Business Unusual: Accelerating Progress Towards Universal Health Coverage
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Introduction

But not fast enough. At present rates, the 2030 global UHC targets under the United Nations Sustainable Development Goals (SDGs) will not be met. Urgent action is needed to speed up gains in the two dimensions of UHC, health service coverage and financial protection, and to ensure that no one is left behind.

At a decisive time for the global UHC movement, this report addresses policy makers in countries that are striving to accelerate UHC gains, along with their national and global partners. The report argues that the way forward for UHC may involve action on two fronts. On the one hand, countries can get additional mileage from proven strategies, including by drawing on lessons from countries that have seen rapid UHC progress in the past. On the other hand, opportunities may exist for countries to surpass previous achievements by embracing a culture of "business unusual" in health systems based on continuous innovation, shared learning, and emerging models of collaborative leadership.

Since 2000, the world has advanced towards Universal Health Coverage (UHC) at an unprecedented pace.
Universal Health Coverage (UHC) is achieved when all people who need health services (promotion, prevention, treatment, rehabilitation, and palliation) receive them, without undue financial hardship.

Based on the WHO and World Bank monitoring framework (WHO and World Bank 2014), service coverage is measured using tracer interventions in preventive and treatment services.

Financial protection is captured by tracking the incidence of household health spending that it is either “impoverishing” (it pushes households below the poverty line or deeper into poverty) or “catastrophic” (it absorbs a defined high percentage of a household’s annual income or consumption).
Where does the global movement stand today?

The latest Global Monitoring Report (GMR) highlights progress on financial protection and service coverage, but it has been slower than hoped for. Reviewing country experiences since the start of the new millennium, however, shows that some countries at different levels of economic development have managed to make outstanding progress on one or more dimensions of UHC during this period.

- What made these achievements possible?
- What lessons can be learned from these experiences that may inspire and inform progress elsewhere?
- Equally important, how are determinants of health systems progress likely to change in the coming decades, and what new challenges and opportunities for UHC may result?

This report seeks to open paths of reflection on these issues. It encourages policy makers to anticipate coming changes and suggests conceptual compass points that may facilitate UHC innovations.

The first part of this report is retrospective.

It aims to clarify lessons countries can learn from past UHC experiences. To that end, it identifies a set of factors common among countries that made exceptional progress on selected service coverage and financial protection indicators between 2000 and 2015. It suggests that, by adapting proven approaches to their own settings, and by addressing stubborn implementation bottlenecks, more countries can accelerate progress towards UHC.

The second part of the report looks forward.

It argues that, even as countries benefit from models of success, they must prepare to manage deeper health system transformations now on the horizon. Spurred by political, economic, social, technological, demographic, and epidemiologic forces, these transformations will reshape the landscape in which countries pursue their 2030 UHC goals, creating new risks but also opportunities. This report does not attempt to provide specific policy prescriptions for negotiating the coming changes. Instead, it identifies broad principles that may help countries seize opportunities and manage risks in the new era, opening pathways for accelerated progress towards UHC.

This report focuses on a few key UHC issues.

Of necessity, it leaves many other important topics unaddressed. Data constraints and methodological limitations of the retrospective portion of the report are discussed in detail in the technical appendix. In order to construct an objective, reproducible method for identifying UHC “high achievers” given limited data, we have compared countries’ performances on a narrow set of indicators. While this approach has the merit of allowing consistent comparisons across countries, it underplays the complexity of country UHC experiences and neglects forms of health progress that the selected indicators do not capture. It is thus important to emphasize that the positive outlier countries identified in the first part of this report are not the only ones that have recently achieved impressive UHC gains and whose experiences may carry important lessons for others. Similarly, although the featured outlier countries have made progress on the indicators that are the focus of the report, this does not necessarily mean that there has been commensurate progress in other areas.

The forward-looking portion of the report suffers from the limitations common to all efforts to project future realities based on current conditions and trends. The best way to detect flaws and omissions in our treatment of the future of health systems and UHC will be to triangulate our arguments with those of others asking similar questions. This type of debate, mutual questioning, and shared learning is exactly what our report seeks to advance.

Accordingly, this report is open-ended and interrogative. Its aim is to stimulate and expand shared inquiry, making a modest contribution to a larger collective process. Only a many-sided conversation can point the way forward for Universal Health Coverage.

The remainder of the report is structured as follows.

SECTION 2
Here we seek to identify low- and middle-income countries (LMICs) that can be considered as UHC positive outliers. To do so, we compare countries’ performance on selected service coverage and financial protection indicators over the period 2000-2015, highlighting a group of countries that achieved exceptional gains. The analysis also sheds light on equity, identifying countries that achieved substantial advances in service coverage among the poorest households.

SECTION 3
Next, we ask what may explain outliers’ success. Progress towards UHC is shaped by a complex interplay of factors within and outside the health sector, and success or failure can never be explained with certitude. However, the analysis draws on existing frameworks and identifies several health policy approaches adopted by many outlier countries during the period, and which appear as potential common success factors.

SECTION 4
We conclude by turning towards the future. This section presents evidence that policies associated with earlier UHC success, while vital to apply, are unlikely to lift countries to their 2030 UHC goals. The section then explores economic, demographic, technological, and other forces likely to shape health systems in the decades ahead, posing new challenges while opening unprecedented opportunities. The concluding portion of the section proposes broad principles country health leaders may consider as they seek to harness these forces to accelerate UHC gains. The picture has implications for models of health leadership in countries. It also points to the need for global UHC leadership to more effectively support UHC innovation, learning, and knowledge sharing within and across countries. A future systems science for UHC implementation and innovation may inform this work and increase its impact. Global UHC partners have an opportunity now to invest in building that science and ensuring wide dissemination of its benefits.
Excellence may be contagious. If we can identify countries that have made rapid progress towards UHC and highlight some of their distinctive features, this provides one starting point for identifying policies and innovations that may help other countries accelerate gains in their turn.

In an attempt to do so, we looked at results for selected service coverage and financial protection indicators in LMICs over the period 2000-2015. The review consisted of three steps. First, we identified countries that achieved rapid progress in the first key dimension of UHC, service coverage. We took special note of countries that made rapid gains in service coverage specifically among the poor. Next, we identified countries that made progress in the second key dimension of UHC, financial protection. Finally, we combined the results from the first two stages to assess how countries fared in advancing UHC agendas overall.

The lack of systematic, standardized, and internationally comparable household data for several components of UHC limited the scope of this analysis. Firstly, service coverage is represented here by a limited set of interventions (See the section on progress in service coverage, below, for more details). Moreover, data to assess progress among the poor is only available for roughly two-thirds of LMICs included in the analysis. Similarly, the sample for financial protection is limited to 46 countries for which data are available to review progress over time. In addition to these data limitations, we do not account for factors outside the control of health policy makers that may have substantially influenced progress toward UHC. These include factors such as economic growth and political and governance context, as well as disaster and conflict. As future analyses refine this work, such variables can be incorporated to provide a more comprehensive and nuanced picture.

We have chosen to develop an analysis that spans the period 2000-2015, from the adoption of the UN Millennium Development Goals (MDGs) to their target year. This period makes sense for several reasons. First, it is long enough to register substantive evolution in countries’ health systems. Second, the MDG era coincides with a time in which the global UHC movement gained momentum. During this period, a substantial number of countries introduced health system reforms aligned with UHC principles. Third, this was a watershed era during which global health investments increased dramatically; many countries showed new levels of leadership in health; ambitious global initiatives (e.g., GFATM, GAVI, PEPFAR) were launched; and new institutional players including influential private philanthropies (e.g., the Bill and Melinda Gates Foundation) entered the arena, contributing to health advances in many settings.
The positive outliers identified below are countries where there is a good chance of finding health policy innovations that may have contributed to strong progress towards UHC. Section 3 of this report will pursue that lead. For now, let’s look in more detail at the analytic process that brought us to this set of outlier countries.*

*Countries scoring remarkable successes included low- and middle-income countries.

**High-baseline countries**

Rapid SC Progress

- Angola
- Azerbaijan
- Botswana
- Brazil
- Cambodia
- Colombia
- Egypt
- Honduras
- Liberia
- Myanam
- Namibia
- Peru
- Rwanda
- Turkey
- Vietnam
- China
- India
- Nicaragua
- Nepal

FP Progress

- Albania
- Kazakhstan
- Lao PDR
- Peru
- Rwanda
- Bosnia
- Congo Rep.
- Taiwan
- China

Countries with SC Data

Countries with FP Data

The seven countries at the center of the figure made progress in both service coverage and financial protection during this period. The group of high-baseline countries includes countries that started out with high service coverage levels (>50 percent) for four selected interventions in 2000. Low-baseline countries are those whose average service coverage levels for the four interventions were <50 percent in 2000. See the discussion below and the Technical Annexes for a more complete account of how these countries were identified, and for an explanation of data constraints. For our variables of interest, we found 62 countries with sufficient service coverage data but insufficient financial protection (FP) data; two countries with insufficient SC data but sufficient FP data; 25 countries with both insufficient SC and insufficient FP data; and 10 countries that were excluded due to having population less than 1.5 million in 2015. These relationships are presented graphically in Technical Annex 2.

Progress on Service Coverage

To start, we focus on service coverage. We consider four tracer indicators:

1. Completion of four antenatal care visits (ANC4)
2. In-facility delivery
3. Met need for contraceptives
4. DTP3 vaccination coverage (a detailed discussion of data and methodological issues can be found in Technical Annex 1)

Although multiple UHC-relevant service indicators and indices exist, we chose these indicators for three main reasons. First, we want to rely on output data, such as service coverage, as opposed to input data, such as service delivery capacity indicators (e.g., health worker density). The latter represent the availability of services, but do not reflect the state of people in need that receive services. Second, we limit the analysis to indicators with household data available for all developing countries. Third, among this group, we prioritized a set of indicators without strong interdependencies that reflect different types of service delivery capacities. For example, countries’ levels of institutional delivery provide an important indication of how well systems operate across levels of care. ANC4 provides an indication of system abilities to overcome demand- and supply-side constraints and ensure regular contacts with the system. Finally, contraception uptake suggests that systems shape and respond to the evolving demand for health services. We recognize that this approach provides only a limited view of the full notion of universality, and further analysis is needed as better data become available.
While interested in capturing health system capacities, we recognize the wide variation in system status at the outset of the MDG era. We therefore grouped countries based on their starting level of achievement against the four indicators (specifically, their arithmetic average result across all four). We established a cut-off at 50 percent coverage at baseline in 2000. Countries with averages below 50 percent are defined as low coverage baseline countries (LBCs). Countries starting out above 50 percent are defined as higher coverage baseline countries (HBCs). A given country will be compared only with others in its group.

The outcome that interests us is how countries fared in reducing health service coverage gaps: that is, in extending coverage of four key services to people previously excluded. We define a country’s “coverage gap” as the number of percentage points that separated its initial coverage level from 100 percent. For example, a country with 44 percent coverage in 2000 started with a coverage gap of 56 percent. To assess countries’ performance, we compare their relative gap reductions: the portion of their respective coverage gaps that they eliminated between 2000 and 2015.1

Results for Low-Baseline Countries

In 2000, coverage across the four indicators was less than 50 percent in 37 out of 108 LMICs, home to 2.5 billion people.2 Countries in this group started with an average service coverage of 34 percent and registered an average coverage increase of 20 percentage points from 2000 to 2015. By 2015, the list of countries with less than 50 percent coverage had been reduced to 13, or in population terms from 2.5 billion to 473 million people.3 This is impressive progress.

Individual countries achieved even more remarkable performances. In the graph on page 14 (Figure 2.2), the green bars indicate the coverage gap reduction for the ten countries that achieved the largest coverage gap reductions among LBCs (top 25 percent of countries). Combined, they are home to more than 1.4 billion people. They include Cambodia, Rwanda, Azerbaijan, Sierra Leone, Burkina Faso, India, Lao PDR, Nepal, Liberia, and Angola, like their peer LBCs, they started with an average service coverage of around 35 percent, but these top-performing countries registered an average coverage increase of 32 percentage points (coverage gap reduction of almost 50 percent), in contrast to a 9 percentage-point increase among the low performers (bottom 25 percent of countries).
In figure 2.3 on page 16, we show how LBCs narrowed their coverage gaps over the period 1990-2015. The dark line represents the countries that progressed slowly (the 19 poorest-performing countries out of the 37—i.e., the countries below the 50th percentile). Even these countries registered substantial reductions in their coverage gaps over the period, but their line follows a steady, gradual slope with no acceleration.

The white line, though, shows the progress achieved by the well-performing countries (the top nine countries in terms of coverage improvements—i.e., above percentile 75). We see a marked acceleration of these countries’ progress in the time period that corresponds to the early 2000s. The curves for individual high-performing countries show the same pattern of accelerated progress in the pursuit of UHC.
Baseline and end line coverage is shown in ranges above the bars.

Results for High-Baseline Countries

Many LMICs started the millennium with higher average baseline coverage levels (>50 percent). These are countries that would tend to have higher income and more developed health systems. They represented 3.6 billion people in 2015. On average, countries in this group started with a coverage of 75 percent and registered a 9 percentage-point increase, reducing the coverage gap by roughly one-third (33 percent).

Figure 2.4 shows results among countries with rapid progress in the high baseline coverage group, highlighting the 14 countries with the largest reductions in the coverage gap (countries in the 20th performance percentile or above). Together, rapid-progress high-baseline countries are home to more than two billion people. These countries include China, Egypt, Colombia, Nicaragua, Namibia, Turkey, Botswana, Brazil, Honduras, Thailand, Peru, Myanmar, Turkey, Kazakhstan, and Vietnam. Like their HBC peers, on average, they started with a coverage level of approximately 75 percent, but attained a coverage increase of roughly 14 percentage points, compared to virtually no progress in the low-performing HBCs (bottom 25 percent). Top-performing HBCs thus reduced their coverage gap by 50 percent.

