Background

UHC is a priority topic in global health. It is one of the targets in the sustainable development goals, and considered the main approach that cuts across all program areas and SDG health targets. Two previous meetings have been held at the Bellagio Center (Measurement of trends and equity in coverage of health interventions in the context of universal health coverage, September 17-21 2012, and Monitoring Universal Health Coverage, 11-13 March 2014). The two meetings contributed greatly to a series of critical global products including the Global UHC monitoring framework (May 2014), a PLOS Collection on UHC monitoring (September 2014) and the first global UHC tracking report (June 2015).

The main goal of this meeting was threefold. First, building upon previous analyses, the aim was to take the technical level of UHC tracking of service coverage to the next level. This involves:

- Intervention coverage for RMNCH and infectious diseases
- NCD control, mental health and emergency care coverage
- Interventions related to health promotion in other sectors with large effects on health (such as tobacco use, water & sanitation)
- Alternatives such as utilization rates for outpatient or inpatient care
- Potential to include quality dimension and effective coverage.
- Equity
- Composite measures, including equity

Second, UHC monitoring requires the equally important aim of estimating financial protection. This requires a review of the new results on financial protection based on the World Bank database, both for global totals but also to summarize information on equity in financial protection. In addition to identifying metrics of service coverage and financial protection, there is also interest in a composite measure that combines intervention coverage and financial protection together.

Third, the meeting also provided a platform to disseminate discussions between civil society and other stakeholders to explore how to strengthen monitoring and accountability for UHC. This may have global, regional and country dimensions.

This meeting report summarizes key points and output from discussions that were held on the above aims. It is organized by the following topics: (i) service coverage indicators, (ii) financial protection indicators, (iii) equity monitoring and summary measures of UHC, and (iv) strengthening monitoring and accountability for UHC with civil society and other stakeholders.

Service coverage indicators

Health service coverage is intrinsic to the definition of UHC, providing critical information on whether the population obtains needed essential health services. Note that the word services is used in its broad meaning, including both personal health services and population health services. Countries provide a wide range of services, but it is possible to select a set of tracer indicators that provide a good picture of overall service coverage. The set of tracer indicators should cover health protection, promotion and prevention, as well as treatment and care, in line with the definition of universal health coverage. The selection of the final indicators is challenging, but the ideal set of tracer indicators would meet several criteria. First, an indicator should be relevant, reflecting
epidemiological burden and (cost) effective interventions. Second, an indicator should be conceptually sound, with a measurable numerator and denominator, a clear target, and a definition that captures effective coverage. Third, it must also be feasible, with current, comparable data available for most countries, which can be disaggregated for equity analysis. Lastly, indicators should be usable, in the sense they are easy to communicate; indicators that are already reported as part of other international initiatives are appealing as they reduce reporting burden.

Currently, no potential tracer indicators meet all of these criteria, and therefore proxy indicators, to approximate ideal quantities of interest, and statistical models, to bridge data gaps, are necessary in some cases. Ideal data sources are typically nationally representative, population-based surveys, which enable the measurement of those who need an intervention (in addition to counting those who receive it), and allow for disaggregation of coverage by different subpopulations for equity analysis. In other cases, routine data collected from health facilities may be used, but often require additional analytic steps to estimate denominators or conduct equity analyses.

Following the meeting, WHO prepared a proposed set of tracer indicators for feedback. To help organize the final set of indicators, four broad categories of health services were defined: (1) reproductive, maternal, newborn and child health, (2) infectious diseases, (3) noncommunicable diseases, and (4) service capacity and access. These first three categories capture the coverage of services for the main causes of mortality and ill-health in all countries. The fourth category is added to include information on the status of selected areas (such as inpatient care, mental health, injuries, health security). These categories are as follows (see Table 1 for more specifics on current list of proposed indicators)

1. Reproductive, maternal, newborn and child health (RMNCH)
   • Indicators for family planning, pregnancy care, immunization, breastfeeding initiation, and child treatment
2. Infectious diseases
   • Indicators for TB, HIV and diarrhoeal diseases
3. Noncommunicable diseases
   • Indicators for cardiovascular disease, diabetes, cancer and COPD
4. Service capacity and access
   • Indicators for inpatient hospital care, mental health and health security

