EXECUTIVE SUMMARY

As our global community seeks to advance universal health coverage (UHC), we must acknowledge that the private health sector is an important and growing source of care worldwide. To reach UHC, we must effectively engage the heterogeneous private sector. Governments need to be able to regulate care provision, and ensure proper stewardship of resources. To do so, we must understand the size and scope of the private sector and be able to measure its contribution toward universal health coverage on a routine basis.

A limited number of metrics have already been suggested to measure the private sector’s role in UHC. However, the underlying data sources are often infrequent or incomplete, and thus do not meet the need to provide a routine source of information on the private sector. For a metric to be more immediately useful, the ability to calculate it from existing and more frequent data sources would be beneficial.

After having examined the possibilities of administrative data, financial data, nationally representative surveys, and social media data we suggest 12 metrics to measure the private sector’s role in UHC and explore the feasibility of these metrics in a set of four case studies. Through the case studies we demonstrate that while each country may face different challenges in measuring UHC, there is still an important need to define standardized metrics. Starting with a small set of priority metrics, the World Health Organization can support countries to bolster their data through selection of key data and encouragement to report, research that advances the knowledge.
of promising existing data sources, and guidelines on standard data collection on the health workforce and service delivery points.

The keys to understanding the private sector’s contribution to universal health coverage are to build the best available picture using existing data, while simultaneously investing in multi-sectoral improvements to standard data availability. We must also address data gaps with high quality and timely research. Through these actions, we will be able to provide new insights to help countries achieve UHC.

**INTRODUCTION**

The private sector is an important and growing source of care worldwide\(^1\,\(^2\);\) we cannot expect to achieve universal health coverage (UHC) without it. We see increasing use of private sector actors for health care provision, as well as to provide financing\(^3\). We need to better understand the private sector for regulation, governance, and accountability, yet there are questions about how to monitor progress\(^4\). Governments need to be able to enact and enforce appropriate legal restrictions and regulatory controls in order to ensure care meets minimum quality standards and is delivered by qualified providers\(^5\,\(^6\). We also need to ensure that governments have appropriate stewardship over public finance initiatives to support health services, that public resources are not misspent by private providers, and that there is financial protection so that patients are not overburdened with health expenditures or charged excessively\(^1\). Further-more, there is a moral imperative to ensure that the private sector is accountable to both patients and the overall health system. When accountability is lax, treatments or tests may be overused to maximize profit, or private sector clinics may rely on staff trained in the public sector\(^7\). The private sector should be a contributor to UHC, but without understanding the size or scope of this important sector, governments and global actors or initiatives are unable to capitalize on private sector health service provision.

While the precise level of private sector health services is not well defined, there are estimates that between 50 to 70% of all health expenditures are within the private sector\(^8\). For reproductive, maternal and child health services, private providers are a primary source of care. For example, more than half of all treatments for childhood illnesses in low- and middle-income countries are through private providers\(^9\). And recent estimates show that the private sector, including informal providers in this definition, administer more than half of health care services in Africa\(^7\).

This report assesses opportunities for improved routine measurement of the size of the private health care sector across countries. Framed within the context of achieving UHC, we review current approaches to assessing the size of the private health sector and available data sources. We suggest measures which could be used to under-
stand different dimensions of the private health sector, as well as an agenda for future research.

FRAMED WITHIN UHC

To achieve UHC, we must take a systems approach and be able to address the challenge of stewarding a mixed public and private health system\textsuperscript{1,10}. Our interventions and management approaches must recognize the links between the public and private sector\textsuperscript{11} in order to capitalize on private sector contributions that can help to ensure the availability of safe, good quality services that are both geographically and financially accessible\textsuperscript{1,7}. While more attention has been focused on the public sector’s role in UHC, we must also be able to measure and manage private sector actors in order to strengthen the entire health system\textsuperscript{1}. This will require a new way of thinking about health-care stewardship in order to effectively engage the private sector toward realizing UHC goals.

Over the past decade, the UHC cube diagram\textsuperscript{12} has emerged as the major organizing framework and graphical depiction of the factors requiring attention in order to achieve universal health coverage. The cube focuses on coverage under pooled funds, and shows national averages. However, the cube does not offer an easy way to understand the private sector’s contribution, or potential, for a country to achieve UHC. Studies and surveys are designed to understand the values making up the interior and exterior cubes, and may be inadvertently leading to data deficits.

Limitations in understanding the private sector’s role in health coverage are seen on each of the cube’s three axes. Costs covered focus on those covered by pooled funds, indicating that all of the empty space represents out of pocket costs. However not all out of pocket expenditure is incurred in the private sector. For services covered, the implied denominator is all services required to meet the health needs of the population. In reality, whether services are available in the health system at all, or available in proportion to need, may not be well understood. Individuals seeking care informally, forgoing care for lack of funds, or unable to receive specialized care due to medication, equipment or provider deficiencies exist outside the boundaries of the cube. Whether the solution to extend coverage to the whole population lies in focusing on the public or private sector continues to be a matter of debate, yet most of the focus of UHC to date has been on the public sector\textsuperscript{14}.

\begin{figure}[ht]
\centering
\includegraphics[width=0.5\textwidth]{UHC_Cube.png}
\caption{UHC Cube\textsuperscript{13}}
\end{figure}
Without understanding the relative and actual size of the private health sector, it is difficult to advocate for expanding or harnessing its potential. The private sector is heterogeneous and made of a complex range of actors, making it difficult to not only clearly define the private sector’s involvement in health care, but to measure its role\(^3\textsuperscript{,11}\). It encompasses all non-state actors involved in health service delivery, including for-profit and not-for profit entities, providers in the formal and informal sectors, and domestic and international actors\(^14\). As a result, it is often poorly regulated or has limited governmental oversight.