Change in Service Coverage for the Poor

Skilled birth attendance, lowest income quintile, baseline coverage versus annual rate of change, 65 LMICs.
Inequality in Service Coverage

An earlier landmark study demonstrated that countries with the greatest service coverage increases among the poor also achieve the greatest overall increases in coverage (Victora et al. 2012). The study also reported that coverage improvements among the lowest income quintile are not the result of a capping effect, that is, the consequence of limited scope for improvements among rich households.

Complementing the picture of service coverage dynamics among the poor, we looked for additional trends using three coverage indicators. These do not fully overlap with the indicators for coverage used in the earlier analysis due to data constraints. We used skilled birth attendance (SBA), for which coverage, as in the case of institutional deliveries, depends on functional facility-based health services that ideally are available all the time. Previous analysis has found SBA to be one of the most inequitable coverage indicators (Victora et al. 2016). Coverage with DTP3, as indicated earlier, is the result of service delivery not just from fixed sites but also through outreach services and campaigns. Family planning is also used as an example of an intervention that is more sensitive to demand-side factors.

Change in Service Coverage for the Poor

DTP3, lowest income quintile, baseline coverage versus annual rate of change, 64 LMICs.

For these three indicators, Figures 2.5 to 2.7 compare coverage increases among the poor (bottom income quintile), measured as the annual rate of change, with the coverage in the baseline year for the same group. A finding common for all three indicators is that some countries achieved substantial coverage gains among the poor not only from low, but also from high baseline coverage rates among the lowest income quintile. There is, however, some variation across the different types of interventions. For DTP3, many countries have managed to attain large coverage increases from a baseline above 50 percent. However, for the two other indicators, large increases are observed primarily at lower levels of baseline coverage. For SBA, the overall coverage gains have been slower than for the other two indicators, yet, many countries have managed significant progress even for such a relatively complex intervention. Noteworthy for family planning is the fact that SBA coverage has decreased in several countries.

Change in Service Coverage for the Poor

Family planning, lowest income quintile, baseline coverage versus annual rate of change, 71 LMICs.
Progress on Financial Protection

The second pillar of UHC is financial protection. We use two Global Monitoring Report (GMR) indicators to assess countries’ progress:

Indicator 1
The reduction in incidence of financial catastrophe linked to large out-of-pocket (OOP) health payments, defined as the number of households spending more than 10 percent of their total consumption on OOP health payments.\(^5\)

Indicator 2
The reduction in the proportion of households pushed below the international poverty line of $1.90 per day (in 2011 PPPs) by OOP health spending.\(^6\)

The two indicators measure slightly different effects of the lack of financial protection in health. The second indicator only quantifies the proportion of households who would not be living in poverty had they not incurred OOP health spending. However, catastrophic health spending (captured by the first indicator) can occur to people at all income levels, sometimes pushing them under the poverty line, but sometimes not. Even when not pushed below the poverty line, people must still often adjust their spending and consumption patterns to compensate for high health spending—e.g., by drawing on savings, selling assets, borrowing, or foregoing consumption of necessities such as housing, food, and clothing.

Data constraints limited our sample to 46 of the 108 countries (15 LBCs and 31 HBCs) for which service coverage data were considered in the last section. We continue to look separately at low service coverage baseline countries (LBCs) and higher service coverage baseline countries (HBCs). This is because we still want to compare countries only with others that had similar health system starting conditions.

Findings on financial protection indicators must be interpreted with caution to understand country progress toward UHC. Most importantly, they must be read against progress on service coverage. For example, any deterioration in financial protection indicators, especially in the incidence of large OOP payments, may result from people gaining access to more services that entail some direct household payments, in other words, from improvements in service coverage. In turn, apparent improvements in financial protection may result from more people foregoing care when they need it. In Section 3, we therefore focus on countries that made progress in both service coverage and financial protection indicators. But before getting to that, let’s look at the findings concerning country progress on financial protection.

Financial Protection Results:
Low-Baseline Countries

The figures on pages 24-25 show how 15 LBCs performed in increasing financial protection by reducing catastrophic health expenditures and cutting the number of families pushed into poverty by health spending. The countries represented by green triangles are those that saw rapid gains in service coverage. In each of the charts, left is bad and right is good. The further to the right countries are on the graph, the larger the annual reduction they achieved in the incidence of catastrophic health expenditures or impoverishment due to health spending.

For example, looking at annual change in the incidence of catastrophic health expenditures (Figure 2.8a), Guinea and Burkina Faso achieved the best results—strongly reducing the proportion of households that experienced catastrophic health spending—while Nigeria and Nepal saw large increases in the proportion of people suffering catastrophic expenditures.

Guinea, Burkina Faso, Pakistan, Mozambique, and Bangladesh show progress in both indicators. This means the financial protection situation was improving in these countries for the period covered by the expenditure surveys. We also consider Rwanda and Lao PDR as countries with gains in financial protection. Rwanda showed a largely stable rate of impoverishment using a poverty line of $1.90, with a fall in catastrophic health spending (CATA). However, using the higher poverty cut point of $3.10, impoverishment from OOP spending in Rwanda fell. Lao PDR showed substantial drops in impoverishment due to OOP health payments, along with stable levels of catastrophic spending, so it certainly did better in protecting people from becoming poor due to OOP expenditures.
Annual percentage point reductions from 2000-2015 in the incidence of large and impoverishing OOP expenditures, low-baseline countries

Catastrophic Spending on Health

Impoverishing Spending on Health

Note: For catastrophic spending, we report annual percentage point changes in the share of the population protected from catastrophic payments at 10% threshold.

Note: For impoverishing spending, we report annual percentage point changes in the share of the population protected from impoverishment at $1.90 poverty line.
Financial Protection Results: High-Baseline Countries

Figure 2.9a-b shows progress for the 32 HBCs during the periods covered by the household expenditure surveys. The following 10 countries showed progress in extending financial protection in terms of both indicators: Albania, Bosnia and Herzegovina, Cape Verde, Guatemala, Kazakhstan, Peru, Republic of Congo, Turkey, Vietnam, Zambia.

Among these countries, we have seen that four also achieved strong gains on our service coverage indicators in the period 2000-2015. These countries were Kazakhstan, Peru, Turkey, and Vietnam. Accordingly, these four countries are included in the group of overall UHC positive outliers (Figure 2.1).
This section has used quantitative measures and a reproducible process to identify a group of countries that can be considered as UHC positive outliers for the period 2000-2015. The procedure used is exploratory and has clear limitations, not least the lack of data on important dimensions of UHC for many countries. However, this approach provides one means of objectively identifying some countries whose UHC progress during these years was unusually strong. Clearly, these are not the only countries that have made remarkable advances against criteria of UHC achievement since the turn of the millennium, nor the only ones whose experience may carry valuable lessons for others trying to accelerate UHC gains. Yet, the country experiences highlighted in this analysis are noteworthy and merit careful investigation to identify policies and practices that may have contributed to success.

The next section will therefore explore some of the health policies and delivery strategies used by these outlier countries and others where rapid UHC progress has been documented. The goal is not to assert causal connections, but to open paths for further learning.
What factors may have contributed to their success? This section will not provide definitive answers, but it offers some preliminary insights and may help us ask better questions. Studying the policies and approaches implemented by UHC outliers suggests patterns that can guide further research. This is our goal.

Progress from Diverse Starting Points: Two Country Examples

An important finding from the analysis in Section 2 is that countries with very different health system starting points and economic conditions achieved substantial UHC gains during the MDG era. Let’s consider what this looked like in two specific cases.

Sierra Leone and Vietnam differ sharply in geographic, demographic, economic, and epidemiologic terms. Both countries still have far to go to reach UHC goals. Yet each was able to make impressive advances on the service coverage and financial protection indicators included in our analysis. An intuitive first step is to ask what salient health policies such countries were implementing during their periods of rapid progress. The associations observed will help us take the investigation further.

Sierra Leone began the new millennium with low levels of health service coverage, high poverty, and scant domestic revenues to finance public services. Just coming out of a devastating civil war, the country was heavily reliant on development assistance for health. Nevertheless, Sierra Leone achieved some notable gains before the setbacks brought on by the Ebola virus outbreak. Between 2008 and 2013, the proportion of children fully vaccinated by 12 months of age increased from 31 to 58 percent, and the proportion of children under five with fever who received anti-malarial drugs increased from 30 to 48 percent. Nutritional outcomes improved as well—the under-5 stunting rate decreased from 37 to 29 percent, and the wasting rate from 10 to 5 percent.
Sustained economic growth, albeit from a very low base, allowed the government to put more resources towards health during these years.

Government leadership on health encouraged donors to follow (Donnelly 2011). This allowed an increase in the number of health workers through expansion of training facilities and increased public-sector deployment (Bertone et al. 2014; Witter, Haja, and Bertone 2015). New cadres of health workers were also introduced. In 2010, the government moved decisively to address demand-side barriers by providing free preventive and curative health services for pregnant women, lactating mothers, and children under five years in any public health facility, while creating financial incentives for service productivity (Bertone et al. 2014; Witter, Haja, and Bertone 2015). Decentralization has been another prominent feature of Sierra Leone’s health agenda, with most primary care financing and management now conducted through local government and district teams.

Although progress has been made in increasing coverage, a recent review identified ongoing challenges such as stock-outs of essential drugs and other medical supplies, a still-inadequate health workforce, and under-the-table payments. In addition to their chronic negative impacts, these flaws also contributed to Sierra Leone’s difficulties in controlling the Ebola virus outbreak. Ebola’s destruction, in turn, has exacerbated pre-existing health-system flaws and reversed some earlier advances (Bertone et al. 2014).

In contrast to Sierra Leone, by 2000, Vietnam had already reached relatively high baseline coverage levels for many essential health services. In the following years, the country was able to go further. Vietnam made major strides in expanding access to services, in many cases outperforming peer countries. At the same time, it reduced the incidence of large and impoverishing out-of-pocket payments. Part of the success can be ascribed to health-financing reforms targeting the poor and vulnerable. In 2005, health care was guaranteed free-of-charge for children under six through Vietnam’s social health insurance scheme (Lieberman and Wagstaff 2009). In 2009, free and subsidized social health insurance coverage was expanded to include the poor, elderly, and students. These reforms have been successful thanks to strong political commitment, including the willingness to invest in service coverage expansion and financial protection. Between 2005 and 2014, Vietnam more than doubled health spending as a share of total government expenditures, from 6 percent to 14 percent (WHO 2015). For Vietnam, as for Sierra Leone and other UHC outliers, a long road still lies ahead. But these countries’ achievements in the study period confirm that remarkable gains are possible.

No Simple Answers, but Some Emerging Patterns

The stories of Sierra Leone and Vietnam confirm that no two UHC outlier countries had identical approaches. However, these countries’ experiences also suggest that progress over the last 15 years has been underpinned by complementary reforms and innovations across the service delivery, financing, and governance domains.

Outlier countries have differed when reforms were initiated (some preceded 2000), their mix, and scale of implementation, making it hard to draw a straight line from a set of reforms and innovations to improvement in outcomes. Moreover, many factors outside the health sector, such as trends in economic growth, infrastructure, poverty, and education, probably also played a role in health and coverage gains.

It is widely acknowledged that there is no single recipe or one-size-fits-all approach to make progress towards UHC. Country contexts, including economic conditions, health system characteristics, social values, and political processes, matter. Yet, it is also recognized that rapid progress will require strengthening critical aspects of health systems. Looking at health policies common across outlier countries can show us the kinds of system-strengthening measures countries were using during a time in which they registered major gains relevant to UHC. Identifying such patterns is an important step towards better understanding how to accelerate UHC progress across countries, even though case analysis falls short of causal proof.

Identifying Policy Entry Points

Outlier countries generally implemented many different health policies and delivery strategies during the period 2000-2015. Which ones do we focus on? Recent UHC policy frameworks provide guidance. The joint vision document of the UHC2030 alliance, for example, identifies key policy entry points across the three domains of service delivery, financing, and governance (UHC2030 2017). Similarly, in the 2016 UHC in Africa framework, a set of priority policy actions to accelerate UHC progress across the continent were proposed (World Bank et al. 2016). Table 1 compiles a synthesis of UHC policy entry points from these two key normative documents. We have drawn on these sources to structure our investigation of policy measures in outlier countries.
Table 3.1
Synthesis of Policy Entry Points to Accelerate Universal Health Coverage

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<th>Service Delivery</th>
<th>Financing</th>
<th>Governance</th>
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<tr>
<td>◦ Strengthen primary health care and community services</td>
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<td>◦ Improve quality and patient safety</td>
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<td>◦ Target services for poor and marginalized populations</td>
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<td>◦ Invest in the workforce and supply chains</td>
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<td>◦ Engage with non-state actors</td>
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<td>◦ Reduce financial barriers to access, with focus on the poor and the informal sector</td>
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<td>◦ Scale-up pro-poor interventions such as demand-side incentives</td>
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<td>◦ Enhance efficiency in spending, including through strengthened purchasing</td>
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<td>◦ Increase prepaid and pooled financing for health and improve effectiveness of development assistance for health</td>
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<td>◦ Establish platforms for societal dialogue and multi-sectoral action</td>
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<td>◦ Strengthen monitoring and reporting on UHC and promote access to information</td>
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<td>◦ Adopt legal frameworks supporting access to services</td>
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<td>◦ Strengthen institutional capacity to implement UHC</td>
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<td>◦ Improve preparedness plans and capacity to implement and monitor IHR</td>
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<td>◦ Strengthen research and development, including technology transfer mechanisms</td>
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We focus primarily on the positive outlier countries identified by the analysis in Section 2, although in some cases we also cite examples from other countries that have scored substantial UHC gains. All these countries’ experiences are significant in that they illustrate how clarity of vision, a willingness to look for new solutions, and a focus on results can drive significant change in how the health system is organized and in the outcomes achieved.