Key discussion points about the choice of tracer indicators included the following:

1. Reproductive, maternal, newborn and child health (RMNCH)
   • Immunization: It was noted that there is strong interest from international agencies to monitor full immunization for infants. However, the group raised concerns that the definition of “full” differs over time and across countries, making comparisons over time and space difficult. Given the policy focus on full immunization, it is still proposed as the indicator, however it was suggested that using DTP3 as a proxy for the coverage of a vaccine delivery system be kept under consideration.
   • Pregnancy care: There were concerns raised over the utility of monitoring ANC4 and SAB, in particular with respect to a lack of information on the quality of care received. There was some sentiment that institutional delivery may be more meaningful to measure than skilled birth attendance, as the definition of “skilled” may vary across countries. The proposal to monitor the fraction of pregnant women receiving both antenatal care and skilled birth attendance was an effort to help balance RMNCH indicators against other areas, and to have a more demanding measure of effective coverage for pregnancy services.
Breastfeeding initiation: The case was made that early initiation of breastfeeding provides some measure of care around delivery, and also provides an indicator for nutrition, which would otherwise unrepresented in the list of tracer indicators.

Child treatment: The group discussed treatment for diarrhoea, treatment for pneumonia, and care seeking for pneumonia. Treatment for diarrhoea and pneumonia both appear to be quite difficult to measure accurately from surveys. They also suffer from sample size issues given the short recall period, which is an issue given the need for disaggregation for equity analysis. Care seeking for pneumonia also has issues with sample sizes, but the numerator is easier to measure and so was included given the importance of the intervention areas it represents (child treatment and respiratory infections).

2. Infectious diseases

Treatment for HIV and TB: Some expressed concern that HIV treatment, TB treatment, and ITN for prevention of malaria (which was originally also proposed) were not epidemiologically meaningful for many middle- and high-income countries, as burden due to these conditions is low. However, a counter point was made that for HIV and TB treatment, even in settings with low infection rates, the ability of a health system to provide life-saving treatment to those in need (many of whom may be marginalized) is good indicator of the extent to which health coverage is universal. The coverage of ITN, however, is not relevant for many countries due to the limited geographic extent of malaria, which makes this indicator less suitable for global monitoring across countries.

Diarrhoea: Household use of improved water and sanitation is the proposed indicator for interventions against diarrhoea, which was the 5th leading cause of loss of health globally in 2012. Several meeting participants disliked using water and sanitation, arguing it is not part of health coverage. As a counter point, it is not difficult to find examples of national health strategic plans that directly address water and sanitation.

Other candidates: these include the coverage of intervention for neglected tropical disease (preventive chemotherapy) and treatment of sick children with suspected pneumonia, diarrhoeal diseases or malaria.

3. Noncommunicable diseases

Cardiovascular disease: Majid Ezzati proposed that effective treatment coverage for those with elevated CVD risk was the most meaningful measure of coverage for CVD, and preferable to separately measuring the prevalence or rates of treatment for those with hypertension, elevated cholesterol or diabetes. Concerns were however raised about the feasibility of this measure, at it would require estimating country-specific risk equations, which combined with survey data, would identify those in need. Majid is currently working on these risk equation in collaboration with WHO, but they are not yet ready, and it is unclear how countries will view/use these risk equations (or use their own). In the near term, at least, measuring separate indicators for hypertension and diabetes control are therefore proposed. The group also expressed a preference for treatment coverage (which is an effective coverage indicator), as opposed to prevalence, of these conditions; however the latter currently has better data availability.

Non-use of tobacco: There was considerable disagreement on including non-use of tobacco as an indicator of service coverage for UHC. In support of its inclusion is the argument it is an effective coverage measure of interventions to limit tobacco use. Against its inclusion is the argument that it is not specific to any particular intervention and is influenced by a variety of other determinants.
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• Cervical cancer screening: There were no objections to cervical cancer screening as an indicator, although it was noted data is currently unavailable for many countries.