**EXISTING METRICS**

In reviewing the current landscape of metrics, the private health sector has been assessed in terms of financial size and potential, physical size, and reach or coverage within the population. Measures have been developed for the purposes of assessing investments, comparative research, or tracking global goals.

A limited number of metrics have been suggested for the private sector’s role in UHC. Mackintosh and colleagues proposed a set of metrics based on existing data to describe the private sector\(^5\). They propose three metrics around 1) demand side private finance patterns, 2) supply side scale of private sector health enterprises, and 3) public sector reliance on fees for service. The first metric includes out-of-pocket (OOP) spending and prepaid insurance plan expenditures, calculated using the World Health Organization (WHO) global health expenditure database. Expenditures are used as a proxy to describe the characteristics of private sector supply, but do not capture the total proportion of private services. Furthermore, OOP spending is not limited to spending in the private sector, and includes both public services fees and the purchase of medicines. As a result, private sector contributions to total health expenditure does not correlate with the limited data available on total number of private hospital beds, private sector share of primary facilities, or contribution of private provider consultations to the total number of medical consultations\(^5\).

The second metric, which examines private sector share, acknowledges that no comparable cross-country data exist for capacity levels or activity rates and that surveys, and frequency of surveys, vary by country. Thus, they suggest using country-level surveys, household data, and facility surveys. However, different countries and different surveys classify private facilities and sources of treatment in varied ways, and not all surveys capture small-scale or unregistered facilities or dispensaries. While the Demographic and Health Survey (DHS) offers the most comparable data, it covers a limited set of health services\(^5\).

The third metric posits that public sector fees influence who the private sector serves, the quality of those services, and the price for clients. Using National
Health Accounts, they measure the public sector’s proportionate reliance on fees for services, with similar caveats on OOP spending discussed above.

Wadge developed a framework, “Evaluating the Impact of Private Provider on Health and Health Systems” to assess private providers’ impact on patients and the health system for UHC. It suggests indicators or evidence that “assessors might want to explore when applying the frame-work” and includes impact areas such as quality of services, access, the care ecosystem, and stewardship, among others. The framework was designed to better understand the financial investments of a development group, and thus application of these indicators to a wider landscape is limited.

The Global Impact Investing Network (GIIN) has created indicators to measure impact in the healthcare sector. Like the Wadge framework, the purpose of the indicators is to assess the effectiveness of impact investments. The indicators examine access to healthcare, job creation, use of medical facilities, healthcare quality improvements, preventive care, healthcare affordability, and access to finance. Healthcare investors select which metrics to track, and use of metrics is not standardized or universal. While the indicators could be applied to the private sector and UHC, they were not designed to measure the private sectors’ role in advancing UHC.

Two major metrics are used to assess UHC, but also have limited use to capture private sector contribution or potential. The service coverage index, combining data from 16 tracer indicators, can indicate how a country, overall, is able to provide essential health services for the population. Of these, 12 rely upon household survey data for information, and data is incomplete. For example, while 183 countries have recent estimates for child immunization, only 29 have recent estimates for malaria prevention, and for management of diabetes. The index is reliant upon statistical modeling to fill in gaps, and uses data sources which are not frequently updated. Of the underlying data sources used, only the DHS and Multiple Indicator Cluster Surveys (MICS), offering information on reproductive, maternal and child health indicators, routinely ask about source of care. In the case of service coverage, a lack of data to assess coverage does not necessarily mean that the population does not have access to health services. In particular, for noncommunicable diseases (NCDs), global data on prevalence and treatment coverage for diabetes and hypertension is not available, yet these are two areas where significant private sector investment in pharmaceuticals has taken place.

The second common UHC metric offers insight into health expenditure by detailing catastrophic expenditure incurred by households. As mentioned in some critiques of the measure, the underlying data and survey instruments used to calculate out-of-pocket health expenditure, and total household expenditure, are inconsistent and
infrequent\textsuperscript{18}. This measure only captures costs paid to the health system, and not associated expenses or opportunity costs, and does not capture households who could not afford the health service due to cost. Additionally, the underlying survey data may not disaggregate between costs paid to the public or private sector, and some countries do use OOP payments as a significant source of public sector expenditure\textsuperscript{5,19}.

The metrics and research described above do not suffice in providing a routine source of information on the private health sector’s size and market importance, however they do make the case for the need for such measures.

**CURRENT DATA AVAILABILITY**

For measures to be more immediately useful, being drawn or calculated from existing data sources is a benefit. Potential sources of data include administrative data, financial data, nationally representative surveys, and social media (“big”) data. We explore and describe the opportunities and limitations of these various types of data in defining the size of the private health sector.