Aspects of governance such as leadership and strengthening institutional capacity are essential to UHC progress (UHC2030 2017), and there are some indications that outlier countries innovated productively in this area. However, the challenges of adequately capturing these features and limited published evidence mean that these topics will not be examined in this report – it remains an important task for future research.

Instead, our discussion focuses on the more proximate factors influencing service coverage and financial protection in the UHC consensus frameworks. In some cases, for the sake of brevity and clarity, we will link multiple entry points from the frameworks under a single heading. For example, in our discussion of financing for UHC, the topic labeled “Reducing financial barriers” encompasses two entry points from Table 3.1: (1) reducing financial barriers to access, with a focus on the poor and the informal sector, and (2) scaling up pro-poor interventions, such as demand-side incentives.

Complementing the UHC2030 joint vision and the UHC in Africa framework, the following discussion focuses on how countries have been able to transform their health systems in ways that resonate with the principles and policy entry points identified in those consensus documents.
Service Delivery

Strengthen Primary Health Care and community services

Health facilities and human resources are a critical foundation for progress towards UHC. Outlier countries focused major efforts in these areas. For example, Burkina Faso expanded its network of primary care facilities between 2003 and 2010, substantially reducing the average distance people had to travel to reach a primary care facility. This effort was complemented by reinforcement of frontline referral networks, for example, by increasing the number of rural district hospitals with surgical capacity. Cambodia also increased its number of health centers and referral hospitals, with a focus on remote and inaccessible areas.

These efforts have often involved substantial expansion of both the numbers and types of health workers, along with incentives to deploy them in previously underserved areas. Most outlier countries increased the number of publicly and privately funded training institutions for health professionals, while expanding the government-paid health workforce. Countries such as Rwanda, Nepal, Malawi, and Ethiopia complemented this with national deployment of community or health extension workers. Initiatives to encourage wider deployment of health workers, such as compulsory service, affirmative selection of rural student health workers, financial incentives, and improved living infrastructure have achieved mixed results.

In the case of countries starting with higher baseline coverage in 2000, including Vietnam (Minh et al. 2015), Turkey (Atun et al. 2013), and Thailand (Towe and Tangcharoensathien 2004), investment in service delivery capacity, especially at the primary health care level and in under-serviced areas, remained an important part of the strategy to expand coverage. Strategies have varied from using compulsory service, as in Turkey (Atun et al. 2013), through to extra payments in Thailand (Lindelow et al. 2012), and to the widespread introduction of telemedicine to allow a greater variety of conditions to be managed by family practitioners in China and Kazakhstan (Karanikolos et al. 2012; Meng et al. 2015). In countries such as Brazil, this was taken even further, with the development of primary health care teams consisting not just of medical doctors but also specialist nurses and para-health workers (Gragnolati et al. 2013).

Expand quality

Expanding frontline services has required new and creative approaches to capacity building and health systems management. Examples include the simplification and integration of clinical protocols, for instance with the Integrated Management of Childhood Illness (IMCI). Development of inter-disciplinary and problem-based learning has facilitated more effective frontline teams.

Achieving and sustaining quality of care has been a challenge. A systematic review of 80 studies, largely from Africa and Asia, showed that suboptimal clinical practice is common in both private and public ambulatory health sectors of several LMICs (Berendes et al. 2011). The Service Delivery Indicators (SDIs) initiative systematically evaluated quality of care in nine Sub-Saharan African countries and found that there was significant variation in provider absenteeism (14.3-44.3 percent); productivity per day (5.2-17.4 patients); diagnostic accuracy (34–72.2 percent); and adherence to clinical guidelines (22-43.8 percent) (SDI 2011). Researchers observed frequent misdiagnosis of common medical conditions such as pneumonia, tuberculosis, diarrhea with severe dehydration, malaria with anemia, and type 2 diabetes.

Some countries have been able to demonstrate tangible progress in boosting quality. Turkey, for example, introduced the Health Transformation Program in 2002, which led to significant improvements in coverage (insurance coverage increased from 64 to 98 percent between 2002 and 2012), while powerfully raising key indicators of quality of care. The share of pregnant women having four antenatal care visits rose from 54 to 82 percent between 2003 and 2010, and citizen satisfaction with health services increased from 39.5 to 75.9 percent between 2003 and 2011 (Akdağ 2015; Atun, et al. 2013). Thailand implemented its Universal Coverage Scheme (UCS), which extended health insurance to the entire population, in 2002. In the following years, effective coverage of non-communicable disease (NCD) screening and treatment has steadily increased. Between 2004 and 2009, the proportion of persons with hypertension whose condition was well controlled increased from 6 percent to 14 percent for men, and from 12 percent to 27 percent for women (Tangcharoensathien et al. 2015). During these same years, diagnosis of diabetes improved from 34 percent to 57 percent for men and from 51 percent to 78 percent for women. The rate of effective diabetes treatment more than doubled among both genders. Using a variety of metrics, quality of care in hospitals also improved. Among patients admitted with acute myocardial infarction, 30-day mortality, death at hospital discharge, and death on arrival all consistently declined between 2005 and 2011 (Tangcharoensathien et al. 2014).
Target services for the poor and marginalized

High-performing countries have complemented building primary care service infrastructure with various "last mile" delivery strategies to push services outward from facilities and bring them directly to communities. Models included outreach, campaigns, and home-based care, often relying on community health workers (CHWs).

The most common approach was mobile outreach from fixed sites. Frontline facilities became launch platforms to expand services into neglected areas. This was a critical element of the strategy to expand coverage in Lao PDR, where outreach services to provide immunization began as early as 1982. Outreach for provision of general maternal and child health (MCH) services was introduced in 2009, and there is an ongoing effort to move towards integrated MCH, EPI, and family planning outreach.

Another approach has been the implementation of integrated campaigns. Polio campaigns started co-delivering vitamin A in 1999, and the use of bundled campaigns to deliver key child survival interventions expanded rapidly. Seventy-three countries now carry out such campaigns globally, with an average of 100 campaigns conducted per year. Studies have shown consistently high coverage for vitamin A and measles vaccines regardless of the numbers of interventions delivered throughout integrated campaigns.

The AIDS epidemic also spurred greater investment in home-based care, often delivered by new cadres of CHWs. Early CHW programs in the Health For All era (1975-2000) generated mixed results. Reviews highlighted recurrent structural flaws and argued for more systems-oriented approaches. Recently, "next-generation" CHW programs have built upon these lessons. Successful recent programs have incorporated: more formal policy frameworks to clarify CHW roles; measures to integrate CHWs into national human resources and financing strategies (including payments); more systematic training, career paths, and supervision; and development of simplified clinical algorithms, decision support tools, and rapid diagnostics to allow a wider range of providers to offer lifesaving interventions (Perry et al. 2014).

There is widespread evidence of the positive impact of well-designed and run home-based and CHW programs for many different health outcomes (Lewin et al. 2015). However, financial sustainability and maintaining high performance as programs go to scale remain outstanding challenges.

Engage with non-state actors

Both outlier and other countries have contracted with non-state actors for the delivery of health services (e.g. Afghanistan, Burkina Faso, Cambodia) and/or the execution of other system functions (e.g., medicines procurement and supply chain in Kenya). In Afghanistan, for example, health leaders took over a system devastated by conflict. The government chose a strategy based on performance-based contracting (PBC) to rapidly expand delivery capacity while ensuring quality of care. Cambodia has also obtained promising results with PBC schemes (McDowell 2010; Morgan 2011; World Bank 2008).

Reviews of progress with the contracting model suggest that effectiveness is linked closely with the amount of autonomy given to the provider, including control over management and human resources (Arur et al. 2010; Bennett and Mills 1998; Heard et al. 2011). However, autonomy of private providers in the context of contracting-out needs to be built on a foundation of robust government stewardship. Success depends on building an environment of trust but also objective measurement and fair processes. (Guinness 2011; Lomroth et al. 2006; Ullah et al. 2008).
Reducing financial barriers

In parallel to improvements in the availability of services, outlier countries reduced financial barriers that either prevented people from using health services when they needed them, or caused households to incur high out-of-pocket payments. Financial barriers included user fees at facilities - both formal and informal payments - as well as other costs to households from seeking care.

Several low coverage baseline outlier countries reduced or removed user fees at public facilities for select, highly cost-effective priority interventions, with MCH interventions being the common denominator. For example, Burkina Faso’s 2006 reform reduced user fees for deliveries, caesarean sections, and neonatal care (Ganaba et al. 2016). In 2010, Lao PDR rolled out a Free Maternal, Neonatal, and Child Health program, covering deliveries and other related outpatient and inpatient services for children under the age of five (Boudreaux et al. 2014). In the same year, Sierra Leone launched its nationwide Free Health Care Initiative (FHCI), providing free services to pregnant women, lactating mothers, and children under five years old (Bertone et al. 2014).

Countries have also provided more comprehensive coverage - offering more services at reduced or waived fees to more people. For example, under its reduced user fee policy, Burkina Faso started out covering only MCH services but then expanded coverage to include treatment for malaria, tuberculosis, and HIV/AIDS (Ganaba et al. 2016). Health equity funds in Laos and Cambodia exempted the poor from user fees for a broad package of outpatient and inpatient services (Ensor et al. 2017; Tangcharoensathien et al. 2011).

Even when coverage was limited to a few interventions, fiscal realities forced some countries to limit benefits to the poor and vulnerable, at least temporarily. Burkina Faso’s 2006 reform provided full exemptions only for the extremely poor, while coverage for other beneficiaries was limited to 80 percent of fees (60 percent in tertiary care hospitals). Lao PDR’s Free Maternal, Neonatal and Child Health program was initially rolled out to the most deprived districts, and the benefits of the country’s Health Equity Fund remained targeted to the poor. To increase the likelihood that benefits reach their intended beneficiaries, countries used identification mechanisms including a mix of geographical targeting (e.g., the poorest districts), proxy means testing, and community-led identification of people in greatest need.

Lessons from outlier and other countries suggest that programs can register substantial increases in service utilization, particularly when accompanied by improvements in the availability of services, reimbursement of providers for the loss of revenue, and the replacement of fees with other provider performance incentives. Evidence about the effects on financial protection are scarce and less promising. The removal of financial barriers may see out-of-pocket spending rise, not fall, as it allows people access to more services, potentially associated with fees or co-payments, as well as with other costs people may incur when they seek medical care, such as transportation expenses (Mathauer and Kutzin 2017).

In high-baseline outlier countries, programs emerged that went from subsidizing user fees to financing large shares of the costs of services with general tax revenue. Rwanda, a low-baseline outlier country, is one of the few global exceptions that succeeded in expanding community-based health insurance drawing on subsidies and contributions to rapidly scale up population coverage for a basic package of health services. More recently though, the country has faced challenges to maintaining high levels of coverage. Concerns have emerged about financial management capacities and the long-term financial sustainability of the model, to which the government has tried to respond (Kalisa et al. 2016).

A key feature of the programs in high-baseline outlier countries was to guarantee not only free care, but sufficient availability of services. In most of these countries, programs were initially targeted to the poor and only later expanded to fill population coverage gaps. Today, these countries are all in the later stages of the expansion process. Turkey’s Green Card Program initially targeted the poor and other vulnerable groups, but was later expanded and merged with social health insurance schemes for formal-sector employees, giving rise to a single Universal Health Insurance (UHI) scheme (Menon et al. 2013; Reich et al. 2016). Vietnam and Peru have also moved toward a unified risk pool across programs and insurance schemes, but both countries struggle to cover gaps in the informal sector.
In parallel to expanding population coverage, programs in high-baseline outlier countries continued increasing the depth of coverage, that is, the services included in the benefits package.

In countries with social health insurance for formal-sector employees, this resulted in the equalization of benefits with social health insurance entitlements and facilitated the consolidation of programs and schemes. For example, Turkey’s Green Card program originally covered only inpatient treatment costs, but in 2004, it expanded to cover both outpatient and inpatient services at public hospitals and, as of 2005, began to cover outpatient prescription drugs. Now that the program is part of the Universal Health Insurance (UHI) scheme, the benefits package has expanded again to align with the social health insurance benefits (Menon et al. 2013).

The expansion of the benefits package has been typically governed by prioritization exercises facilitated through health technology assessments (HTAs) or other prioritization approaches, all of which typically consider medical, ethical, social, economic, and political factors. Thailand has been a pioneer among middle-income countries in the use of HTAs to inform decision-making along the pathway to UHC, and has set standards for other countries in the region to follow (Teerawattanon and Luz 2016). While few other outlier countries have adopted HTAs, Turkey formalized HTAs for hospital services in 2012-2013 to ensure affordability and efficiency (Sampietro-Colom and Martin 2017). Similarly, Kazakhstan recently introduced an HTA process using both inclusion and exclusion criteria to define a state-guaranteed benefits package (Jones et al. 2017; Muratov et al. 2014).