4. Service capacity and access:

• At the meeting, an initial proposed set of tracer indicators from WHO did not include any utilization or capacity indicators due to concerns that they have no clear target (over-use is an important issue in high income countries) and they do not identify those in need (there is no denominator). However, in discussions following a presentation from Ravi Rannan-Eliya, there was a strong sentiment in the group that among lower income countries, low rates of utilization and capacity are a clear signal that the population does not have universal health coverage. Moreover, many felt that things like hospital facilities, surgical capacity, emergency care, are something that most people view as essential components of universal health coverage, and without it the list of tracer indicators would focus largely on prevention and outpatient services. Additionally, the point was made that many interactions with general practitioners do not necessarily involve intervention for prevention or treatment, but may instead involve easing concerns about things that do not require medical intervention. Taken together, the group came to a consensus that in the absence of better effective coverage indicators, proxy indicators based on service capacity and access should be included, and this category was added.

• Utilization and capacity indicators would be monitored on a scale of 0 to 100%, where 100% is taken from the minimum utilization rates observed in OECD countries. Once countries exceed the threshold, coverage would be held constant at 100%.\(^1\) Outpatient utilization rates were also discussed, but rejected due to concerns about the difficulty of defining and identifying what constitutes an outpatient visit. A similar concern was raised for the indicator density of health professionals, as defining a health professional consistently across countries is challenging. Ziad Obermeyer proposed monitoring coverage of acute care, for example distance to an emergency facility; however current data availability is very limited.

• The meeting also discussed the lack of a reliable indicator for coverage of mental health services, in particular the challenge of identifying those in need through survey responses. Density of psychiatrists was selected as a proxy indicator to address this gap.

• Health security: the implementation of the international health regulations (IHR) and the capacity to prevent, detect and respond to health threats depend the presence of a strong and resilient health system. Many consider protection of citizens against health threats part of universal health coverage. The best indicator would be IHR implementation rate. Methodologies are currently improved.

Financial protection indicators

Financial protection is at the core of UHC as access to needed services should not cause any financial hardship. Measures of financial hardship include the fraction of population experiencing catastrophic health expenditures and the fraction of population experiencing impoverishing health expenditures.

Catastrophic out-of-pocket health expenditures are judged to occur when direct payments made to health care providers at the time of service use exceed a given fraction of a household’s expenditure.

\(^1\) It is also possible that a two-pronged indicator approach could be use, where a different indicator is used to monitor progress towards UHC for countries that exceed the threshold.
When no adjustments are made to take into account spending on necessities, catastrophic health expenditure can be defined as health expenditure exceeding a share of total expenditure. This is the budget share approach. When accounting for a minimum level of subsistence spending, health expenditures are identified to be catastrophic when they exceed a given fraction of a household capacity to pay. This is the capacity-to-pay ratio approach. The threshold at which health payments are judged to become catastrophic varies depending on the definition of catastrophic payments used; for example, 25% for metrics based on total expenditure, and 40% for those using a capacity to pay approach. Impoverishing out-of-pocket health expenditures are defined as occurring when such payments push a household below a poverty line. For global monitoring, international poverty lines such as extreme poverty lines ($1.25 in 2005 PPP, i.e. $1.90 in 2011 PPP per capita, per day) are priori relevant benchmarks.

Financial protection indicators are based on information collected from nationally representative household expenditure surveys or household multipurpose surveys implemented by or in close collaboration with national statistical offices. The three most common surveys are Household Budget Surveys, Household Income and Expenditure Surveys and Living Standards Measurement Surveys. These types of household surveys sometimes differ in their design. Hence, the World Bank Group conducts a series of harmonization efforts for different purposes (e.g. calculation of country specific PPP factors). For many countries, multiple surveys are available—usually covering different years, sometimes covering the same year. While these indicators of financial protection are based on internationally agreed concepts; methods that have been peer-reviewed, are well-established and have been applied in several country studies for over a decade, a number of challenges emerge to generate figures at the global level. Two particular aspects regarding policy dialogue and measurement were considered during the Bellagio meeting and these were discussed in three sessions.

