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Commentary

## Addressing the Cost Data Gap for Universal Healthcare Coverage in India: A Call to Action



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### ABSTRACT

The Indian health system is undergoing significant reform toward more evidence-informed and inclusive health policy as the country strives toward the achievement of Universal Health Coverage for its 1.3 billion population. Cost information plays a key role in the evidence arsenal of Universal Health Coverage-oriented policy by informing decisions such as the setting reimbursement rates for government-sponsored health insurance packages of care, strategic purchasing of health services, and in prioritizing available resources to maximize value of health sector investments. However, extensive and quality health facility cost data in India are limited. As a result, there is an increasing and urgent need to generate and disseminate healthcare cost information. This article discusses the need for cost information and the current initiatives that are progressing this agenda. The first is a national cost database and website hosting cost data collected from 200 public sector facilities across 6 Indian states at each level of the care delivery system by a consortium of health research institutes. This database is the first of its kind in India and will serve as a central resource for researchers and decision-makers for information on healthcare costs. The second is a nationwide costing study of healthcare at both private and public facilities. By improving the availability of cost data in India, raising its profile and demonstrating its utility, it is hoped that the database and new costing efforts will lead to greater recognition of the importance of good quality data to inform health policy and enable more evidence-informed decision-making.

**Keywords:** cost, economic evaluation, India, price setting.

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### Introduction

The Indian health system is undergoing significant reform toward more evidence-informed and inclusive health policy as the country strives toward the achievement of Universal Health Coverage (UHC) for its 1.3 billion population. The announcement of Ayushman Bharat Prime Minister's Jan Arogya Yojana (AB-PMJAY) is hailed as the largest ever government-sponsored health insurance scheme in India.<sup>1</sup> It is expected to cover approximately 1393 secondary and tertiary care procedures for approximately 500 million beneficiaries. However, the Indian health system is complex. Healthcare decision-making is led by the state. The federal government provides additional financing (34% of government healthcare expenditure)<sup>2</sup> to support public provision and financing of healthcare. A central government insurance scheme, in place since 2007, aims to finance predefined packages of healthcare for the poor. This scheme operates

alongside private sector insurance and state-level public sector schemes. Despite these different financing mechanisms, 70% of government healthcare expenditure is channelled through tax-funded healthcare provision,<sup>2</sup> and the health system is still underresourced. Total healthcare expenditure from all sources is 63 USD per capita, lower than neighboring middle-income countries such as Indonesia and Thailand.<sup>3</sup>

One of the key aims of the AB-PMJAY policy reform is to address gaps in UHC. To achieve this, AB-PMJAY expects to bring the federal government and state healthcare systems together and to work with private and public sectors. It also aims to strengthen primary care services. Public sector healthcare is generally delivered through subhealth centers, primary healthcare centers, community healthcare centers, district hospitals, and referral centers. The government is seeking to establish 150 000 health and wellness centers that bring diagnostics, maternal, and child healthcare and management of noncommunicable diseases into

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the existing sub and primary healthcare center structures. Another significant effort to help fill the gaps in UHC is the use of robust evidence to set priorities and allocate resources. This can help ensure maximum value of expenditure within the government's highly constrained budget.

Health technology assessment is one mechanism through which evidence-based decision making can be achieved and India has made a promising shift in this direction. The Government of India's Department of Health Research has established HTAI, a government-mandated body to conduct and commission health technology assessment (HTA).<sup>4</sup> HTAI will appraise a wide range of health technologies and healthcare interventions to inform health policy. This includes collating and producing evidence on the safety, effectiveness, and cost-effectiveness of health interventions,<sup>4</sup> in a similar way to the Health Intervention and Technology Assessment Program in Thailand and the Health Technology Assessment Committee in Indonesia. HTAI will play a pivotal role in informing the list of services provided under the AB-PMJAY and in broader national and state-level spending decisions.