Regardless of the level of system development, countries recognized that not only fees and charges, but other costs to households from seeking care constitute significant barriers to access. Thus, Health Equity Funds in Lao PDR and Cambodia reimbursed patients for transportation and food, while other countries make cash transfers to the poor conditional on the utilization of various health services. Turkey introduced conditional cash transfers in 2003 to pregnant women and children from the most disadvantaged households, and Peru’s conditional cash transfer program (JUNTOS), which was part of a broader poverty-reduction strategy, made payments contingent on the use of prenatal and postnatal check-ups, as well as regular health and nutrition visits (Atun et al. 2013; Perova and Vakis 2012).

Creating provider incentives for efficiency

Irrespective of country income or baseline coverage, outlier countries have increasingly made strategic use of financing arrangements to drive more efficient service delivery. Countries reformed payment and contracting systems while establishing arm’s-length arrangements between payers and service providers.

LBC outlier countries, like Sierra Leone and Rwanda, started to transfer some funds to facilities linked to outputs and outcomes. In Sierra Leone, where management capacity was generally weak, these changes were modest: supplemental fee-for-service payments for a few maternal and child health services (Bertone et al. 2014; Witter et al. 2015). In Rwanda, these changes were more ambitious. Provider payments were tied to targets for coverage and improvements in health outcomes among the patient population. Payments also included rewards for facility readiness and service quality (Bucagu et al. 2012). Though extensively researched, the effectiveness and cost-effectiveness of these results-based finance programs and success factors remains a matter of debate (World Bank and WHO 2017).

High-baseline outlier countries, like Peru and Turkey, have increasingly adopted blended payment using output-based and performance elements. Peru introduced a capitation payment for primary and secondary care levels, with a risk-adjustment for population need and 20 percent of the payment linked to performance indicators (Geneff and Besicht 2014). In Turkey, capitation payments are blended with fee-for-service payments and a performance element to encourage the delivery of antenatal and postnatal services in primary care facilities (OECD 2014). At the hospital level, global budgets and case-based payments remain the dominant form of payment, but supplemented with performance-based bonuses for medical staff (Collear et al. 2015; Menon et al. 2013).
The shift away from paying for inputs, such as salaries, and the introduction of performance contracting commonly took place with a separation in the organizational arrangements for financing and service provision to establish an arm’s-length relationship.

However, the payer and contractor arrangements vary substantially, depending on the program and context. Key models include internal contracting: for example, between the central level and districts in Burkina Faso (Perrot 2008), or hospitals paying sub-contracted primary health centers in Thailand (Harvoranvongchai 2013). The introduction of third-party payers offers another option. These third parties may be non-profits (for example, NGO-administered health equity funds in Lao PDR and Cambodia) (Ensrorn et al. 2017; World Bank and WHO 2017) or social health insurance agencies (for example, the Social Security Institution in Turkey) (Menon et al. 2013). These models have often included giving providers some authority and control over the use of resources, not limited to financing but also including human resources to respond to changed incentives. Reforms in Turkey, for example, increased the financial autonomy of health facilities.

These arm’s-length arrangements are dependent on timely and reliable information on service delivery. Concurrent investments in data systems enabled purchasers of health care to hold providers accountable for services rendered and health outcomes. Better information from improved data systems also has positive spillover effects that extend beyond accountability. It enables process improvement, systems research, and better decision-making.

Many countries opted not only to empower providers but also consumers. In Turkey and Thailand, complaints systems were introduced to ensure that providers do not under-deliver services in response to payment methods that encourage cost containment. In Thailand and Kazakhstan, telephone hotlines were set up to receive questions and complaints from the public (Katsaga et al. 2012; Harvoranvongchai 2013). In Kazakhstan, the National Committee on Medical and Pharmaceutical Activity Control is primarily responsible for responding to patient complaints. In Turkey, Patient Rights Units were established in hospitals and primary health care facilities in 2004, with electronic systems for patient complaints and suggestions. Turkey also established telephone hotlines to the communication centers of the Ministry of Health and the Prime Minister’s office (Atun et al. 2013).

Increase prepaid and pooled financing for health and improve effectiveness of development assistance for health

To improve the availability of services and remove financial barriers to access, countries must raise additional prepaid and pooled resources for health, most importantly, government financing. Increases in government financing are often facilitated by rapid economic growth and improvements in the ability of governments to raise revenues, yet, in outlier countries, leaders also succeeded in moving health high on the political agenda and generating political will to invest in health. In Sierra Leone, health was central to the post-conflict poverty reduction strategy. Lao PDR anchored increases in government spending on health into national laws, also setting a national target for allocations to health (World Bank and WHO 2017).

In several countries, a clearer recognition of the link between out-of-pocket health expenditures and household impoverishment helped prompt higher general government health spending. Meanwhile, leaders in many LMICs found that economic growth was not leading to formalization of the labor force and an accompanying extension of social health insurance, as had been predicted based on historical experiences in high-income countries. Therefore, the extension of health insurance to the poor and informal-sector workers required delinking coverage from employment status and drawing on broad-based fiscal instruments. In Thailand and Turkey, leaders capitalized on these insights and garnered support during elections to place both health and financial protection high on political agendas (Bump and Sparkes 2014; Ghislandi and Muttarak 2016; Kuhonta 2017).

While political commitments to invest in health and financial protection often remain rhetorical, leaders in outlier countries translated political will into actual increases in public financing for health. Laos increased the health share of government spending from 4.1 percent in 2005 to 6.3 percent in 2015 (World Bank and WHO 2017). Even more impressive, as noted above, Vietnam more than doubled health spending as a share of government spending, from 6 percent in 2005 to 14 percent in 2014. During the study period, positive outlier countries experienced, on average, more rapid growth in per capita government health spending than did countries with more modest health service coverage increases (below percentile 50) (See Figures 3.1a-b).
Government Health Spending: Low- and High-Baseline Countries

For the purpose of comparison, the data have been converted into an index set at 100 for the year 2000. The following graphs compare average government health spending per capita in: (1) outlier countries, i.e., countries with rapid progress on service coverage and progress on financial protection (orange lines), and (2) countries with modest service coverage increases (below percentile 50) (grey lines). Low- and high-baseline countries are considered separately. It is important to note that government expenditures may include development assistance for health.

The study period was marked by an unprecedented increase in development assistance for health (DAH). Global DAH increased from US$ 11.4 billion in 2000 to US$ 37.6 billion in 2015 (IHME 2017). Low-baseline outlier countries saw a more rapid increase in DAH per capita. They also managed to align external financing behind government priority programs to expand access to basic services and reduce financial barriers. In Burkina Faso, for example, resources from development partners have helped subsidize user costs for delivery, emergency obstetric care, and neonatal care, while also providing free access to other interventions such as antiretroviral drugs, artemisinin-based combination therapies, and insecticide-treated bed nets (Ameur et al. 2012; Yaogo 2017). Donor assistance has supported Rwanda’s community-based health insurance scheme and Sierra Leone’s free health care initiative for maternal and child health services (Kalisa et al. 2016). Both Laos and Cambodia have drawn on donor funding to finance health equity funds covering user fees and other costs (e.g., transportation) for the poor (Flores et al. 2013).

Remarkable UHC successes in the new millennium still leave a vast, unfinished agenda. Despite gains in service coverage and financial protection, most countries are struggling to satisfy population needs. Equity gaps in service delivery and financing persist. Where services are provided, quality failures are rife, such that coverage expansion is often not translating into improved outcomes. Meanwhile, in many countries where incomes and access to information are increasing, citizens’ expectations for health services are rising steeply, and health systems struggle to keep up.

The 2013-2016 Ebola virus outbreak in West Africa provided a stark reminder of the unfinished agenda of health systems strengthening, even in settings where some encouraging gains have been recorded. In the decade before the outbreak, Liberia and Sierra Leone, for example, had achieved significant progress in their coverage of select MCH indicators. Their health systems seemed to be on a path of improvement. Yet these systems were unable to manage the Ebola epidemic, which eluded control, ultimately reversing years of hard-won health gains in these countries.

Such events highlight the importance of making progress across the whole spectrum of UHC. In this case, the relative neglect of health security measures (Kruk et al 2015) (pages 50-51), the chronic lack of adequate human resources (Shoman et al. 2017), and pre-existing perceptions among the population that the health system could provide only a narrow set of services (Svoronos and Mate 2011) contributed to health systems’ inability to cope with the emergency.

The Ebola epidemic was an exceptional event. Yet the systemic weaknesses it revealed are unfortunately not exceptional at all. Ebola symbolizes the many new, persistent, and re-emerging threats that health systems must prepare to manage on the road to UHC. Public health emergencies may become more frequent in many regions in the years ahead: including pandemics, climate-related extreme weather disasters, conflict, and large-scale population displacements. Most health systems remain poorly prepared to manage such emergencies. Health systems destabilized by emergencies may lose ground and fall further behind their UHC aspirations.
Pandemics and other crises can devastate health systems and reverse years of hard-won health and economic progress. Preparedness for epidemics should be integrated into UHC. Health systems should be able to:

1. Rapidly detect and control infectious disease outbreaks and other acute population health threats.
2. Continue to provide quality routine health services while responding to crises.
3. Recover quickly and adapt to changing contexts and new challenges, showing a capacity to “bend but not break” under stress.

A system displaying these qualities can be described as a “resilient health system” (Kruk et al. 2015). Resilience in this sense has been recognized as a crucial dimension of health systems strengthening and UHC agendas (UHC2030 2017).

Resilience protects UHC investments for the future in a world of multiple threats. However, only a minority of countries have scored highly in even a sub-set of core public health functions such as workforce development, laboratory services, and health surveillance. In the context of competing priorities, policymakers are faced with the challenges of investing to deliver clinical services, but also increasing resilience through stronger public health systems.

The recent International Working Group on Financing Preparedness suggested financing innovations at global, regional, and national level that may help countries reinforce health security (World Bank 2017). Uganda’s ring-fenced budget for surveillance offers one approach. It includes a contingency fund that releases money only during an outbreak, combined with distinct funding for routine surveillance and response activities (Ossewe and Mensah 2017).

Potentially transformative surveillance investments include the deployment of a nationwide electronic reporting system. Technological tools alone cannot produce health system resilience (for example, without people trained to use those tools). However, many problems in infectious disease surveillance cannot be solved without the aid of advanced technologies. For example, in a high-performing country like Armenia, all surveillance data is integrated in a single, interoperable and interconnected national electronic reporting system (the EIDSS) (WHO 2016). Improved quality of clinical care including rational use of antibiotics and establishment of efficient laboratory services are examples of investments that serve the dual purpose of increasing effective coverage and health security.

Another set of health security challenges and opportunities facing health systems pertains to working more effectively across different sectors. The One Health approach provides a comprehensive framework that lays the basis for more effective collaboration, especially to address the connections between animal and human health. Financing and operationalizing such frameworks remains a frontier challenge (Lee and Brumme 2013).
At the same time, health policy makers must manage cost pressures associated with technological innovations, ageing populations, and NCDs (page 53). They must address pervasive inefficiencies, not only in terms of what services to provide in which setting, but also how and by whom services are delivered. Smart trade-offs require technical capacity to assess the costs and benefits of different choices, but also platforms to enable a broad dialogue about health system priorities, with the participation of civil society, as well as technical experts.

To ensure progress toward UHC, countries face the challenge of continuously expanding the range of available services, improving their quality, strengthening health security, and expanding financial protection. And they must ensure progress toward UHC even during economic downturns and declines in development assistance for health.

Countries are also grappling with the fragmentation of financing systems. Indeed, fragmentation into financing pools is often the result of the gradual extension of coverage and financial protection. Fragmentation is commonly followed by inefficiencies due to the loss of economies of scale, duplication of administrative processes, and dilution of provider incentives. Moreover, forms of fragmentation in which one group’s benefits package (e.g., that of formal sector workers) is substantially better than another group’s (e.g., the poor) can solidify inequalities in health status and economic wellbeing.

With only a handful of notable exceptions among LMICs, such as the outlier countries, progress in expanding financial protection to the poor has been slow. In fact, the removal of financial barriers has often seen out-of-pocket payments rise, not fall, because it allowed people access to more services which entailed some direct household payments. Economic growth to provide the necessary resources for UHC will not be enough to accelerate progress in most settings. An active search for ways to increase domestic resource mobilization and boost the amount of money going to health remains critical. In many settings, it seems clear that these resources cannot come exclusively from the public sector. The way development assistance for health can support these efforts is an equally important unanswered question for many countries.

The ageing of populations is rapidly accelerating around the world. Several countries are growing old relatively rapidly and before they get rich. Most of the health challenges confronted by older people are chronic conditions, especially NCDs. Management of NCDs tends to be complex and life-long, and it requires high volumes of outpatient drugs, frequent interactions with health systems and providers, as well as intensive disability management.

Other than diseases, reduced functionality is an important factor which tends to affect older people’s quality of life, with profound consequences for individuals and populations. For individuals, these consequences may include the indignity of increased dependence on others for daily tasks. As problems worsen, seniors may be forced to leave their homes and live with family members who must provide round-the-clock care, or in institutions. At the population level, growing numbers of people with limited functionality demand investments in infrastructure and care provision that countries may see as beyond their reach. When public-sector health and social services for elders fall short, older people must rely on privately-funded care arrangements, which may vary widely in scope and quality, depending on people’s ability to pay. This threatens to deepen socioeconomic health inequities among elders that in many cases have already accumulated through the life course (WHO 2015).

Many countries are ill-prepared for population ageing and the associated NCD challenges. A 2017 review shows that only 22 percent of countries in Sub-Saharan Africa have national integrated NCD policies, strategies, or plans. Only 13 percent have set tobacco excise taxes equal to at least 50 percent of retail prices, and just about 4 percent of countries have set up national clinical guidelines, protocols, or standards for NCD management in primary health care (Nyabasa et al. 2017).