The first one highlighted the application and use of financial protection estimates in national policy dialogue in the Philippines and in countries of the Europe and Central Asia region. The need to embed results of an analysis of financial protection within the context of wider system reforms and based on measurement choices that are relevant for the country was noted. Indeed, the difficulty to discuss numbers that are based on choices made for cross-country comparisons was stressed. For instance, as it is to be expected, the international poverty line used to identify impoverishing out-of-pocket health expenditures is not aligned with national poverty lines. This is the case in the Philippines which doesn’t have a single poverty line but thresholds that vary across regions and depend on the number of adults and children in the household. Second, financial protection is influenced by aspects of population knowledge of their entitlements, benefit package design and provider payment mechanisms. As such, monitoring financial protection indicators over time will provide an indication of progress but will not provide information on why certain trends are occurring – to answer that an evaluation of the broader context around financing policies and system arrangements is required.

The second session presented the World Bank preliminary estimates of financial protection based on impoverishing health expenditures identified using the new $1.90-a-day extreme absolute poverty line using 2011 PPP. These estimates excluded high-income countries and estimates were based on a non-parametric polynomial smoothing estimation method which accounts for either not all countries having surveys for all years or survey sources varying across or within time and countries. A parametric approach was also considered. It was noted that non-parametric approaches do not necessarily have good out-of-the-sample predictive power and that the point estimates are also sensitive to the survey design such as the number of questions on health-expenditures versus non-health expenditures. It was suggested to further explore both aspects. It was also stressed that for policy dialogue, some cautious is needed when presenting the results of impoverishing measures as
it suggests that people are pushed into poverty while they could be financing their health expenses through dissaving, borrowing or selling assets which in the short run might preclude them from compromising subsistence needs. While the role of coping strategies in financing health expenditures is not questioned, not enough surveys have information that allows to adjust impoverishment estimates for coping strategies. More research is needed to develop a method that enables to make such adjustment. In the meantime, the World Bank has a preference for presenting these estimates as upper bounds estimates. This idea of household pushed into poverty also depends on whether or not the World Bank includes out-of-pocket payments in the consumption aggregate that is used to monitor poverty. This information is not easily available in the PovcalNet portal that presents the official World Bank estimates. The World Bank team will clarify this aspect but there was some consensus that the aggregates shouldn’t include OOPs.

The third session was a technical session that focused on methodological considerations that are important for current efforts to evaluate the lack of financial protection at all levels (global, regional, country) and for the ongoing discussions about the SDG indicators given that UHC is one of the SDG target under the health goal number 3.

First, there is a need to clarify distinctions between the two indicators of financial protection – their respective underlying concerns and what they are measuring. Strictly speaking, the use of the term financial hardship in the UHC definition used to refer to financial protection implies a concern for the impact of OOP on poverty as captured by the impoverishing indicator. The term could thus be potentially misinterpreted as not expressing a concern for exposure to medical expenditure risk which can be captured by a catastrophic metric.

Second, discussions on catastrophic health expenditures further highlighted the need to have greater clarity over the underlying concern for measuring catastrophic health expenditures. The budget share approach is easy to communicate and less data demanding than a capacity-to-pay approach but it does over-estimates the resources poorer households have to finance their health expenditures. A capacity-to-pay approach to catastrophic OOP shares on the other hand attempts to correct for this and in addition is closely related to a concern for fairness of the health financing systems in that the underlying ethical concern is that out-of-pocket payments shouldn’t absorb a larger share of household’s resources for the poor than the rich. However a capacity-to-pay approach could be seen to diminish the distinction between catastrophic health expenditures and impoverishing health expenditures. This is because defining subsistence expenditure, especially following a normative approach, would increasingly resemble the definition of a poverty line and the rational for measuring catastrophic expenditures will become close to the motivation behind the concept of impoverishing health expenditures. The rational for the latter is indeed a concern with out-of-pocket payments that are not only large but sufficiently large to absorb all resources needed to preserve a subsistence living standard. Overall, there were supporters of both a capacity-to-pay approach and a budget share one to measure catastrophic expenditures. Hence it was agreed to continue to monitor both. Some stressed the importance of considering exposure to medical expenditure risk when considering the rational for measuring catastrophic payments as exposure to this risk is primarily the one that can be mitigated when providing insurance.