**Administrative Data**

*Insurance claims* data or reimbursement data are a particularly important type of administrative data that could be used to track the tracer indicators for UHC provided by the public sector and private sector by selecting the relevant ICD-9/ICD-10/ICD-11 codes or Diagnosis Related Group (DRG)/DRG-equivalent code for each tracer indicator. However, as of 2016, only 58 countries were using at least one of 20 variant DRG-based systems for reimbursement of hospital services\textsuperscript{20}, leaving a big gap in terms of countries covered. Additionally, DRG-based systems mainly deal with hospital services.

*Pharmaceutical sales databases* provide another interesting source of administrative data. One such example is the MIDAS Database curated by IQVIA, which collates the total manufacturer sales by therapy area and channel of distribution from over 90 countries. Data are captured in a standardized way and updated quarterly. These data can be used to conduct sales analysis to understand private and public sector case load and indications of consumption. As with other data sources, the total number of countries covered is limited and in some countries the coverage or ability to differentiate total sales from private sector sales is also limited. The database is proprietary, and thus there are costs associated with accessing the data.

Among the administrative data systems explored was the *DHIS2 system*, currently in use in over 100 countries by governments, as well as organizations such as the WHO, PEPFAR and PSI. DHIS2 is an open source software solution that is fully customized to the user, leading to variation in the type, architecture, and availability of
data collected. Instances are uniquely owned and data is rarely publicly available. In most DHIS2 country-level implementations, the software is used to track public sector data only. Where countries make an attempt to also capture private sector data, with the exception of Kenya, reporting is woefully low. Country-by-country requests for high level access to view data, in order to complement any private sector information found on case load or facilities, would be required to leverage this data source.

Another administrative source of information at the country level is a **database of licensed and registered physicians**. Each country requires physicians to be licensed and registered in at least one government database, and physicians are often also participants in local and regional professional organizations, representing specialties. Examples include the Health Professions Council of South Africa, a licensing and regulatory authority with an online but not up to date register of practitioners, and FOGSI (Federation of Obstetric and Gynaecological Societies of India). Using such databases to understand the size of the private sector is impractical due to the need to access information at each country or state level, as well as differing levels of data completeness. Complete public sector data could help to ‘back-calculate’ the size of the private sector based upon total number of providers.

**Financial Data**

*Government revenue service (Tax) and customs authorities (Duties)* maintain records of the taxes levied on business entities and pharmaceutical imports. These records exist and are able to be obtained at aggregate level for research and analysis purposes in many countries, however the process and challenges of doing so is similar to DHIS2. Such records could be used to understand revenues in the private health sector, and the stated value of pharmaceutical imports.

**National Health Accounts (NHA)** can provide a wealth of information, including on financial flows to the private sector, and out of pocket expenditure in public sector facilities. The process of collecting the information required to produce health accounts, necessitates data from private providers, NGOs, households and various government line ministries to understand budgetary allocations. Although the input data exist, once produced, the classification systems for provision, consumption or payment do not differentiate between public and private health care service providers. Furthermore, NHA are not routinely produced, with only 42 countries reporting consistent production every 1-3 years.

**Nationally Representative Surveys**

Data from nationally representative surveys of health facilities, such as the WHO’s Service Availability and Readiness Assessment (SARA) or Measure DHS Service Provision Assessment (SPA) surveys, were also explored, however these surveys have low geographic coverage. Since 2010, Only 11 countries have conducted a
require collaboration with the research arms of large data gathering companies, such as Amazon Web Services, or Google, and universities.

At present, relevant data is available uniquely (country-by-country) and type, quantity, quality, and source varies. Access to information such as the caseload or financial size within the health sector, relevant to investors, is often obtained by observation, personal appeal, and not systematically. As described in more detail in the case study (see page 10), comprehensive country reports are possible when one is willing to use a variety of data sources and methods. Examples include the USAID funded private sector assessments from Madagascar and Cote d’Ivoire, which interviewed nearly 100 people each, and conducted several weeks of in-country data collection, or the government mandated competition commission inquiry in South Africa on the functioning of private healthcare markets as a precursor to UHC.

As a result of variable and inconsistent data availability, the data strategy, and resulting summary metrics, would differ by country. Over time, however, some data sources may become more widely available. These include data from for-profit aggregators such as IQVIA, which currently has no demand for market data in much of sub-Saharan Africa and thus has not entered these markets strongly, or insurance claims databases, as proportion of the population insured increases.

SUGGESTED METRICS

SARA survey and 8 countries have conducted a SPA survey. Data from the DHS and MICS household surveys ask about source of care for reproductive, maternal, and child health (RMCH) conditions only. A study looking at DHS data from 1990-2013 across 70 countries finds use of the private sector to range from 30% to 67%, depending on the health condition. An analysis of DHS and MICS surveys from 65 countries between 2014-2019 finds that 26% of overall care-seeking in sub-Saharan Africa is done in the formal private sector, with an additional 10% in the informal sector. The most privatized region is the Eastern Mediterranean region, with 66% of outpatient care taking place in the formal private sector. Unfortunately, DHS and MICS data are limited to RMCH conditions, and are infrequently conducted in countries.

