. For such a risk-independent premium, insurance would be most attractive to people who expect to have an above average need for health services. Those who would voluntarily enroll would therefore generally have disproportionately high health risks. To cover the costs of this high-risk pool in a voluntary scheme, one would either have to raise the premium or increase subsidies. If one were to raise the premium, at the margin, those with the lowest risks would drop out of the pool, because they would regard insurance as too expensive relative to their personal risk profile. This would worsen the risk profile of the enrolled population, meaning that premiums would have to be raised again, making the problem circular. If, instead, one were to increase subsidies, this would lead to an increased fiscal burden. For a given budget, this would therefore place a limit on total enrollment and on the associated population health benefits.

Mandatory enrollment avoids this problem by generating a pool with, on average, lower health risks than voluntary enrollment. Moreover, if contributions are set so that younger, healthy, higher-income individuals pay more than their expected costs in a given year, this strategy allows one to cover a larger population without requiring more by way of government funding than voluntary enrollment does. Of course, mandatory enrollment can work only if the government has the capacity to enforce income-dependent prepayments from the nonpoor informal sector. Developing this capacity can be challenging.<sup>15,18,19</sup> But if this capacity exists or can be developed, mandatory coverage will achieve greater population health gains, because expanded coverage generally improves health, especially if the mandated package consists of services that, according to the outlined criteria, should have high priority.<sup>22</sup>

### Priority for the Worse Off

Voluntary enrollment will, on average, improve the situation of those who choose to enroll. As discussed, these will disproportionately be those who are worse off in terms of health prospects. However, this will leave uninsured those who believe themselves currently to be at low health risk, those who lack the relevant information to enroll, and those who, amid the pressures of daily life and the difficulty of making the insurance decision, simply do not enroll.

Among those who would not purchase insurance under voluntary enrollment, we must consider three groups of individuals. First, there would be those who do not later develop substantial health problems. These would end up better off under voluntary enrollment because they would not have to pay the insurance premium. Second, there would be those who develop substantial health problems for which interventions are not covered in the mandatory package. These would also not be better off with the mandatory package. Third, there would be those who develop substantial health problems for which relevant interventions are covered under the insurance package. These would most likely be better off under mandatory enrollment, because they will not have to pay out of pocket for needed services. The second and third groups are, on average, worse off in terms of health outcomes, but mandatory insurance is better only for the third group. The question regarding whether mandatory enrollment is, on balance, best for the worse off in health therefore depends on the package of covered services. If it is well designed to consist primarily of services that should have high priority given the criteria of maximum benefit, priority for the worse off, and financial risk protection, then the third group is likely to be substantial in number and also to be greatly benefited. A well-designed mandatory package therefore represents the option that does more for the worse off in terms of health outcomes.

### Financial Risk Protection

Because it covers more of the nonpoor informal sector, an effective mandate offers greater protection against the financial risks of ill health. It also enables forms of cross-subsidization that are consistent with solidarity: the better off subsidize the less well-off, and the healthy subsidize the unhealthy.

### Other Considerations

In this case, one further key issue is the need to respect and promote each individual's autonomy, understood as the power to exercise control over key parts of one's life by making free and informed decisions.

Voluntary enrollment preserves people's freedom not to purchase health insurance. Mandatory enrollment, by contrast, eliminates this freedom and thereby infringes on the autonomy of those who do not consent to this limitation. However, the role of a mandate in securing a well-functioning insurance scheme provides reasons for individuals to consent to this limitation.<sup>25,26</sup> The vast majority of individuals in the nonpoor informal sector who are currently at low risk of health problems presumably want health insurance available at reasonable cost when their risks become high (such as later in life or when they develop a need for expensive care). Due to the aforementioned problems of voluntary schemes, insurance might not be available to them at an affordable cost if each person were left free not to insure themselves. It may therefore be in the long-term interests of the vast majority of young and healthy individuals who are currently at low risk that everyone is forced to insure themselves, because the mandate ensures that there is affordable insurance when they later need it. Thus, mandatory payments may be justified as an efficient way of enabling each to get something they want but could not get if each were free to make decisions independently. Insofar as citizens see the role of the mandate in this way, they will consent to it. The autonomy of those who do so consent is not infringed by the mandate.

In addition, health services are crucial in promoting individual autonomy. Only with a minimum of health can a person be truly autonomous and enjoy a wide range of opportunities. One reason for an effective mandatory system is therefore its contribution to promoting autonomy by ensuring access to needed health services.<sup>25</sup>

### Recommendation

Country experiences strongly suggest that voluntary enrollment is unlikely to achieve UHC.<sup>15</sup> If the capacity exists or can be developed to enforce income-dependent contributions from the nonpoor informal sector, then mandatory enrollment for this sector is the fairest strategy. It promises larger aggregate health gains, better access to care for those with health problems, and more extensive transfers from the healthy and better off to the sick and less well-off. Though it removes the freedom to remain uninsured, this may be justifiable insofar as it is necessary to ensure that everyone can have affordable insurance when they are at high health risk. Though it can be challenging to build mandatory systems, governments can learn from the experience of a number of low- and middle-income countries that have taken steps in this direction.<sup>15</sup>

Given the substantial competing interests at stake in this decision, public participation in decision making and public

accountability for the choice of strategy are required. A public explanation of the reasons for mandatory insurance can also help to gain more people's consent to the limitation on liberty involved and thereby avoid infringing on the autonomy of those who do so consent.