Third, measuring catastrophic health expenditures also requires identification of a threshold. It was pointed out that this choice could be guided by cross-referencing to national policies over cost-sharing arrangements. Alternatively, leaving aside any conceptual consideration behind catastrophic expenditures, some statistical tools can be applied to assess the robustness of comparisons over time, across countries and groups to the choices made for measurement. Under a minimal set of assumptions, a restricted dominance approach can be applied for this purpose. This entails implementing some particular tests of stochastic dominance but can be illustrated by the means of a...
simple graphical tool showing for any threshold the share of the population spending more or less than such fraction, i.e. the “lack of financial protection” or financial protection “coverage” to adopt the terminology used in the WHO&WB monitoring framework. The restricted dominance approach was applied to the World Health Survey with information on the expenditure aggregates needed to measure catastrophic expenditures, i.e. for 38 countries with sample size varying between 4,000 and 9,000 households. Results suggests that a capacity-to-pay approach to catastrophic OOP shares provides results that are more robust to the choice of the threshold than the budget-share approach and that a capacity-to-pay approach based on non-food spending is as robust as one based on non-subsistence levels of spending. Preliminary results based on expenditure surveys corroborate this.

Four, two key points were raised during discussions on impoverishing health expenditures: (i) the relevance of international poverty line of $1.90 (2011 PPP) per capita, per day across all countries and (ii) the policy implications of including the already poor with any OOP in estimations.

- The global relevance of measuring impoverishing health expenditures using the extreme poverty benchmark was questioned as it disregards the fact that countries are at different levels of economic development. If the concern is for the impact of OOP spending on poverty within a country, then use of extreme poverty line would not necessarily capture this – even when OOP are not taken into account, the fraction of the population below the international poverty line is negligible in HICs. To increase relevance for all country contexts, an alternative proposal is to use available national lines. Despite some limitations (e.g. lines sometimes politically influenced, multiple lines existing in a country, different income vs. expenditure approaches employed), the use of national poverty lines has traction and is one of the indicators for SDG target 1.2. Another alternative was to use multiples of the $1.90 international poverty line and apply these variably according to a country’s economic level of development such that higher lines are used in richer countries. It was agreed to use both the international poverty line of extreme poverty as well as national poverty lines for global monitoring.

- A second issue related to the policy implications of including the already poor with any OOP in global estimations of impoverishing health expenditures based on international poverty lines. While this initially sounds appealing, levels of impoverishment would significantly increase when including those already poor who spend at least one cent on OOP and would thus be highly correlated with levels of general poverty rather than a reflection of a country’s health financing arrangements. Given this, it was agreed to measure impoverishing health expenditures by measuring changes in poverty headcount ratio due to exclusion of out-of-pocket payments from households consumption aggregates and to supplement this with poverty gap measures which also allows to take into account the correlation between poverty and health expenditures among the poor. Indeed, the gap measures capture the deepening of poverty for the already poor and are already widely used in the literature.

Five, discussions on capturing inequalities in financial protection due to socio-economic status raised questions over the construction of quintiles and the use of consumption net of OOP vs. gross consumption. This is particularly an issue when analysing the distribution of catastrophic payments across socio-economic groups following a budget share approach in which household’s resources are measured by their level of total spending, including out-of-pocket payments. The more they spend on health care, the higher their total spending, the more likely they are to be ranked in the upper tail of the distribution. Another alternative would be to use a wealth score to rank households. Here again, give the recognized role of coping strategies, a particular consideration is needed when
constructing the wealth indicator. The information needed to do so is not always available, in particular when the data source is an expenditure survey exclusively. In any case, more research is needed to determine if pro-rich distributions of catastrophic expenditures are driven by the reliance on an accounting approach to identify catastrophic health expenditures.