Countries need a health systems transformation to shift away from past hospital-centric, disease-based curative models of health care and towards the provision of integrated care that is centered on the needs of older people. Reducing exposures to risks such as smoking; technological and organizational innovations to expand cost-effective home-based care models; and other financial and procurement innovations are allowing some countries to help older people play a productive role in society for far longer.
Where Do We Go from Here?

The next part of this report is prospective. It will consider facets of possible UHC futures. Clearly, aspects of that future will be in continuity with the past and present. Countries will make incremental reforms by introducing or expanding “tried and tested” approaches to make services more available, reduce financial barriers, and increase stakeholder engagement, for example. Such incremental reforms—expanding proven policies and approaches or adapting them to new settings—will help many countries accelerate UHC progress in the years ahead.

Unfortunately, as explained above, there are good reasons to believe that this will not be sufficient to reach UHC goals. In the next section, we will explore emerging opportunities for countries to introduce deeper changes in how they finance, deliver, and govern health systems. We will ask what is required for countries to seize such opportunities and move beyond incremental change toward more transformative approaches of “business unusual.”
A Different Picture: Transforming Health Systems and Accelerating UHC Progress

While health policies applied in outlier countries suggest promising options, unmet needs and emerging threats pose stark challenges to UHC agendas, particularly considering the scarcity of health system resources. This highlights the need not only to accelerate incremental reforms, but also to step up the search for new, qualitatively different solutions.

Transformative change may come from new attitudes and behaviors among stakeholders; the development of new products and devices; the reconfiguration of how health services are organized, delivered, and financed; or all of these things.

It is important to avoid naïve exuberance about health system innovation and the promise of “silver bullets.” However, there are several interrelated forces that may spur innovation and transform health systems in the years ahead, offering a more hopeful picture than the one described at the end of the previous section.
What would a more hopeful picture look like?

1. People are at the center of health systems

People increasingly move from being passive recipients of services to active producers of their own health who make nuanced decisions about use of health services. This is a future in which health systems empower and enable people to maintain wellness and prevent disease before it happens, and in which patients are active partners in the care process (see page 60). Health systems also recognize that populations are increasingly mobile, and systems facilitate healthy mobility and labor market transitions. Supporting reforms are implemented across multiple domains – financial (e.g., population-based payment models), behavioral (e.g., sin taxes and “nudges”—see page 61), organizational (e.g., integrated information systems), and governance (e.g., citizens’ charters). Health services acknowledge that disease morbidity and mortality are greater in poorer and otherwise marginalized groups of society, and explicitly prioritize services for those communities. This means that services for children and women, including at the community level, are prioritized.

2. Digital health

The internet, mobile phones, blockchains and other tools for collecting, storing, analyzing, and sharing information increasingly penetrate the health sector. In doing so, technology helps empower beneficiaries, improve quality of care, detect disease outbreaks, facilitate payments, and enhance accountability.

3. Health services reimagined

Process innovation is brought to bear to help reconfigure health systems and improve quality. A global health care quality movement is building. With a new quality commitment among managers and providers, supported by enabling technology, health systems become learning systems. Successful innovations are rapidly and widely disseminated. Failures are analyzed, understood, and corrected, and the lessons shared. Innovative experiences in non-health sectors are adapted to accelerate health progress.

4. Pluralistic health systems

The distinctive capacities of non-state actors are leveraged, with the private sector, civil society, and other stakeholders, including from outside the health sector, playing multiple roles – delivering services, resolving bottlenecks in supply chains and patient transport, training health workers, and filling other capacity gaps while holding each other accountable for results. This pluralism presents challenges for governments, but also new opportunities to solve persistent problems.

5. Globalization of health

In this new era, approaches successfully implemented in one setting can be almost instantaneously available for consideration on the other side of the world. New collaborative networks are emerging, spanning countries, regions, and the globe. Horizontal, peer-to-peer connections increasingly circumvent traditional hierarchies of power and knowledge and democratize innovation. New ideas and practices are burgeoning in places once considered peripheral. Expertise is everywhere.

What might the future look like?
Out of Facilities and into Communities

Countries at all levels of wealth and UHC achievement will increasingly move towards a health services model that is community-based; focused more on protecting health than curing acute illness; and above all patient-centered and patient-led.

This transformation will affect all dimensions of health systems. Areas of innovation to support this paradigm shift include:

- New tools and strategies for patient education, empowerment, and autonomy (e.g., patient peer support via phone messaging and social networks; increasing capacity for patients to access and manage their own health data 24/7)
- New approaches to preserving health and preventing disease before it happens, through health technologies, community-level action, and patient lifestyle choices (e.g., community-led, participatory programs for healthy physical activity and other forms of wellness promotion; sensors to detect health-threatening conditions such as air-pollution peaks; mHealth apps and messaging to support people in adopting healthier lifestyles)
- "Smart" devices and wearables to facilitate patient self-management at home, linked to the emerging "Internet of Things" (IoT)
- Increasing use of telehealth
- Changes in the health workforce to support new community-based, participatory models (e.g., growing use of well-trained, well-paid CHWs in countries at all levels of income; multidisciplinary care teams to meet a broad range of patient clinical and social needs; task shifting, including to care team members who can relate to patients as peers, for example HIV-positive mothers who counsel and care for others)

As the center of gravity of health action in all countries shifts out of facilities and into community settings, the need for large cohorts of health workers capable of delivering community-based frontline services will become increasingly acute. The combination of CHW programs with emerging technology may hold transformative potential, enabling ambitious LMICs to "leapfrog" in devising and scaling up new solutions. These countries may also avoid overinvestment in certain categories of "hard" infrastructure while rapidly building a health workforce adapted to the new care delivery paradigm.

Exploiting Behavioral Insights for Better Health

Behavioral insights—i.e., insights derived from the behavioral and social sciences, including economics, psychology, cognitive science, and neuroscience—are increasingly used to make public policies work better.

Recent publications, including the World Development Report 2015, have raised awareness of this approach. There have been numerous applications to the health sector:

- Framing of messages. Gain-framed messages in health promotion (e.g., “if you get the flu vaccine, you will be less likely to get the flu”) consistently improve adoption of preventive behaviors relative to loss-framed messages (“if you do not get the flu vaccine, you will be more likely to get the flu”).
- Default options. Opt-out (people are automatically enrolled but given the choice to withdraw) can be better than opt-in (people can choose to enroll when asked) in improving participation in programs, for example HIV testing, organ donation, or insurance schemes.
- Information design. For health consumers, simpler enrollment forms and procedures can lead to increases in enrollment in insurance plans. For doctors, a redesigned prescription chart with (i) letter boxes to encourage the use of individual block capitals (ii) dosage units to be circled rather than written and (iii) a color scheme to draw attention to important issues can reduce prescribing errors.
- Prompts, cues, and reminders. Text-message reminders can improve patients’ adherence to treatment regimens such as ART. Reminders can also be effective in changing health care provider behaviors and improving the processes of care.
- Audit and feedback. Feedback in the form of a letter to high prescribers of antibiotics with comparisons to their top-performing peers can lead to reduction in their antibiotic prescription. Encouraging patients to ask their physicians a simple question, "Is my antibiotic prescription absolutely necessary?" can also reduce antibiotic use.

Sources: Loewenstein et al. 2017; Perry et al. 2015; World Bank 2015.
What Will It Take?

It’s an inspiring picture. Could it become real?

The situation resists simple prescriptions. To create an innovative and learning health system is an exceptional challenge, as recent sobering experiences with agendas such as e-health confirm (Lewis et al. 2012). So, what will it take for countries and partners to bring this transformational scenario about? This report highlights three critical principles that have important implications for country and global leadership.

1. Look Everywhere, Engage Widely, Share Everything

In the past, health leaders seeking guidance to solve policy and delivery problems had limited options beyond published health-sector norms and guidelines, the academic literature, or the advice of their peers. Today, such limits are rapidly falling away.

Increasingly, solutions to health system problems will emerge from collaboration with a broader set of partners from within and outside the health sector (See page 63). These collaborations with the private sector and other stakeholders can bring fresh ideas, new resources, and innovative delivery practices, along with organizational structures that are often more flexible and responsive than those of the public sector. Public-private partnerships and process innovations adapted from other contexts can bring dramatic gains in reach and results for health systems.

Solutions will also be found in new technologies and their application to the health sector. Already, new tools and strategies such as drone transport, mHealth applications, and frugal technologies are revolutionizing the delivery of frontline health care in some low- and middle-income settings (See page 64). Coming decades are likely to see an explosion of advances in telehealth, medical applications of artificial intelligence, and the use of internet-connected “smart” devices to support service delivery and patient self-management at home. Such shifts will help relieve pressures on overstretched health facilities and health workers, while likely improving patient satisfaction and outcomes.

How Technology and Innovative Partnerships Can Help Achieve Gains in the Health Sector

A growing number of partnerships are bringing new solutions to health systems in low- and middle-income countries.

Delivering public policy goals with private-sector logistics: medical drones in Africa

Some African governments, private firms, and international agencies have formed high-profile alliances to solve medical supply-chain problems with drone transport. For example, as of August 2017, drones were transporting 20 percent of Rwanda’s blood supply outside the capital, Kigali, while the medical drone system now being scaled up in Tanzania is expected to become the world’s largest.

Afghanistan: jumpstarting health system rebuilding through contracting

Despite ongoing insecurity, Afghanistan has made notable progress in improving maternal, newborn, and child survival, nutrition, and the coverage of health interventions. These results were achieved through a model of contracting with NGOs to provide basic health services at health centers and district hospitals in defined geographic areas.

Radical collaboration for health system resilience in Liberia

In the context of the 2014 Ebola outbreak, open sharing of mobile phone data between the communications company Orange Telecom, the Swedish nonprofit Flowminder, the Liberian government, the US CDC, and other partners helped improve modeling of disease transmission routes, enabling more effective containment.
Some countries have deployed large cohorts of CHWs as a strategy to expand service coverage and improve health indicators. Looking ahead, there is potential for the power of these models to converge with technological advances to achieve even greater gains.

Tomorrow’s frontline CHWs will have their operational capacities augmented by new tools and new skills, many based on mobile phone applications and simplified or “frugal” medical equipment. These transformations may initially be easiest to implement in urban and peri-urban contexts, where they can help meet soaring health care needs. Many of these tools and strategies will also be increasingly applicable in rural settings.

The explosion of current-generation mHealth applications already supports frontline providers including CHWs in a broad array of functions, from patient education to health data collection to monitoring treatment adherence and outcomes (Labrique et al. 2013). The pace and scope of mHealth innovations will further increase, expanding CHWs’ range of impact. Higher-performing mobile devices will put next-generation CHWs in real-time touch with referral networks and guidance from specialized providers, enabling them to function as the increasingly effective eyes, ears, and hands of the health system at the grassroots. Meanwhile, countries may harness e-Learning options to upgrade CHWs’ training, both pre- and in-service (WEF 2014).

While current mHealth tools have enabled frontline workers to gather large amounts of data, some experts see a coming “tipping point,” where new apps will not only collect but rapidly analyze data to guide frontline providers’ action in real time (Michiel 2017). “The most successful platforms and programs will weight collection and analysis equally,” so that collected data is immediately “used to drive decisions” and help patients (Michiel 2017).

In addition to mobile phones and tablets themselves, simplified and/or mobile-adapted medical equipment will expand frontline health providers’ capacity to assess patient needs and deliver interventions. Already today, mobile-adapted clinical tools include pulse oximeters, ultrasound devices, and EKGs, with the list growing almost daily. These tools reflect what is both the most obvious and most important trend in mHealth and associated technologies: “Nearly every facet ... is becoming easier and easier to access for those without formal technical training” (Michiel 2017). Such tools, combined with CHWs’ irreplaceable social capital, cultural knowledge, and community trust, will make “augmented” community-based health auxiliaries the leading edge of UHC progress in the settings that matter most.

However, reaching this potential will depend on an open and proactive approach to find new ways of doing things, an inclusive engagement with stakeholders that puts people at the center, extensive sharing of lessons and experiences, and the development of a discipline to assess new innovations quickly and reliably. Intensifying the quest for innovation brings risks that leaders must anticipate: for example, the potential proliferation of small, disconnected, inconclusive pilot projects (“pilotitis”). Success also requires recognizing that, in some areas, new ideas and solutions are not emerging or spreading fast enough, and finding ways to bring water to these “innovation deserts.”

2. Use Data to (Re-)Shape Health Systems

With the ever-growing role of digital technologies, new and connected data are becoming increasingly abundant. If used judiciously, these data can be a powerful tool to understand health needs and re-shape health systems.

Maximizing the potential of big data requires greater efforts to address more basic system and data gaps, such as the need to improve vital statistics on births and deaths, and core surveillance systems. And there are many blind alleys and potential risks related to privacy and misuse of data that need to be managed. Yet, the potential of big data is clear from initiatives such as India’s ambitious Aadhaar personal identification program, which through biometric identification of over 1.2 billion of India’s citizens, provides the foundation for expanded monitoring of health and social data, electronic medical records, improved management of health insurance programs, and empowered beneficiaries. In South Africa, linking existing data has helped improve many aspects of health system performance, including the quality of services (See pages 66-67).

Data and expanded computing power are also coming together to enhance diagnostic capacity using artificial intelligence (AI) (See page 68).