Social Media

Finally, in markets with strong mobile and internet penetration, including high-income markets, analyses have been done on web and social media text and search terms, to map the spread of diseases, and topical knowledge. We explored the feasibility of similar strategies to understand the size of the private health sector, but discounted it at this time for a number of reasons. First, mobile and internet penetration varies by country, as does how people use the internet (searching for doctors online may not be a common strategy). Second, the platform most used from country to country, or between demographics, varies, and will change over time, making the analyses less replicable. Lastly, the most comprehensive analyses would
To direct resources, advocate for improved private sector collaboration, or conduct multi-country comparisons, it is important to have a short list of standard, easy to understand, measures. These measures should be relevant to policymakers, and the data manipulation required should be minimized to promote uptake. We use the UHC cube as an organizing framework for metrics which could offer, in varying degrees, an understanding of the size and market importance of the private health sector. Several possibilities are described, due to the differing data needs of each, as well as difficulty in data coverage. Each measure described as a count within the private sector would be more instructive if reframed as a proportion. To do so, one would need the same information within the public sector. Our research has demonstrated that full public sector information may be incomplete, or difficult to acquire without manual data extraction. Where the information is readily available, we have included proportions of an indicator as a metric.

**Population Coverage Axis**
Understanding the total number of private sector hospitals, or proportion of hospital beds in the private sector, is a useful measure of the scale and potential of the private health sector in a country. It provides a target for the number of private sector entities qualified to participate in a large-scale insurance program, or to accept other payment mechanisms designed to reduce household burden. These data may be available via regional or national administrative records for licensing, registration, or tax purposes; a baseline could be obtained via a health facility survey.

**Cost Coverage Axis**
In complementary ways, information on revenue for the private health sector, and expenditure within the private health sector, shed light on market size
and importance within the economy, for investors, and as an advocacy tool. Revenue information may be estimated via tax records or from NHA, while in more mature markets, market research and investment studies likely exist. Some detailed household expenditure surveys include information on health expenditure by sector, and the WHO Global Health Expenditure Database (GHED) information can be used to calculate private sector real and proportional expenditure. In countries where public sector services are free or nominal, total household expenditure in the private sector can be approximated by total out of pocket health expenditure. Combined with NHA data on proportion of OOP expenditure used in public sector, the total and relative household expenditure in the private sector can be more accurately calculated.

**Service Coverage Axis**

For accountability to health care users, understanding how many providers are present in the private sector, by specialty, cadre or level of the health system, can help to inform training and quality assurance strategies. As described in *Current Data Availability* (see page 6), these data are likely available but currently difficult to obtain systematically.

Finally, we would consider the gold standard measure for assessing the size of the private sector to be the proportion of care sought in the private sector, by reason for care-seeking or disease condition. These data may be obtained via specialized household surveys which go beyond RMCH conditions, or estimated using claims/reimbursement data for the top 10 burden of disease conditions in countries with sufficient insurance penetration. As noted above, current data availability using either of these two methods is low.

**CASE STUDY**

In order to understand the feasibility of the above proposed metrics, we selected four countries for exploratory analysis, based upon geographic and cultural diversity, representation of several WHO regions, and data availability in English, French or Spanish:

- India in the WHO SEARO Region
- South Africa WHO AFRO Region
- Mexico WHO PAHO Region
- Indonesia WHO SEARO Region

The four countries have similar profiles regarding major sources of burden of disease within the population, with between 3 to 5 chronic diseases in the top 10 sources of morbidity and mortality (Table 1). These countries differ with regard to public sector contribution to the health system.

In all four countries selected, health expenditure in the private sector is a significant proportion of all health expenditure. In India and Indonesia, the private sector accounts for three times and two times, respectively, the amount that the public sector contributes to health expenditure. In Mexico and South Africa, the private and public sectors account for almost the same amount of health expenditure. Spending
on pharmaceuticals accounts for 1/4 of total health expenditure in Indonesia, 1/6 in India and Mexico, and 1/8 in South Africa (Table 2). Therefore, these countries provide an interesting sample to examine how to assess private sector contribution to UHC.

We searched for available data to define each of the recommended metrics in Figure 2, and have presented the data in a summary table (Table 3). Data were limited, and outside of data reported in the WHO GHED, data sources were inconsistent across countries. We describe different data approaches in the case studies section below.

To fully populate the table of metrics for each country will require leveraging administrative data, which is often required to be collected by statute for the registration of private health facilities and licensing of health workers and should not add additional burdens of data collection. These data are not easily available publicly or electronically. For some countries and metrics, estimates will be required. For example, taxation data may only capture the formal sector, so either the measure acknowledges this limitation, or ancillary information on informal health markets are used to improve the estimate. These calculations were outside of the scope of this report.