### Cost Information: A Gap in the Evidence Base

To facilitate HTAI's role in providing the evidence base for priority setting, strong information systems will need to be in place. In the area of measuring value for money this includes information on the costs of producing health services, including human resources, medical, and nonmedical supplies, and any capital investments. Accurate, readily accessible, and locally collected cost estimates ensure that HTA is based on locally relevant cost-effectiveness models. In addition, costs inform the process of price-setting for the commissioning of health services, the design of health insurance packages, and the procurement of supplies. Good quality cost data can also help policymakers move from ad-hoc budget estimation based on historical trends to budgets based on resource need and are also used to inform equity analyses.

Despite these numerous demands, there is a dearth of data related to the costs of facility-based healthcare delivery in both the public and private sectors in India.<sup>5,6</sup> In particular, there is no single repository for cost data or cost studies. Until recently, cost data have not been available consistently across states and levels of the health system, in most cases focus on a specific disease or condition, use different methodologies, and do not always include health system costs.<sup>7-12</sup> It is challenging to collect cost information directly from facilities for a number of reasons. First, published hospital charges and fees do not reflect the full cost of delivering services but reflect the business model of the institution.<sup>13</sup> In addition, the health management information system is inconsistent in quality,<sup>14</sup> and there is limited use of electronic records. Added to this, reporting requirements for public sector healthcare spending focus on accounting approaches that are not able to provide the full information for costing of individual services.

The lack of cost data represents a major evidence barrier in the journey toward UHC-oriented health policy decisions in India. In particular, in setting reimbursement rates for services covered by AB-PMJAY, the limited availability of cost information is seen as a significant concern. Stakeholders, from private providers to state purchasers, have highlighted the importance of accurate and transparent cost information<sup>15,16</sup> and the initial provider payment rates set by the government came under significant criticism.<sup>17</sup>

Many high-income countries, for example the United Kingdom and the Netherlands, where HTA is more established, rely on repositories of cost information or standard costing guidelines to inform HTA processes.<sup>18,19</sup> Similarly, Thailand has a central health services cost database used in the negotiation of provider payment rates and cost-effectiveness analysis.<sup>20,21</sup> To produce a similarly

representative cost database in India requires documenting the costs of facility level health services across the states and different provider types. This will be a significant undertaking.