Last but not least, Adam Wagstaff has papers that demonstrate the feasibility of an index-based approach to measuring UHC. This combines both coverage indicators and financial protection indicators. The latter includes measures of catastrophic expenditures as well as measures of impoverishing health expenditures. This potentially opens the path to research on composite index of financial protection. Ultimately, given the number of indicators that are being discussed for SDG monitoring, at some point the number of metrics used for financial protection may need to be reduced. There are series of challenges that emerge in trying to combine financial protection metrics, let alone with coverage indicators. The focus here is on the former. Two approaches could be used to combine CATA with IMPOV. A marginal distribution approach as proposed by Adam Wagstaff et al in a health affairs paper or a joint distribution approach. The relative advantages and disadvantages of both were discussed in Bellagio. Marginal approaches focus on trade-offs between dimensions. As such the role of the weights given to each dimension and each component of each dimension as well as the functional form of the composite measure is crucial. A joint distribution approach enables to identify people that suffer both catastrophic expenditures and impoverishing expenditures who can then be given greater weight in assessing financial protection. However, this implies that CATA and IMPOV are measuring different consequences of paying for health care out-of-pocket which leads again to the conceptual discussion of the rational for measuring CATA and IMPOV. It was therefore considered during the meeting that in order to continue considering composite measures of financial protection metrics, a pre-condition is to clarify the conceptual foundations of both measures.

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2 In particular, there tend to be considerably less variation in the latter as the extent to which people can face catastrophic health expenditures and/or impoverishing ones depends upon the extent to which people spend anything at all in health care and the level of such expenses which has a discretionary component in particular in the absence of insurance arrangements or subsidies that reduce reliance on direct contributions to access health care. Previous analysis suggest that the incidence of catastrophic and impoverishing health expenditures globally never exceeds 20%. But these bounds are data driven. While this is exactly the reason why they have been chosen to monitor the lack of financial protection when included in a composite index of UHC the weighting of the two dimensions needs careful consideration in particular if the coverage indicator do not capture the problem of access to general services. This is something that Wagstaff et al. have included in their measures, the importance of which should be stressed.

Equity monitoring

**How to measure health inequality**

The progressive realization of universal health coverage strives for accelerated gains by disadvantaged populations. Monitoring equity is in line with the post-2015 SDGs principle of "leaving no one behind" as well as SDG target 17.18, which calls for disaggregation all SDG indicators by relevant dimensions of inequality.

There are several approaches to capture equity given which dimensions are to be included and how the disadvantaged population is defined according to the selected dimension(s). The first approach is to use economic status as a single dimension. Two methods are suggested on how to measure equity/disadvantaged based on economic status: (1) using concentration index which is a relative summary measure of inequality that gives more weight to the poorest compared to the richest and considers the whole gradient of economic status (this approach has been implemented by Wagstaff et al) and (2) using the poorest quintile to define the coverage in the disadvantaged populations. It was argued that the latter is easier to communicate.

The second approach is to use multiple dimensions based on the concept that “the disadvantaged” subgroup for each health coverage indicator should arise out of all relevant dimensions of inequality. Originally, it was suggested to look at place of residence on top of economic status, but later other relevant dimensions of inequality were considered. For global monitoring, it may include economic status, education, place of residence, sex and age. For country-specific monitoring, context-specific dimensions of inequality like race, cast, or ethnicity and other dimensions defining specific minorities in countries can be added. Then, two approaches were suggested on how to define the intervention coverage in the disadvantaged population: to take either the minimum or the average coverage across disadvantaged subgroups defined according to economic status, education, place of residence, sex and age, depending on their relevancy and the data availability.

Two measures can also be calculated to show the gap in coverage between the national population and the disadvantaged. Absolute inequality (gap) is defined by subtracting the coverage in the disadvantaged from the coverage in the national population where zero implies no inequality. Relative inequality (gap) can be defined as the division of the absolute inequality by coverage in the national population.