As demonstrated in Table 3, some

Table 1. Top 10 Burdens of Disease²⁶

<table>
<thead>
<tr>
<th>RANK</th>
<th>INDIA</th>
<th>INDONESIA</th>
<th>MEXICO</th>
<th>SOUTH AFRICA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ischemic heart disease</td>
<td>Stroke</td>
<td>Ischemic heart disease</td>
<td>HIV/AIDS</td>
</tr>
<tr>
<td>2</td>
<td>COPD</td>
<td>Ischemic heart disease</td>
<td>Chronic kidney disease</td>
<td>Ischemic heart disease</td>
</tr>
<tr>
<td>3</td>
<td>Stroke</td>
<td>Diabetes</td>
<td>Diabetes</td>
<td>Lower respiratory infection</td>
</tr>
<tr>
<td>4</td>
<td>Diarrheal diseases</td>
<td>Tuberculosis</td>
<td>Interpersonal violence</td>
<td>Stoke</td>
</tr>
<tr>
<td>5</td>
<td>Lower respiratory infection</td>
<td>Cirrhosis</td>
<td>Cirrhosis</td>
<td>Diabetes</td>
</tr>
<tr>
<td>6</td>
<td>Tuberculosis</td>
<td>Diarrheal diseases</td>
<td>Stroke</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>7</td>
<td>Neonatal disorders</td>
<td>COPD</td>
<td>Alzheimer’s disease</td>
<td>Interpersonal violence</td>
</tr>
<tr>
<td>8</td>
<td>Asthma</td>
<td>Alzheimer’s disease</td>
<td>COPD</td>
<td>Road injuries</td>
</tr>
<tr>
<td>9</td>
<td>Diabetes</td>
<td>Lower respiratory infection</td>
<td>Lower respiratory infection</td>
<td>Diarrheal diseases</td>
</tr>
<tr>
<td>10</td>
<td>Chronic kidney disease</td>
<td>Neonatal disorders</td>
<td>Road injuries</td>
<td>COPD</td>
</tr>
</tbody>
</table>

Table 2. Health Expenditure Profiles

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>CURRENT HEALTH EXPENDITURE (CHE) AS % OF GDP 2015²⁷</th>
<th>DOMESTIC PRIVATE HEALTH EXPENDITURE (PVT-D) AS % CURRENT HEALTH EXPENDITURE (CHE) 2015²⁷</th>
<th>TOTAL PHARMACEUTICAL SALES AS % OF HEALTHCARE EXPENDITURE 2014²³</th>
<th>OOP AS % OF CHE (2015)²⁷</th>
<th>% OOP SPENT ON DRUGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>3.9%</td>
<td>74%</td>
<td>16%</td>
<td>65%</td>
<td>45%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3.3%</td>
<td>59%</td>
<td>24%</td>
<td>48%</td>
<td>70%</td>
</tr>
<tr>
<td>Mexico</td>
<td>5.9%</td>
<td>47%</td>
<td>16%</td>
<td>41%</td>
<td>-</td>
</tr>
<tr>
<td>South Africa</td>
<td>8.2%</td>
<td>44%</td>
<td>12%</td>
<td>8%</td>
<td>-</td>
</tr>
</tbody>
</table>
of the metrics proposed above can be readily obtained. But there are notable gaps where additional research will be needed to identify or generate the data.

India
The private health sector in India is at least a $56 billion market. It accounts for 3 times the amount spent by the public sector on health. The total spend on pharmaceuticals is 1/6 of current health expenditure. A major portion of overall out of pocket health spending has been estimated to be for medicines for NCDs; as high as 64% and 58% for cases of hypertension and diabetes\textsuperscript{36}, respectively the number 1 and 9 disease conditions in India (Table 1). In the case of tuberculosis (TB), the 6th leading cause of morbidity and mortality in India, Arinaminpathy et al. estimated that the private sector treated twice the number of cases treated by the public sector utilizing a commercially available dataset on the sales of pharmaceuticals used to treat TB\textsuperscript{37}. With an estimated 70% of outpatient care provided by the private