Data has always been instrumental to health system management. However, with the advent of “big data,” there is the promise that it may be transformational.
In HIV, viral suppression is an important marker to estimate how well patients are doing and their probability of transmitting HIV to others. HIV program managers want to know what proportion of HIV treatment clients actually receive an annual test to determine the amount of HIV virus in their bloodstream (viral load), and of those, the proportion who have low HIV viral load (viral suppression). These are key metrics of the coverage and quality of HIV service delivery.

In South Africa, the World Bank and Boston University supported an effort by the country’s National Health Laboratory Service and National Department of Health to use big data analytics to improve HIV services. South Africa has the world’s largest HIV treatment program and a large national database of viral load tests among clients on HIV treatment (more than 44 million records over two years). However, this dataset could not be linked to individual HIV treatment clients, as unique identifiers were not used by clinics. The team therefore used data science approaches and analytics to bring together different datasets and create a data set of unique patients (using a fuzzy matching algorithm). This was linked to routine HIMS data and HIV client register data.

With all these data, the team could determine the proportion of HIV treatment clients who had viral load tests done at least once a year (as per national clinical guidelines) and, of these patients, the proportion virally suppressed. Data were summarized by province, district, sub-district, and health facility, and used to generate tables and maps.

Researchers found that the results were spatially correlated by district, meaning that facilities in a given district were more likely to have the same performance. This suggests that the district health management team plays an important role in facility-level performance. The analysis has enabled well- and poorly performing facilities and districts to be identified and helped provincial health authorities focus supervision on lagging districts.

**LEARNING FROM HIGH PERFORMANCE** (dark districts)

Proportion of ART (antiretroviral therapy) clients with known VL (viral load) suppression (< 400 cp/ml)

<table>
<thead>
<tr>
<th>Proportion viral load suppression</th>
<th>≥ 71%</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 40%</td>
<td></td>
</tr>
<tr>
<td>41% - 50%</td>
<td></td>
</tr>
<tr>
<td>51% - 60%</td>
<td></td>
</tr>
<tr>
<td>61% - 70%</td>
<td></td>
</tr>
</tbody>
</table>

**IMPROVING LOW PERFORMANCE**

Number of ART clients with high VL (>1,000 cp/ml)

- 0 - 380
- 381 - 750
- 751 - 1,350
- 1,351 - 2,350
- 2,351 - 28,000
Some African tech experts argue that artificial intelligence (AI) may soon help tackle both the quality challenges and workforce shortfalls that slow health progress on the continent. AI systems like Google’s Deep Mind and IBM’s Watson have already shown the capability to reliably diagnose a wide range of medical conditions. Some thought leaders predict that the deployment of such systems is poised to revolutionize health care quality in many LMICs within a decade (Cornish 2016).

AI diagnostic capabilities will relieve skilled health providers of part of their routine workload, making them more productive. In many cases, the diagnoses provided by machines are also likely to be faster, cheaper, and more accurate than those of human specialists. Cervical cancer screening is one area where this is already the case. A team at IBM Africa has developed AI software that, trained with a database of cervix images, can detect precancerous tissue color changes far more consistently than trained health professionals. And what’s true for cervical cancer screening today will soon apply to a host of other health conditions.

According to IBM Africa’s David Sengeh: “The objective is not to replace caregivers, but rather to augment their ability to diagnose and screen by automating tasks that are simple but eventually overwhelming for overstretched caregivers. ... If we learn to leverage what AI being developed in Africa offers the continent, our young and growing population will be healthier and wealthier, ready to transform our lives and ultimately lead the world.”

3. Learn from Implementation

Perhaps the most critical strand of the health system learning agenda concerns implementation. To reach UHC and other health goals, the question is not just which policies to choose. It is also, and above all, how to implement the chosen policies effectively and sustainably. The answers can only come by doing: through policy and program implementation as iterative learning.

The emerging field of health care delivery science has focused health leaders’ attention on this issue and its implications. Testing implementation scientifically provides governments and partners with the humbling opportunity to “put our favored notions to the test.” Rigorous and roadworthy science that is linked to implementation real-time will ultimately help ensure that efforts to close health gaps are based on facts and deeper understanding of how things work and not simply on blind faith. Efforts are needed, however, to increase the credibility, financing, and capacity for delivery science in every country. No health system can afford to pursue ambitious reforms without it (Kruk 2014).

New Leadership Challenges

Political vision and leadership have always been critical for UHC progress. In recent decades, policy makers in many countries have made bold decisions to expand health service access and remove financial barriers, in many cases knowing this would have significant fiscal implications and that gains might only materialize over the longer term. Such leadership remains essential.

However, health leaders at country and global level are also dealing with important changes: increasingly informed and empowered populations, new technologies and service delivery models, health systems that are becoming more complex, expensive, and pluralistic, and ever-greater understanding of the co-dependence of what is happening in other countries and sectors. All of this creates exciting opportunities, but also new challenges.
Challenging received wisdom

With far-reaching health-systems transformations on the horizon, the received wisdom inherited from the past appears increasingly questionable. In some quarters, this has propelled a new emphasis on “first-principles thinking” on health systems, which sets aside common assumptions in order to look at problems and solutions with fresh eyes. This approach to solve health-system problems is not new. It informed important health-system reforms in recent decades, such as Thailand’s introduction of the Universal Health Coverage Scheme, or the conception of the Health Extension Worker program in Ethiopia. To resolve some of the stickiest challenges, it must be an even more critical part of health leadership in the future.

Broad and active engagement

Strong public-sector leadership does not mean unilateral authority. New leadership models are based on partnership, collaboration, coalition-building, and stakeholder empowerment. They create conditions in which all actors can maximize their added value within a goal-oriented collective process.

Sharing and exchanging across borders

This requires building on participatory peer-learning structures that are already connecting countries and global UHC partners, such as the Joint Learning Network for UHC, WHO’s Global Learning Laboratory for Quality, and the Asia eHealth Information Network (page 71). Such structures can strengthen learning and exchange on the “what” and, more importantly, the “how” of systems reform for UHC.

The Joint Learning Network (JLN)

The JLN is an innovative community of practitioners and policymakers from 27 countries who engage in practitioner-to-practitioner learning and co-develop tools to implement universal health coverage reforms. The tools are equipping countries with the how-to’s of designing efficient, equitable, and sustainable healthcare systems, while contributing to global knowledge on achieving UHC. The JLN embraces a country-led, country-driven model of governance to ensure learning outcomes are aligned with countries’ priorities. It bridges the knowledge gap between theory and practice – providing a critical enabler for countries to move toward UHC. All JLN activities are prioritized, shaped, led, and co-facilitated by JLN member countries. Through a unique model for joint problem solving, which includes multilateral workshops, country learning exchanges, and virtual dialogue, JLN members build on real experience to produce and experiment with new ideas and tools for expanding health coverage.

As the global UHC movement advances, health policy makers and practitioners need more cross-learning opportunities to share insights and exchange knowledge on the implementation of policies and programs. By bringing countries together and globally connecting health-system leaders with their peers on shared challenges, the JLN is helping them leverage diverse experiences to develop the tools vital for direct action and reform for UHC.

The JLN is a visible pioneer in the emerging paradigm for global health – strongly country-led, focused on South-South learning emerging from the tacit knowledge of practitioners, implementation-focused, driven by a shared passion across all its stakeholders, and determined in its content and governance by demand from strong country voices.

VISIT:
http://www.jointlearningnetwork.org/
Developing critical new governance capacities

Dealing with pluralistic health systems, new technologies, and extensive data are not new challenges for countries. However, the future is likely to make existing capacity constraints more glaring. Effective engagement with the private sector, civil society, and other stakeholders, including from outside the health sector, requires transparency in decision making, clear ground rules, continuous dialogue, and robust governance and monitoring capacities. These conditions are not a given. They must be created. Similarly, technology’s infinite promises demand a systems-wide discipline to source, evaluate, prioritize, and scale up new tools. For many available technologies and solutions, the evidence base for scale up is often weak (Iribarren et al. 2017), and the rapid cycle of innovation can be overwhelming for governments with constrained capacity. According to a recent count, more than 100,000 healthcare apps are already available, with 229 apps in dermatology alone (Mayes and White 2017). One frequent result is inertia, with promising reforms or solutions never being tried; another common result is health-system managers being distracted by a constant flow of new technology fads and pilots that fail to result in, or are not supported by, required systemic change. Big data also brings important system and capacity issues, with the collection and use of individual-level data being fraught with ethical, regulatory, and procedural challenges. Dealing with these problems requires systems and capacity that are lacking in most countries today.

Global efforts to stimulate innovation, generate evidence, and share knowledge

There is also an important role for global leadership—in the form of partnerships and efforts by international organizations—to support country efforts towards UHC. This includes support for the development of new technologies through innovative mechanisms, such as the Coalition for Epidemic Preparedness Innovations (CEPI), or new metrics to measure frontline performance, such as the Primary Health Care Performance Initiative (PHCPI) (See page 74).8

This global agenda may also involve tackling the deeper social roots of innovation gaps. One way is working with countries to overcome extreme socioeconomic imbalances in young people’s opportunities to contribute to innovation. A recent study in the United States, for example, found that children with parents in the top 1 percent of the income distribution are ten times more likely to become inventors than children with below-median income parents. Similar inequities were observed for women and racial minorities. This means that there are many “lost Einsteins”—people who would have made highly impactful inventions, had they been exposed to careers in innovation as children, but who never got that chance (Bell et al. 2017). On the global scale, this waste of human talent reaches staggering proportions. Ending it and closing innovation opportunity gaps within and between countries is a critical task for global innovation leaders.

Closer to the health system frontlines, the innovation leadership agenda also includes expanded efforts to source and share health system solutions and evidence, building on the experiences of organizations such as Grand Challenges Canada and PATH, and partnerships such as the Tokyo Joint UHC Initiative that aims to strengthen collaboration and alignment of efforts to support UHC at country level (page 75). There are foundations for more effective global leadership on these fronts to build on, but much more can and must be done.
R&D and Equitable Access to its Benefits Remain Critical

Continued private-sector investment in research and development (R&D) is vital. However, for diseases which primarily affect the poor, private R&D companies may be reluctant to invest lest the returns are too low. In addition, privately developed R&D solutions may be unaffordable in low-income contexts. Between 1975 and 2004, less than 5 percent of new drugs were designed to tackle tuberculosis, malaria, and neglected tropical diseases. Because such significant market failures exist, increased public-private collaborations and charitable investments are required. Vaccine co-investments between the U.S. National Institutes of Health (NIH) and the Gates Foundation, and between the U.K. Department for International Development (DFID) and the Wellcome Trust are notable examples.

Continued and expanded investment in discovery as a global public good is essential, through both push and pull incentives. Push incentives include co-financing between private and public partners, challenge funds, or grants or prizes for innovations in areas with market failures. Pull incentives include product pre-specifications that give R&D investors clear product goals to work towards and, more ambitiously, advance market commitments which guarantee a set price for technologies meeting clear technological specifications – such as the pneumococcal vaccine (Pedrique et al. 2013).

Together with increased R&D in areas of market failure, expanded access and affordability are critical. There are promising examples of technologies developed for lower-income countries, such as the dengue vaccine, or interventions which rapidly became accessible and affordable, such as HIV and HCV treatment. Lessons from these experiences, including the role of voluntary licensing, patent pools, use of TRIPs flexibilities, and large-scale, low-cost generic production, must be expanded to other health innovations.

Alongside access and affordability, simplification is critical. Childhood immunization, oral rehydration therapy, and HIV treatment are examples of interventions which were radically simplified and in consequence rapidly scaled-up to achieve major health impact. Complexity is a major impediment in the case of TB, where the lack of a simple, unequivocal TB test, particularly a point-of-care test, for example, remains a major obstacle to control. Similarly, the immense promise of powerful hepatitis C treatments remains constrained by the significant laboratory support required.

Doing Better at the Innovation Frontier

Several organizations and platforms are trying to catalyze innovation towards UHC. They have engaged businesses, researchers, and scientists around critical development problems with the aim of identifying (and funding) innovations.

Sourcing Innovation. Organizations have used one or more of several approaches to sourcing innovation: (i) crowdsourcing and contests (OpenIDEO, Grand Challenges); (ii) peer-review (IC2030); (iii) competitive application and curated match-making to facilitate partnerships (IFC TechEmerge); (iv) nominations by selected partners (Skoll Foundation); (v) Requests For Proposals (Welcome Trust, USAID Development Innovation Ventures, and Global Health Innovation Technology (GHIT) Fund); and (vi) an online inventory of innovative projects (Global Health Exchange). Some platforms utilize a mix of two or more methods to source innovation. For example, PATH’s Innovation Countdown 2030 (IC2030) applied both crowdsourcing and peer review by 60 health experts to select 30 innovations that can accelerate progress towards SDGs for health.

Sharing Innovation. Duplication of efforts can increase transaction costs. Consequently, the dissemination of information and knowledge exchange are critical to driving innovation, as well as ensuring coordinated investments for the strategic targeting of scarce resources. Approaches to sharing include reports and publication, data visualization, conferences and summits, and online portfolios of innovations.

Measuring Impact. Different innovation platforms target different distinct elements of the global innovation ecosystem. While some platforms, such as the UNICEF Innovation Fund, focus more on fostering seed funding for innovation or early stage R&D, other platforms focus explicitly on proof-of-concept and transition to scale. Most innovation platforms include some element of impact evaluation to measure results.

Organizations and platforms such as the ones featured here can help drive innovation and generate evidence. They represent an important effort to address some of the bottlenecks that LMICs face in identifying, assessing, and scaling new technologies and solutions. Yet, important challenges remain to ensure the financial sustainability of efforts of this nature, and to provide complementary support to countries to strengthen institutional capacity, regulatory frameworks and other critical aspects of governance.