## CONCLUSION

We have reviewed how choices on the road to UHC can be guided by the principles of maximum total health gain, extra weight for the interests of the disadvantaged, and protection of people's livelihoods against risks posed by ill health. We have also discussed how, in particular contexts, further values are relevant. It is not straightforward what each principle requires in a given case. Moreover, though we have proposed some ways of weighing the demands of these principles against each other and against other relevant moral considerations, other approaches may also be reasonable. In employing these principles to decide particular cases, there is, therefore, no alternative to discernment and careful, well-informed discussion.

We emphasize that such discussion must not only take place by experts behind closed doors. Those whose interests are affected, and in whose name trade-offs are made, should be able to contribute to the discussion about the principles that should guide these decisions and about how to balance these principles' demands. To further such public participation, it may be useful to involve members of the community alongside health care providers and producers in priority-setting fora, to voice the concerns of those affected by a decision (as, for example, representatives of patient groups can do in Thailand and Germany or as public representatives do alongside representatives of government and health professionals on Health Councils in Brazil).<sup>27</sup> It may also be valuable to invite members of the general public, alongside health care providers, to consider and approve general ideals and principles of justice for use in setting priorities (as, for example, the National Institute for Health and Care Excellence's Citizens' Council does in England and Wales). Finally, it is important that the reasoning behind key decisions is publicized, so that it can be evaluated and contested. Here, we hope to have facilitated such debate, by articulating key principles and values and showing how they can be used to arrive at judgments in difficult cases.

## NOTES

[a] Deliberation about justice also has other important roles, including the evaluation of whether the constraints faced by the decision maker are themselves fair. However, this is not our task in this article.

[b] Though estimates of the cost-effectiveness of interventions are very valuable for policy making, we emphasize that they must be treated with caution. In particular, external validity may be an issue. In employing an estimate derived from a study of an intervention in one environment, one must consider whether the results are likely to hold in the context in which the intervention is being considered. This extrapolation is especially challenging in lower- and middle-income countries.

[c] A similar case is discussed briefly elsewhere.<sup>28</sup> Our discussion here is far more comprehensive. We also rely on improved estimates of the cost-effectiveness of the interventions and the individual burdens they would alleviate and have estimated a new indicator of financial risk protection.

## DISCLAIMER

The opinions expressed are the views of the authors, who alone are responsible for the views expressed in this publication. They do not represent any position, decision, or policy of Giving What We Can; the ministries of health of Burundi, Ghana, Malaysia, Morocco, or Thailand; the Pan American Health Organization; the Results for Development Institute; the US National Institutes of Health; the US Public Health Service; the US Department of Health and Human Services; the World Bank; or the World Health Organization.

## DISCLOSURE OF POTENTIAL CONFLICTS OF INTEREST

None of the authors have any interests, financial or otherwise, to declare.