### Table 3. Private Health Sector metrics and data availability for case study countries

<table>
<thead>
<tr>
<th>Metric</th>
<th>India</th>
<th>Indonesia</th>
<th>Mexico</th>
<th>South Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population Coverage Axis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># private hospitals</td>
<td>80,265</td>
<td>1,767</td>
<td>3,070</td>
<td>409</td>
</tr>
<tr>
<td># of private pharmacies</td>
<td>42,409</td>
<td>26,000</td>
<td>3,250</td>
<td></td>
</tr>
<tr>
<td># private hospital beds</td>
<td>128,499</td>
<td>44,514</td>
<td>34,572</td>
<td></td>
</tr>
<tr>
<td># of private hospital beds/10,000 population</td>
<td>5.0</td>
<td>3.6</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td><strong>Cost Coverage Axis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Revenue of Private Sector Outlets</td>
<td>$49,744,051,240</td>
<td>$ 10,584,646,633</td>
<td>$ 26,562,990,239</td>
<td>$ 1,990,484,100</td>
</tr>
<tr>
<td>THHE in Private Health Sector</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total annual OOP exp in USD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PVT-D per capita in USD</td>
<td>43</td>
<td>59</td>
<td>247</td>
<td>207</td>
</tr>
<tr>
<td><strong>Service Coverage Axis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># Registered/Licensed doctors public</td>
<td>114,969</td>
<td>227,567</td>
<td>17,493</td>
<td></td>
</tr>
<tr>
<td># Registered/Licensed doctors private</td>
<td>926,426</td>
<td></td>
<td>14,255</td>
<td></td>
</tr>
<tr>
<td>Total # Registered/Licensed doctors</td>
<td>1,041,395</td>
<td>159,960</td>
<td>238,949</td>
<td>31,748</td>
</tr>
<tr>
<td>Proportion of registered/licensed doctors in the private sector</td>
<td>89%</td>
<td></td>
<td></td>
<td>45%</td>
</tr>
<tr>
<td><strong># Registered/licensed midwives in pvt sector</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># Doctors by specialty in pvt sector</td>
<td></td>
<td></td>
<td></td>
<td>6,726\textsuperscript{6}</td>
</tr>
<tr>
<td>Proportion of outpatient care sought in pvt sector</td>
<td>71%</td>
<td>63%</td>
<td>39%</td>
<td>30%</td>
</tr>
<tr>
<td>Proportion of inpatient care sought in pvt sector</td>
<td>58%</td>
<td>42%</td>
<td></td>
<td>19%</td>
</tr>
</tbody>
</table>
sector (Table 3 Private Sector Metrics), the private sector is the major provider of care for NCDs, such as diabetes and hypertension in India and even infectious diseases such as TB, which are traditionally managed through public sector driven programs. Additionally, more than 80% of reimbursements from all the health insurance schemes in India were made to the private sector\textsuperscript{38}, further reinforcing the importance of private sector health delivery in India. An annual Government of India publication provided information on number of doctors and hospitals, while a periodic household survey provided information on the proportion of healthcare provided by the private sector\textsuperscript{30,31}.

**Indonesia**

In Indonesia, 60% of current health expenditure is private, amounting to a $15 billion market annually. Pharmaceutical expenditure accounts for \(\frac{1}{4}\) of current health expenditure. The private sector dominates pharmaceutical sales accounting for 75% of the market\textsuperscript{33} and up to 70% of OOP expenditures are spent on medications\textsuperscript{39}. In 2012, the private sector accounted for 63% of outpatient care and 42% of inpatient care\textsuperscript{33}. The introduction of Jaminan Kesehatan Nasional (JKN) in 2014 - the single payer health insurance scheme implemented by the social security agency Badan Penyelenggara Jaminan Sosial Kesehatan (BPJS) - and its subsequent expansion which currently covers 221 million Indonesians, approximately 87% of the population, and 27,211 facilities, has reconfigured healthcare in Indonesia. Fifty one percent of the providers are private and 60% of the hospitals registered are private\textsuperscript{40}. A 2013 study found that 65.6% and 81.2% of income of surgeons and obstetricians, respectively, were from the private sector\textsuperscript{41} while 80% of all general practitioners (GPs) were estimated to have private practices\textsuperscript{42,43}. The domestically produced annual report, Indonesia Health Profile 2017, provided information on the number of private hospitals and hospital beds\textsuperscript{32}.

**Mexico**

Private sector and public sector spend in Mexico are nearly even with spending in the public sector slightly more than that in the private sector. Furthermore, 85% of private expenditure is directly OOP. With a population half the size of Indonesia, Mexico’s per capita private health expenditure is four times larger, yielding $31 billion in annual private sector health expenditure.

Data from a 2017 WHO Primary Health Care Systems Case Study provided the bulk of the information for Mexico, while the number of private pharmacies was estimated from other research\textsuperscript{34,35}. For other suggested metrics, we found that the information for Mexico is theoretically, but not practically available. Specifically, Mexico’s form PEC-6-20-A collects information on hospital location, services, human resources, material resources, and morbidities. It includes private sector service provision in the registration, and is conducted annually. The online database did not work. Another government regulation stipulates that
all hospitals that are members of the National Health System are required to provide reports to the Red Hospitalaria de Vigilancia Epidemiológica (Hospital Epidemiological Surveillance Network). The most recent report includes 2015 data. Other databases for physicians or hospital registration were also found to be incomplete or difficult to access.

**South Africa**

Similar to Mexico, the private sector and public sector account for similar percentages of current health expenditure (CHE) although public sector spend in South Africa is slightly a bigger percentage of CHE than in Mexico. Unlike India and Indonesia, where the private sector treats more patients, the private sector in South Africa only accounts for 30% of outpatient care and 19% of inpatient care. Access to the private sector is highly inequitable, with the public sector largely serving the 83% of the population who are uninsured. Out of pocket expenditure is very low (8% of CHE), with most of the $11 billion annual private sector market covered through prepayment and pooling mechanisms. Three private hospital groups dominate the market, with a combined 83% of market share based upon beds.

As in Indonesia and India, South African medical doctors have the liberty to work for both the public and private sectors. In 2013, it was estimated that 37% of GPs (7,529) and 59% of specialists (6,726) work in the private sector. For South Africa, significant information on the private sector was obtained from a one-time government commissioned study of competitiveness in the private sector, released in 2019. The report stated that no national or provisional verified databases exist which provide information on current facilities and numbers of beds, and that the facility licensing process is neither transparent nor well regulated.