FOR DETAILS:
https://openideo.com/
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https://www.innovationsinhealthcare.org/
In the past decade, the world has advanced towards UHC more swiftly than at any time in history. But progress must accelerate further if countries are to reach their 2030 UHC targets under the Sustainable Development Goals.

Part of the solution to accelerate progress is to learn from history. Health leaders can look at what has already worked elsewhere, adapting policies associated with earlier positive outlier countries’ success in expanding health service coverage and financial protection for their people.

Such reflective learning is critical and may be accelerated by concerted investment in systems science for UHC implementation and innovation, just as health technology assessment has advanced the science of priority setting, particularly for drugs, devices, and discrete interventions – but not for systems improvements. Such a systems science approach to UHC must undertake a rigorous analysis of systems progress to date and identify key opportunities for acceleration. It must develop a blueprint to build systems and policy research capacity and a culture of continuous learning and improvement in low- and middle-income countries. The new field must also incorporate global stewardship to incubate cross-country comparative systems research, set shared priorities for the measurement of UHC progress, and promote global best practices (Evans and Kieny 2017).
To advance this agenda, the World Bank, WHO, UNICEF and others have proposed a special partnership for policy, systems and implementation science, and innovation for UHC.

The aim is to urgently accelerate UHC progress through a high-level global initiative that will set and execute a global implementation science and innovations agenda for UHC, while sharing solutions and capacitating countries to lead their own systems and implementation science and innovations work. Implementation science and well-evaluated delivery innovations have already played a transformative role, for example, in the successful expansion of immunization and global disease control. The new initiative seeks to enable comparable gains for UHC. It aims to unify the global health research community behind a policy, systems and implementation science, and innovations agenda for UHC and to harness the power, resources, and expertise of scientific, academic, management, and policy institutions to accelerate UHC progress.

Looking forward and anticipating what lies ahead is also critical. This report has also highlighted forces that will fundamentally reshape the health systems of the future. Some of the resulting changes can be observed today, others anticipated, while others remain unknown. If managed well, in a sustainable manner, system innovations, technology, pluralism, and other drivers of change can be harnessed to make health systems more responsive and resilient, efficient and equitable. But this is not a given—it will require leaders at country and global level to embrace change as a constant, and to gear their institutions up to meet the challenges of the future, guided by the rock-solid values of UHC.
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This appendix details the data and methods used to identify Universal Health Coverage (UHC) rapid-progress countries, including the analysis of inequalities in service coverage.

Selection of indicators

We considered all eight indicators that make up the UHC Tracer Index published by the Institute for Health Metrics and Evaluations in 2017: 1 antenatal care visit (ANC1); 4 antenatal care visits (ANC4); in-facility delivery; skilled birth attendance (SBA); met need for family planning with modern methods; measles vaccine; three doses of the oral polio vaccine or inactivated polio vaccine; and three doses of the diphtheria-tetanus-pertussis vaccine (DTP3). We used the unscaled versions of these service coverage indicators.

To select index components, we first assessed the correlation among the change in each indicator between 2000 and 2015, presented in Table A1. We identified the highest correlations across all the indicators. Correlation was highest among Measles, Polio3 and DPT3, ranging from 0.811 to 0.918. It was also high for in-facility delivery and SBA, at 0.833, and, between ANC1 and ANC4, at 0.622. All other correlations were below 0.52.

We selected one indicator from each of these three high-correlation clusters to reflect different types of service delivery capacities in the analysis. Institutional deliveries provide an important indication of how well systems operate across levels of care. ANC4 and DPT3 provide an indication of system abilities to overcome demand- and supply-side constraints and ensure regular contacts with the system, in compliance with clinical good practice. Finally, contraception uptake suggests how systems shape and respond to the evolving demand for health services. Restricting observations to low- and middle-income countries with more than 1.5 million in population, we constructed a simple arithmetic mean of these indicators to compute the index.
Assessing progress toward UHC

The maximum service coverage attainable is 100%. As countries approach this bound, each additional percentage point increase is more difficult to attain. Figure A1 captures how the absolute change in the index approaches 0 at higher baseline index levels. As full coverage nears, health providers and policymakers are required to expand coverage to more difficult-to-reach areas and populations. In contrast, a percentage point increase for countries starting with lower levels of service coverage will generally be easier to obtain; countries can expand coverage to communities near health facilities or to populations otherwise more amenable to the uptake of health services.

We incorporate the diminishing marginal progress at higher baseline values by representing advances in UHC in terms of the gap to full coverage. This puts more weight on advances at the higher levels of baseline coverage in 2000. The following equation represents the % gap reduction metric used.

\[
\text{% gap reduction} = \frac{(\text{Index 2015} - \text{Index 2000})}{(100 - \text{Index 2000})}
\]

Where \(\text{Index 2015}\) and \(\text{Index 2000}\) are the values of the index for each country in 2015 and 2000 respectively. By subtracting the 2000 value from the 2015 value, we capture the net change, in percentage point terms, of the index between 2000 and 2015. In the denominator, we subtract the index from 100, capturing the gap to full coverage in 2000, our baseline year. The % gap reduction therefore represents the share of the gap to full coverage closed over the period of 2000-2015.

Segmenting countries by baseline (2000) index values

We divide countries into low-baseline (index below 50 in 2000) and high-baseline (index above 50 in 2000) groups, based on the bimodal nature of the distribution of the index. We segment countries according to the nadir in the central region of the density plot (Figure A2) at approximately 50. Thirty-seven countries had an index below 50, among which the average index was 34 in 2000. The average index was 75 among the 71 high-baseline countries in 2000.
Highlighting low-baseline rapid-progress countries

Based on these initial groupings, we assessed the reduction in the gap to full coverage between 2000 and 2015. We first focused on the low-baseline countries. Figure A3 captures a histogram of the % reduction in the gap between 2000 and 2015 in this group.

We highlight the ten countries that achieved gap reductions beyond the main group of low-baseline countries (see Table A2). These “rapid gap reduction” countries exceeded 39% in gap reduction over 2000-2015, above the 75th percentile. These countries include: Angola, Azerbaijan, Burkina Faso, Cambodia, India, Lao PDR, Liberia, Nepal, Rwanda, and Sierra Leone. Rapid gap reduction countries closed the gap to full coverage two times faster than the other low-baseline countries. The average gap reduction among low-baseline, high gap reduction countries was 48.8%. The remaining low-baseline countries reduced the gap to full coverage by 24.0%.

These achievements in UHC bear out in the 2015 values of the index. The average index in 2015 was 67.0 among rapid gap reduction, low-baseline countries. Other low-baseline countries attained 49.5 in the index by 2015.

For each of the countries that exceeded the 75th percentile in index growth, we present the index in 2000 and 2015, as well as the share of the gap closed (Table A2). The averages of countries in the bottom 25th and 50th percentiles are also presented for comparison.

Highlighting high-baseline rapid-progress countries

A similar method was used to identify high-baseline rapid progress countries. Figure A4 (page 92) captures a histogram of the % reduction in the gap to full coverage among high baseline countries.

Rapid progress countries were identified as those who broke away from the main group of high-baseline countries – if their gap reduction exceeded 45.8% or above the 80th percentile in gap reduction. Based on these criteria, fourteen high-baseline countries are highlighted as having rapid progress in service coverage: Botswana, Brazil, China, Colombia, Egypt, Honduras, Kazakhstan, Myanmar, Namibia, Nicaragua, Peru, Thailand, Turkey, and Vietnam. On average, these countries closed the gap to full coverage by 51.3% from 2000 to 2015. Other high-baseline countries achieved 27.9% in average gap reduction over the same period.

High-baseline, rapid gap reduction countries achieved 87.5 in coverage, based on the index, by 2015. Other high-baseline countries did not lag substantially behind, with an average 2000 index value of 82.7.

For each of the countries that exceeded the 80th percentile in index growth, we present the index in 2000 and 2015, as well as the share of the gap closed (Table A3 on page 92). The averages of countries in the bottom 25th and 50th percentiles are likewise presented for comparison.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola</td>
<td>29.3</td>
<td>57.3</td>
<td>39.6</td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>42.3</td>
<td>72.0</td>
<td>51.5</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>33.7</td>
<td>64.1</td>
<td>45.8</td>
</tr>
<tr>
<td>Cambodia</td>
<td>27.4</td>
<td>77.7</td>
<td>50.3</td>
</tr>
<tr>
<td>India</td>
<td>46.9</td>
<td>71.1</td>
<td>48.8</td>
</tr>
<tr>
<td>Lao PDR</td>
<td>31.9</td>
<td>61.2</td>
<td>47.1</td>
</tr>
<tr>
<td>Liberia</td>
<td>40.0</td>
<td>65.6</td>
<td>47.2</td>
</tr>
<tr>
<td>Nepal</td>
<td>36.9</td>
<td>63.9</td>
<td>42.8</td>
</tr>
<tr>
<td>Rwanda</td>
<td>30.8</td>
<td>70.8</td>
<td>57.8</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>33.2</td>
<td>66.5</td>
<td>48.8</td>
</tr>
<tr>
<td>Average, bottom 50th percentile countries in gap reduction</td>
<td>33.5</td>
<td>46.1</td>
<td>19.5</td>
</tr>
<tr>
<td>Average, bottom 25th percentile countries in gap reduction</td>
<td>29.8</td>
<td>39.3</td>
<td>13.8</td>
</tr>
</tbody>
</table>
B. Constructing the dataset for the inequality analysis

List of indicators

The inequality analysis in this report focuses on four indicators: (1) SBA: Births attended by skilled health personnel (in the two or three years preceding the survey) (%), (2) ANC4: Antenatal care coverage - at least four visits (in the two or three years preceding the survey) (%), (3) DTP3: Three doses of the diphtheria-tetanus-pertussis (DTP3) vaccine immunization coverage among one-year-olds (%), and (4) FP: Demand for family planning satisfied (%).

In contrast to the service coverage index, we use skilled birth attendance (SBA) instead of institutional deliveries due to data limitations. These four indicators are disaggregated by wealth quintiles from 1998 to 2015 to track income-related inequality in coverage. Data by quintile are from the WHO Health Equity Monitoring (HEM) database for SBA, ANC4, and DTP3. Data on FP were extracted from Demographic and Health Surveys (DHS). Details on the data sources are included below.

Data Sources

We used two types of global dataset on inequality between 1998 and 2015: (i) Health Equity Monitor Database, which is based on more than 280 Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS) conducted in 102 countries, 100 of which are low- or middle-income countries, in the period 1993-2014; and (ii) Demographic and Health Surveys (DHS), based on more than 260 surveys in over 90 countries from 1984 to 2016.

Screening process

Consistent with the analysis of service coverage and financial protection, countries were selected based on the following criteria:

1. Countries that have at least two years of available financial protection data from 1998 onwards, where the difference between the baseline and endline year has to be more than five years, and the endline year is after 2009.
2. Countries categorized as high-income in 2015 are excluded.
3. Countries with populations of less than 1.5 million in 2000 are excluded.

Given these criteria, data for only 34 low-baseline countries and 49 high-baseline countries were available (see Table A4 on page 94).
Table A4
List of countries with data available for the inequality analysis

<table>
<thead>
<tr>
<th>Low-baseline countries</th>
<th>High-baseline countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>Albania</td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>Argentina</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>Armenia</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>Belarus</td>
</tr>
<tr>
<td>Burundi</td>
<td>Benin</td>
</tr>
<tr>
<td>Cote d’Ivoire</td>
<td>Bolivia (Plurinational State of)</td>
</tr>
<tr>
<td>Cambodia</td>
<td>Bosnia and Herzegovina</td>
</tr>
<tr>
<td>Cameroon</td>
<td>Colombia</td>
</tr>
<tr>
<td>Central African Republic</td>
<td>Congo</td>
</tr>
<tr>
<td>Chad</td>
<td>Costa Rica</td>
</tr>
<tr>
<td>Democratic Republic of the Congo</td>
<td>Cuba</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>Dominican Republic</td>
</tr>
<tr>
<td>Guinea</td>
<td>Egypt</td>
</tr>
<tr>
<td>Haiti</td>
<td>Georgia</td>
</tr>
<tr>
<td>India</td>
<td>Ghana</td>
</tr>
<tr>
<td>Lao People’s Democratic Republic</td>
<td>Guatemala</td>
</tr>
<tr>
<td>Liberia</td>
<td>Honduras</td>
</tr>
<tr>
<td>Madagascar</td>
<td>Indonesia</td>
</tr>
<tr>
<td>Mali</td>
<td>Iraq</td>
</tr>
<tr>
<td>Mauritania</td>
<td>Jamaica</td>
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<tr>
<td>Mozambique</td>
<td>Jordan</td>
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<tr>
<td>Nepal</td>
<td>Kazakhstan</td>
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<tr>
<td>Niger</td>
<td>Kenya</td>
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<td>Nigeria</td>
<td>Kyrgyzstn</td>
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<tr>
<td>Pakistan</td>
<td>Lesotho</td>
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<tr>
<td>Rwanda</td>
<td>Malawi</td>
</tr>
<tr>
<td>Senegal</td>
<td>Mongolia</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>Morocco</td>
</tr>
<tr>
<td>Somalia</td>
<td>Namibia</td>
</tr>
<tr>
<td>South Sudan</td>
<td>Nicaragua</td>
</tr>
<tr>
<td>Sudan</td>
<td>Panama</td>
</tr>
<tr>
<td>Togo</td>
<td>Peru</td>
</tr>
<tr>
<td>Uganda</td>
<td>Philippines</td>
</tr>
<tr>
<td>Yemen</td>
<td>Republic of Moldova</td>
</tr>
<tr>
<td>Serbia</td>
<td>South Africa</td>
</tr>
<tr>
<td>Syrian Arab Republic</td>
<td>Tajikistan</td>
</tr>
<tr>
<td>Thailand</td>
<td>The former Yugoslav Republic of Macedonia</td>
</tr>
<tr>
<td>Turkey</td>
<td>Turkmenistan</td>
</tr>
<tr>
<td>Ukraine</td>
<td>United Republic of Tanzania</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>Viet Nam</td>
</tr>
<tr>
<td>Zambia</td>
<td>Zimbabwe</td>
</tr>
</tbody>
</table>

List of Indicators

We focus on two indicators of financial protection: (1) the percentage of the population facing catastrophic payments, and (2) the percentage of the population facing impoverishing expenditures. The catastrophic payment indicator is the official indicator adopted for the monitoring of financial protection in the SDG monitoring framework (SDG 3.8.1). Because it directly relates to the first SDG goal (“End poverty in all its forms everywhere”), we also choose to look at the effect of OOP on the poverty headcount.