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## REFERENCES

- [1] World Health Organization. Making fair choices on the path to universal health coverage. Geneva: World Health Organization; 2014.
- [2] World Health Organization. The world health report 2010. Health systems financing: the path to universal coverage. Geneva: World Health Organization; 2010.
- [3] Gold MR, Stevenson D, Fryback D. HALYs and QALYs and DALYs, oh my: similarities and differences in summary measures of population health. *Annu Rev Public Health* 2002; 23: 115-134.
- [4] Chan M. Making fair choices on the path to universal health coverage. *Health Syst Reform* 2016; 2(1): 5-7.
- [5] Voorhoeve A, Tan-Torres Edejer T, Kapiriri T, Norheim OF, Snowden J, Basenya O, Bayarsaikhan D, Chentaf I, Eyal N, Folsom A, et al. Three case studies in making fair choices on the path to universal health coverage. *Health Hum Rights J* 2016; 18(2): 11-22.
- [6] Voorhoeve A, Fleurbaey M. Equality or priority for possible people? *Ethics* 2016; 126(4): 929-954.
- [7] Cohen IG, Daniels N, Eyal N. Identified versus statistical lives: an interdisciplinary perspective. New York: Oxford University Press; 2015.
- [8] Prakongsai P, Palmer N, Uay-Trakul P, Tangcharoensathien V, Mills A. The implications of benefit package design: the impact on poor Thai households of excluding renal replacement therapy. *J Int Dev* 2009; 21: 291-308.
- [9] Chatterjee S, Riewpaiboon A, Piyauthakit P, Riewpaiboon W, Boupajit K, Panpuwong N, Archavanuntagul V. Cost of diabetes and its complications in Thailand: a complete picture of economic burden. *Health Soc Care Community* 2011; 19: 289-298.
- [10] Smith-Spangler CM, Bhattacharya J, Goldhaber-Fiebert J. Diabetes, its treatment, and catastrophic medical spending in 35 developing countries. *Diabetes Care* 2012; 35: 319-326.
- [11] Broome J. Discounting the future. *Philos Public Aff* 1994; 23: 128-156.
- [12] Daniels N. Reasonable disagreement about identified vs. statistical lives. *Hastings Cent Rep* 2012; 42: 35-45.
- [13] Revill P. Using cost-effectiveness thresholds to determine value for money in low- and middle-income country health-care systems: are current international norms fit for purpose? York, UK: Centre for Health Economics, University of York; 2014.
- [14] Ochalek J, Lomas J, Claxton K. Cost per DALY averted thresholds for low- and middle-income countries: evidence from cross-country data. York, UK: Center for Health Economics, University of York; 2015.
- [15] Cotlear D, Nagpal S, Smith O. Going universal: how 24 countries are implementing universal health coverage reforms from the bottom up. Washington, DC: World Bank; 2015.
- [16] Mebratie AD, Sparrow R, Yilmaa Z, Alemu G, Bedi AS. Enrollment in Ethiopia's community-based health insurance scheme. *World Dev* 2015; 74: 58-76.
- [17] Carrin G, James C. Social health insurance: key factors affecting the transition towards universal coverage. *Int Soc Secur Rev* 2005; 58: 45-64.
- [18] McIntyre D, Ranson MK, Aulakh BK, Honda A. Promoting universal financial protection: evidence from seven low- and middle-income countries on factors facilitating or hindering progress. *Health Res Policy Sys* 2013; 11: 36. Available at <http://www.health-policy-systems.com/content/11/1/36>
- [19] Lagomarsino G, Garabrant A, Adyas A, Muga R, Otoo N. Moving towards universal health coverage: health insurance reforms in nine developing countries in Africa and Asia. *Lancet* 2012; 380(9845): 933-943.
- [20] Mebratie AD, Sparrow RA, Alemu G, Bedi AS. Community-based health insurance schemes: a systematic review. *ISS Working Paper Series* 2013; 568: 1-47.
- [21] Kalk A, Groos N, Karasi JC, Girrback E. Health systems strengthening through insurance subsidies: the GFATM experience in Rwanda. *Trop Med Intern Health* 2010; 15(1): 94-97.
- [22] Giedion U, Alfonso EA, Díaz Y. The impact of universal coverage schemes in the developing world: a review of the existing evidence. Washington, DC: World Bank; 2013.
- [23] Etienne C, Asamoah-Baah A, Evans DB. Health systems financing: the path to universal coverage. Geneva: World Health Organization; 2010.
- [24] Arrow KJ. Uncertainty and the welfare economics of medical care. *Am Econ Rev* 1963; 53(5): 941-973.
- [25] Menzel P. Justice and fairness: mandating universal participation. *Hastings Cent Rep* 2009;(Suppl): 4-6.
- [26] Voorhoeve A. May a government mandate more comprehensive health insurance than individuals want for themselves? In: *Oxford studies in political philosophy*. Vol. 4, Sobel D, Vallentyne P, Wall S, eds. Oxford: Oxford University Press; 2018; chap. 7.
- [27] Weale A, Kieslich K, Littlejohns P, Tugendhaft A, Tumilty E, Weerasuriya K, Whitty JA. Introduction: priority setting, equitable access and public involvement in health care. *J Health Organ Manag* 2016; 30(5): 736-750.
- [28] Voorhoeve A, Ottersen T, Norheim OF. Response to our critics. *Health Econ Policy Law* 2016; 11: 103-111.
- [29] Teerawattananon Y, Mugford M, Tangcharoensathien V. Economic evaluation of palliative management versus peritoneal dialysis and hemodialysis for end-stage renal disease: evidence for coverage decisions in Thailand. *Value Health* 2007; 10(1): 61-72.
- [30] Venkat Narayan K, Zhang P, Kanaya A, Williams D, Engelgau M, Imperatore G, Ramachandran A. Diabetes: the pandemic and potential solutions. In: *Disease control priorities in developing countries*. 2nd ed., Jamison D, Evans D, Mills A, Breman J,

- Measham A, Alleyne G, Claeson M, Evans D, Jha P, Mills A, Musgrove P, eds. Washington, DC: World Bank; 2006; 591-603.
- [31] Institute for Health Metrics and Evaluation. Global burden of disease 2010. Seattle, WA: Institute for Health Metrics and Evaluation; 2010. Available at <http://ghdx.healthdata.org/record/global-burden-disease-study-2010-gbd-2010-mortality-results-1970-2010> (accessed 2 April 2017)
- [32] Wattana C, Srisuphan W, Pothiban L, Upchurch S. Effects of a diabetes self-management program on glycemic control, coronary heart disease risk, and quality of life among Thai patients with type 2 diabetes. *Nurs Health Sci* 2007; 9: 135-141.
- [33] World Health Organization. The global burden of disease: 2004 update. Geneva: World Health Organization; 2004.