**How to report health inequality**

Health inequalities for coverage levels can be reported in several ways. First, coverage can be presented for all relevant subpopulations separately along with the national coverage level in a dashboard format. Second, a measure of the degree of inequality could be presented on its own (e.g., the concentration index or the level of absolute inequality). Third, a measure of inequality could be used as a penalty to adjust the national average, yielding a measure of “inequality-adjusted national coverage”.

They were two suggestions on how to incorporate equity into a national coverage indicator depending on the method used to measure inequality in the first place. The first suggestion uses the achievement index, which incorporates the concentration index into the national average. In this approach, the adjusted national coverage measure is lower if intervention coverage is concentrated among the rich and it is higher if intervention coverage is concentrated among the poor. The second suggested approach was to take the average of coverage in the national population and coverage in the disadvantaged population (using whatever method is selected for defining the disadvantaged
An analysis of the WHO Health Equity Monitor database showed that both approaches provided similar results in most of cases, comparing the incorporation of the concentration index vs. poorest quintile into the national average.

Some general challenges of equity monitoring for UHC that were highlighted during the meeting include:

- In general, we have much more experience, and available data, for monitoring equity in the area of RMNCH than we do for other areas. However, this does not mean UHC monitoring should be restricted to monitoring only this area.
- Indicators that are derived from facility data, such as HIV and TB treatment, are challenging to work with for equity analysis as there is typically no information available on equity stratifiers, with the exception of geographic region. This is also a challenge for service capacity and access indicators.
- Some health surveys, such as STEPS, which is a main source of information on NCDs, do not collect asset information to allow for the categorization of households by wealth quintile.
- Disaggregation places further demands on sample size requirements for surveys. For example, exclusive breastfeeding, which is already difficult to estimate precisely at the national level given small sample sizes, becomes even more difficult to estimate within smaller subpopulations.
- In cases where equity information is not available for a given indicator or country, default equity adjustment factors may have to be derived from analysis of data for other indicators or from other countries, as a place holder until these data become available. How informative imputed data are equity monitoring is an unresolved issue.

**Summary measures of UHC coverage**

Adam Wagstaff and colleagues have published two papers that demonstrate the feasibility of an index-based approach to measuring UHC. A small set of tracer indicators for health services organized by prevention and treatment domains are combined into a composite measure, which is then combined with indicators of financial protection to provide a summary index of UHC. This index also incorporates a penalty for inequality in coverage across income groups, implemented through the calculation of the concentration index, which is similar in spirit to a gini coefficient, but involves summarizing the distribution of coverage of a particular indicator along the wealth gradient. The indicators used for prevention are four or more antenatal care visits, full immunization, breast cancer screening and cervical cancer screening, and for treatment are skilled birth attendance, treatment for pneumonia in children, treatment for diarrhoea in children, and inpatient admission rates.

A composite measure of a broader set of service coverage indicators could be estimated in a similar way. For example, if the four categories described in Section 1 above were adopted, coverage could be computed within each category, and then an average of those four category summary values could be computed. This could be done separately for the national population and the disadvantaged population, and then those two values could be average to obtain an equity adjusted national service coverage index. This approach envisions equal weighting of indicators within the

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four categories, and then equal weighting across average summaries from the four categories. However, how much to weight each indicator remains an open question.

In terms of how to combine service coverage and financial protection, while Wagstaff et al demonstrated how to construct a summary index that combined service coverage and financial protection composite measures into one index, based on discussions at the meeting, a consensus emerged that the best way to proceed for high level summaries of UHC coverage would be to present two composite measures separately, one for service coverage and one for financial protection.

**Strengthening monitoring and accountability for UHC with civil society and other stakeholders**

Discussions are ongoing to find the most efficient and effective mechanisms to strengthen accountability for UHC by improving linking monitoring, review and action at country, regional and global levels. A new Global Strategy for Women’s, Children’s and Adolescents’ health 2016-2030 has been formulated and linking the UHC work to the accountability component of the strategy is important. There are also discussions about a UHC Alliance or other mechanism that involves many partners and would include UHC monitoring, led by WHO and the World Bank, with involvement from academics and others.