In the analysis, we use two thresholds for each indicator. For catastrophic payments, we present country level estimates for the share of the total population spending 10% or more (CATA10) of their budget on health payments (OOP), and for the share of the population spending 25% or more (CATA25) of their budget on health payments. For impoverishment, we look at the share of the population pushed below the extreme poverty line of $1.90 per capita/day at 2011 PPP factors. We also look at the percentage of the population pushed below a higher poverty line at $3.10 per capita/day. In the report, we present only data for CATA10 and the extreme poverty line.

Data

We use a recently compiled global dataset on financial protection which is based on 552 surveys conducted in 132 countries between 1991 and 2014. Together, these countries represent about 93% of the world population in 2015 (Table A5).

C. Constructing the financial protection dataset

<table>
<thead>
<tr>
<th>NUMBER OF SURVEYS</th>
<th>NUMBER OF COUNTRIES</th>
<th>YEAR RANGE</th>
<th>MEDIAN YEAR</th>
<th>POPULATION COVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLOBAL</td>
<td>552</td>
<td>132</td>
<td>1984 - 2015</td>
<td>2005</td>
</tr>
<tr>
<td>AFR</td>
<td>114</td>
<td>36</td>
<td>1991 - 2014</td>
<td>2005</td>
</tr>
<tr>
<td>EAP</td>
<td>43</td>
<td>12</td>
<td>1992 - 2015</td>
<td>2006</td>
</tr>
<tr>
<td>ECA</td>
<td>214</td>
<td>16</td>
<td>1985 - 2014</td>
<td>2005</td>
</tr>
<tr>
<td>LAC</td>
<td>39</td>
<td>13</td>
<td>1984 - 2015</td>
<td>2001</td>
</tr>
<tr>
<td>MNA</td>
<td>11</td>
<td>9</td>
<td>1995 - 2015</td>
<td>2020</td>
</tr>
<tr>
<td>SARI</td>
<td>29</td>
<td>8</td>
<td>1991 - 2011</td>
<td>2005</td>
</tr>
</tbody>
</table>

Note: Financial Protection data are based on LSMS, HBS, LIS, and other HIES types of survey instruments.
Screening Process

Unlike service coverage data, which involves annual data from 2000 to 2015, financial protection data are survey-based. A number of countries therefore suffer from lack of data availability. To have an analysis that closely parallels the analysis of countries with rapid progress on service coverage, we selected the final list of countries for financial protection analysis using the following screening categories:

1. Countries with at least two years of available financial protection data from 2000 onwards
2. Countries with first and last years of available financial protection data spanning 5 years
3. Countries categorized as high-income in 2015 are excluded

Restricting the list of countries to only those that have two years of available data is necessary to allow for analysis of changes in financial protection. This is not sufficient, however, as an equally important condition is to have the start and end years of available data be at least 5 years apart to allow for sufficient change in the financial protection variable. Using these categories, a final set of 46 countries out of 220 countries were selected (15 among low-baseline countries in terms of service coverage, 31 among high-baseline countries).

Figures A5 to A8 capture the final set of countries and how the initial values of the financial protection indicators compare with their respective annual absolute percentage point changes. One similar pattern that arises across all financial protection variables is that the variability of change increases as the value of the financial protection indicator increases.

The following legend applies to Figures A5 to A8:

- ▲ Low-baseline rapid progress countries
- ▼ High-baseline rapid progress countries
- ◆ Low-baseline other countries
- ◈ High-baseline other countries
Tables A6 and A7 show the list rapid progress countries with sufficient data on catastrophic and impoverishment health spending data.

**LIST OF SC RAPID PROGRESS COUNTRIES WITH SUFFICIENT CATASTROPHIC HEALTH SPENDING DATA** Table A6

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>BASELINE YEAR</th>
<th>END YEAR</th>
<th>CATA10 (BASELINE)</th>
<th>CATA10 (END)</th>
<th>CATA25 (BASELINE)</th>
<th>CATA25 (END)</th>
</tr>
</thead>
</table>
| Low-baseline countries in terms of SC index
| Burkina Faso  | 2003          | 2009     | 1.7               | 1.2          | 1.0                | 0.9          |
| India         | 2004          | 2011     | 13.4              | 17.3         | 2.3                | 2.9          |
| Lao PDR       | 2002          | 2007     | 3.1               | 3.0          | 0.1                | 0.3          |
| Nepal         | 2003          | 2010     | 10.0              | 27.4         | 0.8                | 3.3          |
| Rwanda        | 2000          | 2010     | 8.4               | 4.6          | 1.3                | 0.7          |
| High-baseline countries in terms of SC index
| China         | 2000          | 2007     | 12.2              | 17.7         | 2.7                | 4.8          |
| Kazakhstan    | 2001          | 2013     | 2.2               | 1.8          | 0.1                | 0.1          |
| Nicaragua     | 2001          | 2014     | 15.9              | 27.7         | 2.2                | 8.9          |
| Peru          | 2000          | 2015     | 11.8              | 8.5          | 2.9                | 1.2          |
| Turkey        | 2002          | 2012     | 6.0               | 3.1          | 1.1                | 0.3          |
| Vietnam       | 2002          | 2014     | 12.7              | 9.8          | 3.0                | 2.1          |

Note: CATA10 – catastrophic health spending at 10%; CATA25 – catastrophic health spending at 25%; all financial protection numbers are in percentages.

**LIST OF SC RAPID PROGRESS COUNTRIES WITH SUFFICIENT IMPOVERISHING HEALTH SPENDING DATA** Table A7

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>BASELINE YEAR</th>
<th>END YEAR</th>
<th>IMPOV 190 (BASELINE)</th>
<th>IMPOV 190 (END)</th>
<th>IMPOV 310 (BASELINE)</th>
<th>IMPOV 310 (END)</th>
</tr>
</thead>
</table>
| Low-baseline countries in terms of SC index
| Burkina Faso  | 2003          | 2009     | 2.8                  | 2.1             | 2.3                  | 2.3             |
| India         | 2004          | 2011     | 0.3                  | 0.0             | 0.9                  | 0.8             |
| Lao PDR       | 2002          | 2007     | 1.4                  | 3.1             | 3.0                  | 3.2             |
| Nepal         | 2003          | 2010     | 1.2                  | 0.1             | 2.3                  | 0.2             |
| Rwanda        | 2000          | 2010     | 0.2                  | 0.1             | 0.3                  | 0.2             |
| High-baseline countries in terms of SC index
| China         | 2000          | 2007     | 2.8                  | 2.1             | 2.3                  | 2.3             |
| Kazakhstan    | 2001          | 2013     | 0.3                  | 0.0             | 0.9                  | 0.8             |
| Nicaragua     | 2001          | 2014     | 1.4                  | 3.1             | 3.0                  | 3.2             |
| Peru          | 2000          | 2015     | 1.2                  | 0.1             | 2.3                  | 0.2             |
| Turkey        | 2002          | 2012     | 0.2                  | 0.1             | 0.3                  | 0.2             |
| Vietnam       | 2002          | 2014     | 4.0                  | 0.3             | 2.5                  | 1.4             |

Note: IMPOV190 – health spending impoverishment using $1.90-a-day poverty line; IMPOV310 – health spending impoverishment at $3.10-a-day poverty line; all financial protection numbers are in percentages.
Data availability at country level

Table A8 below shows the list of countries with rapid progress on service coverage (both low and high baseline) for which we do have country level information allowing us to draw trends on financial protection, and the countries for which we don’t.

### LIST OF NON-HIGH-INCOME SC RAPID PROGRESS COUNTRIES

<table>
<thead>
<tr>
<th>LOW BASELINE</th>
<th>HIGH BASELINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Countries with FP trend data</td>
<td>Countries with FP trend data</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>China</td>
</tr>
<tr>
<td>India</td>
<td>Kazakhstan</td>
</tr>
<tr>
<td>Lao PDR</td>
<td>Nicaragua</td>
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<tr>
<td>Nepal</td>
<td>Peru</td>
</tr>
<tr>
<td>Rwanda</td>
<td>Turkey</td>
</tr>
<tr>
<td>Vietnam</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Countries without FP trend data</td>
<td>Countries without FP trend data</td>
</tr>
<tr>
<td>Angola</td>
<td>Botswana*</td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>Brazil</td>
</tr>
<tr>
<td>Cambodia</td>
<td>Colombia</td>
</tr>
<tr>
<td>Liberia</td>
<td>Egypt, Arab Rep.*</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>Honduras</td>
</tr>
<tr>
<td></td>
<td>Myanmar*</td>
</tr>
<tr>
<td></td>
<td>Nambia*</td>
</tr>
<tr>
<td></td>
<td>Thailand</td>
</tr>
</tbody>
</table>

*Countries that did not achieve SDG neonatal mortality target in 2015.

Note: Low-baseline rapid-progress SC countries are those whose service coverage indices were below 50 in 2000 and which exceeded the 75th percentile in index gap reduction among low-baseline countries between 2000 and 2015. High-baseline rapid-progress SC countries are: (1) those that already had a service coverage index above 90 in 2000 and that maintained an index > 90 in 2015; and (2) those that had a service coverage index above 50 in 2000 and achieved index gap reduction above the 80th percentile for all high-baseline countries between 2000 and 2015.

---

D. Technical appendix references

DHS Program, Demographic and Health Survey Reports. https://www.dhsprogram.com/


# Technical Annex 2

## Outliers in Progress on Service Coverage and Financial Protection, All LMICs, 2000-2015

<table>
<thead>
<tr>
<th>Countries with insufficient data</th>
<th>Countries with less than 1.6 million population</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Samoa</td>
<td>Grenada</td>
</tr>
<tr>
<td>Belize</td>
<td>Nauru</td>
</tr>
<tr>
<td>Comoros</td>
<td>Niue</td>
</tr>
<tr>
<td>Cook Islands</td>
<td>Samoa</td>
</tr>
<tr>
<td>Croatia</td>
<td>Solomon Islands</td>
</tr>
<tr>
<td>Dijibuti</td>
<td>St. Lucia &amp; Grenadines</td>
</tr>
<tr>
<td>Equatorial Guinea</td>
<td>Suriname</td>
</tr>
<tr>
<td>Equatorial Guinea</td>
<td>Bhutan</td>
</tr>
<tr>
<td>Equatorial Guinea</td>
<td>Cabo Verde</td>
</tr>
<tr>
<td>Equatorial Guinea</td>
<td>Dominica</td>
</tr>
<tr>
<td>Equatorial Guinea</td>
<td>Fiji</td>
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<tr>
<td>Equatorial Guinea</td>
<td>Gabon</td>
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<tr>
<td>Equatorial Guinea</td>
<td>Maldives</td>
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<tr>
<td>Equatorial Guinea</td>
<td>Montenegro</td>
</tr>
<tr>
<td>Equatorial Guinea</td>
<td>Sao Tome and Principe</td>
</tr>
<tr>
<td>Equatorial Guinea</td>
<td>Timor-Leste</td>
</tr>
</tbody>
</table>

## Endnotes

1. The idea of “relative gap reduction” involves the following considerations. The higher a country’s starting point, the more difficult it is to reduce coverage gaps. To take this dynamic into account, we used the relative (not absolute) reduction in the gap as the measure of progress. For example, an absolute coverage increase of 20 percentage points from a starting point of 20 percent yields a relative reduction in the gap (from 20 percent to 10 percent) of 50 percent. In comparison, an absolute coverage increase of 20 percent from a baseline of 60 percent yields a relative reduction in the gap of 50 percent. For more detailed discussion, see the Technical Appendix.

2. LMIC categorization is based on countries’ income status in 2015. Countries with a population of less than one million were excluded from the analysis. The total 2015 population of all 108 low- and middle-income countries was 6.1 billion.

3. The 37 original low-baseline countries achieved the following average results:
   - Average starting point: 34 percent
   - Average coverage increase: 20 percent
   - Average gap reduction: 31 percent

4. Data are only available for slightly more than half of all LMICs, with some variation across indicators.

5. We also explored the impact of using a cut point of 25 percent of total expenditure—even higher OOPs.

6. The sensitivity to a poverty line of $3.10 per day was explored.

7. This discussion draws on El-Sadr, Harripersaud, and Rabkin 2017.

8. For details, see: [http://cepi.net/](http://cepi.net/) and [https://phcperformanceinitiative.org/](https://phcperformanceinitiative.org/)