**RECOMMENDATIONS**

While the metrics we have proposed provide an interesting starting point to capture the private sector’s contribution to UHC, the results do not present a universal approach to measurement. As described, each metric and data source explored have limitations in our current environment. While each country may face different challenges or choose to focus on different areas in measuring progress toward UHC, there is value in defining standardized metrics that allow us to understand countries present progress toward UHC, while also demonstrating what is needed to achieve UHC. Therefore, in order to embrace a new way of governing in mixed health systems, we need to dive deeper and initiate new research to meet the measurement gaps.

To understand the size and importance of the private sector, we presented a series of potential metrics. As discussed above, the gold standard measure would be the proportion of care obtained in the private sector, by reason for care-seeking or disease condition. However, this measure is not currently feasible to achieve routinely, to be replicated,
and to be collected globally. **Therefore, we recommend that the WHO selects a limited number of priority metrics from those proposed, and focuses on how to support countries to collect and report on that data in order to measure progress toward UHC.**

As the WHO considers where to focus its efforts in private sector UHC measurement, we offer recommendations for how the underlying administrative data for the suggested metrics can be improved, and suggest what needs to be done to strengthen those data. We have focused our recommendations on administrative data as the most amenable to improvement through WHO efforts.

First, many of the metrics suggested would be stronger if expressed as a proportion, rather than a number. However, in order to do so, the relevant information in the public sector must be complete and accessible. The data gaps we experience in not understanding the full size of the private sector are not limited to a lack of data about the private sector. An estimate of private sector provision would be easier with

1. Master facility list, inclusive of all public and private sector inpatient facilities.
2. Health workforce roster, which, at minimum, should include all physicians by specialty, and place of employment if in the public sector. Additional information on other cadres (clinical officer, physician assistant, nurse-midwife, etc.) would be beneficial.

3. Revenue collected within the public sector, through out-of-pocket expenditures. These data are likely available within the process of creating national health accounts, or within government budget documents, however they are not easily accessible.
4. Disaggregation of national health accounts data by health sector, for the classification of health care providers.

**The WHO can suggest countries collect data to create a master facility list and health workforce roster, to assess revenue collected within the public sector, and to disaggregate national health accounts by sector. In addition, WHO can encourage countries to report one or more of the above data sources.**

Second, current coverage of pharmaceutical sales data in low- and middle-income countries (LMIC) is very limited, but opportunities to improve it exist. IQVIA has data on only 34 LMIC, with private sector sales information in less than 50% of them. Other large data intelligence firms did not respond to our requests for information. **The WHO may commission select studies in LMIC to improve current knowledge of pharmaceutical sales**, as well as demonstrate to the commercial data firms the strategic and public relations value of working with international agencies in pursuit of global development goals. Data is not currently available because no one has wanted to purchase it.
Third, we recommend that if the standards are not already present, the WHO is well positioned to provide international recommendations on the type of information to be collected during licensing and renewal processes for medical providers. These data will be useful beyond understanding private sector size. They may, in fact, be able to spur market investment in health facilities on a wider scale because the data deficits on the size and market penetration of the private sector which faces the WHO is the same as that which investors in low- and middle-income health care markets face. These investors (social, impact or traditional) leverage individual relationships and commissioned research to study potential investments, limiting the potential for wider health sector growth and improvement. Specifically, we recommend standard data to be collected during health workforce licensing and renewal processes, which includes employment information, and standard data to be collected from private sector in-patient facilities during accreditation and renewal processes, which include bed capacity and provider coverage.

Research
As international agencies and country regulatory authorities work to improve the consistency and completeness of relevant data described above, supported and guided by WHO, new research can provide additional information to fill the gaps, and make models more robust. We recommend new research that will complement data strengthening activities.

Widespread changes to the collection and accessibility of routine administrative data take time, and once the door is opened to making potential changes in a system, many stakeholders will have requests. Yet, the presence of international agency representatives (WHO, World Bank, etc.) world-wide offers an opportunity to collect necessary information which exists outside of searchable online databases. In addition to improvements in routine administrative data, information obtainable through one or several discrete research studies can also advance the field.

Two of the data sources currently available to understand health care utilization by sector are household income and expenditure surveys (HIES), and DHS (or MICS). These nationally representative population-based surveys may be conducted every 5 years, with differing frequency by country, and are often externally funded. In addition, pharmaceutical data exists, but is proprietary. Given our understanding of these data, three areas of inquiry could have tremendous potential:

1. How can information on household health expenditure, and total household expenditure, be obtained in a way that is acceptable and reliable, but does not necessitate a comprehensive HIES?
2. How much do household care-seeking patterns (specifically choice of health care provider/facility) differ for different members of the household, or for different health
conditions? To what extent are the DHS and related surveys, which focus on place of care for reproductive and child health needs, a sound proxy for overall care-seeking?

3. How can commercially available pharmaceutical data inform health spending in both the public and private sectors?

Significant research regarding the reliability and validity of various ways to assess expenditure has been conducted, concluding, broadly, that asking detailed expenditure questions yields higher expenditures than when a household is asked about aggregates45. Surveys focusing on health tend to yield higher health expenditures than those where health is only one item18. The major surveys in use today to assess health expenditure differ in recall period, survey length, question specificity and frequency of administration, resulting in the need to model health expenditure. Reliance upon models is sufficient for reporting UHC indicator 3.8, but is not practical when assessing the impact of an intervention on out of pocket expenditures. The comprehensive set of questions, while more valid, is not practical for inclusion in more general surveys due to its length. A research and consensus building process to develop a ‘good enough’ measure of health and total expenditure, for use in routine data collection, would facilitate metric use for both programmatic and national reporting.

The second question is important to understand the extent to which DHS-type surveys can be a proxy for overall care-seeking, as there is limited to no evidence that outpatient care-seeking decisions for childhood infectious diseases are similar to those for non-communicable diseases among adults. Yet, in many LMIC, non-communicable diseases are top contributors to overall burden of disease, making it critical to understand care-seeking behaviors. In a select set of ‘exemplar’ markets, primary or secondary research on care-seeking and expenditure for the top burden of disease conditions would support or refute the reliance upon DHS data to understand private health sector use.

Finally, it is clear from national health accounts studies that by volume, the major source of private expenditure is pharmacies. Even in countries where public sector utilization is high, drugs are often procured in the private sector. We have described the current geographic availability of some pharmaceutical market data, but without purchasing a sample of the data, the possibilities for higher order market size estimates are unknown. We recommend that a deep-dive into the possibilities of currently available commercial pharmaceutical sales data be conducted.

**CONCLUSION**

The last decade has devoted considerable attention to studying and improving upon public sector functions in order to achieve UHC. However, as is becoming increasingly clear, we must also be able to measure, manage and engage the private health sector in order to strengthen the health system, and
ensure health care is accessible by all. This report has focused on measurement of the private sector – an important step for advocacy and accountability nationally, and for generating investment and partnership globally. We have outlined the current data available, and where it is insufficient. In an evolving arena, it is necessary to move away from expensive, infrequent household surveys reliant upon donor funds. Yet, we cannot move away from these sources of data without an alternative. They exist, and can be improved, by doing the following:

1. **Build the best picture available today, using data that current exists.** Of the six major metrics described in section 3, many countries will likely have information available to construct at least one of them, even if that information is not available through online searches, or in English. A disparate picture is better than no picture at all. Encouraging initial measurements will help the WHO spur improvements in other administrative data sources that will, eventually, lead to consistent measurement approaches across countries.

2. **Invest in multi-sectoral solutions.** Information to understand the health sector overall, and the private sector in particular, is not only the domain of the ministry of health. We have proposed opportunities to improve administrative data, but improvements in the records for taxation, customs, and regulatory agencies can also help define the number, physical and financial size of the private sector. Combining hospital revenue data with physician registries, or looking at imported and indigenous production of medications alongside data from central and regional medical stores can provide a robust cross-sector lens that better defines the private health sector’s role.

3. **Use what investors use, and address the gaps with research.** Investors seek to understand the risk and return of their investment, and need to characterize health needs and ability to pay. For UHC, the same information can be used to advocate for comprehensive strategies to address population health, an expansion of who, what and where pooled funds cover, and partnerships. We can improve our ability to estimate and model the size of the private sector based upon administrative and regulatory data, coupled with data already collected for and valued by the private health care sector (pharmaceutical sales, equipment sales, manufacturing and use projections, etc.). To do so, we need well designed research studies that will seed model assumptions, particularly for non-communicable disease care-seeking.

While it is still challenging, there are important opportunities to measure the private sector using currently available data and to strengthen that measurement through timely research. Being able to measure private sector size and spending will significantly improve country progress toward UHC.
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ABOUT THE PROJECT

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This document was commissioned by the World Health Organization and recommended by the Advisory Group on the Governance of the Private Sector for UHC as part of its ongoing work to develop a strategy for the World Health Organization and member states to effectively engage the private sector for the governance of mixed health systems.

Additional documents in this series include the following:

- International Organizations and the Engagement of Private Healthcare Providers
- Private Sector Utilization: Insights from Standard Survey Data
- Principles for Engaging the Private Sector in Universal Health Coverage
- Private Sector Accountability for Service Delivery in the Context of Universal Health Coverage
- Engaging the Private Health Sector to Advance Universal Health Coverage: WHO Eastern Mediterranean Region Case Study

The Advisory Group on the Governance of the Private Sector for UHC was convened in February of 2019 to act as an advisory body to the WHO about developing and implementing governance and regulatory arrangements for managing private sector service delivery for UHC. The group was formed with the primary goal of providing advice and recommendations on the regulation and engagement with the private sector in the context of the WHO GPW goal of 1 billion more people benefitting from Universal Health Coverage, and in particular outcome 1.1.4 of this goal – “Countries enabled to ensure effective health governance”. Members of the Advisory Group include: Dr. Gerald Bloom, Mr. Luke Boddam-Whetham, Ms. Nikki Charman, Dr. Mostafa Hunter, Mrs. Robinah Kaitritimba, Dr. Dominic Montagu, Dr. Samwel Ogillo, Ms. Barbara O’Hanlon, Dr. Madhukar Pai, Dr. Venkat Raman, and Dr. Tryphine Zulu.

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