### National Health System Cost Database

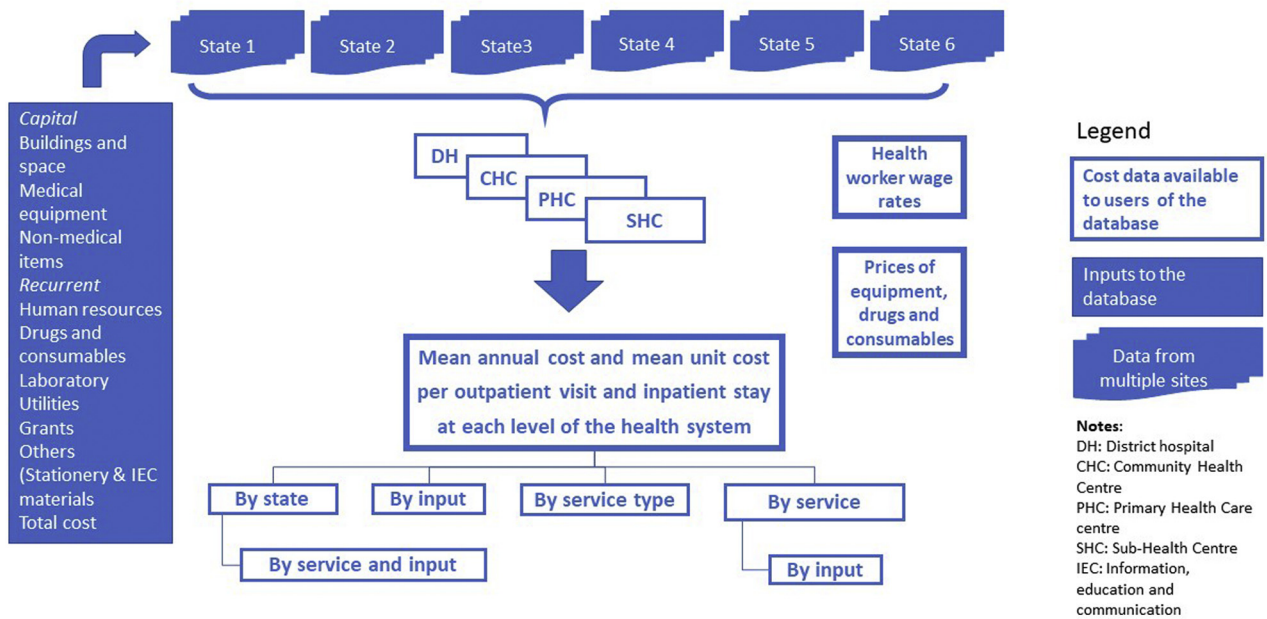
In recognition of the critical need for cost information, there has been a recent concerted effort to fill the costing evidence gap<sup>11,22-24</sup> and build a national database of healthcare costs: the National Health System Cost Database. The creation of the the National Health System Cost Database is a first step in providing access to a transparent set of country-specific reference costs for India ([https://www.healtheconomics.pgisph.in/costing\\_web/](https://www.healtheconomics.pgisph.in/costing_web/)). The database results from the collection of public sector cost data from 200 facilities across 6 states (Punjab, Haryana, Tamil Nadu, Odisha, Himachal Pradesh, and Kerala) by a consortium of health research institutes.<sup>11,22</sup> The objective is to provide a one-stop shop for cost information for healthcare decision making in India. The cost data within the database comprise annual and average healthcare facility costs at district hospital, community health center, primary health center, and subhealth centers. For each state in the sample, full economic costs are presented as average annual cost and cost per outpatient visit and inpatient stay by level of facility and include the value of all resources used to produce the service. The costs are also broken down by input and for selected services such as antenatal care, postnatal care, institutional delivery, immunization, and directly observed short-course treatment for tuberculosis, with input wise breakdowns. **Figure 1** provides a summary of the structure of the database costs. The cost data are based on a methodology that uses standard principles<sup>25</sup> and has been published elsewhere.<sup>11,22</sup> The standardized methodology facilitates the collation of these data into a single dataset for use by researchers and healthcare decision makers and ensures that the database can grow as further data are collected as part of the ongoing effort to improve cost information.

The database is the sole evidence-based resource on costs that the government (both federal and states) can use to inform the design and reimbursement level of health benefit packages. It is hosted by the Postgraduate Institute for Medical Education and Research School of Public Health and is freely available to registered users at [https://www.healtheconomics.pgisph.in/costing\\_web/](https://www.healtheconomics.pgisph.in/costing_web/). A screenshot of the database on the website is shown in **Figure 2**. Additional resources are also provided on the host site to help improve the quality and consistency of future costing exercises, including data on state level prices of human resources (wage rates), medical and nonmedical consumables, and medical and nonmedical equipment. These further data, generated during the data collection, can be an invaluable resource for economists working on healthcare.

### Other Initiatives to Address the Cost Information Gap

The database is an important step forward, aiming to provide a critical resource for bridging the evidence to policy divide in HTA, price setting, and resource requirement estimation. However, there are concerns that the data, at present, is only partial. It does not cover the tertiary level of care or provide private sector cost estimates. Although, national surveys on healthcare consumption are able to provide detail on out-of-pocket expenditures,<sup>26</sup> these do not reflect the full cost of production either. In fact, although the private sector is poised to play a key role in AB-PMJAY, there is little information on the costs of delivery of care in the private sector beyond charges to state level insurance schemes. To address this, a second initiative, a nationwide Cost of Healthcare Services in India study, has recently been commissioned by the Department of Health Research.<sup>27</sup> Healthcare services at public and private secondary and tertiary facilities in 13 states are being costed as part of the Cost of

**Figure 1.** Structure of the National Health System Cost database.



**Figure 2.** A sample of web pages from the National Health System Cost Database for India website ([https://www.healthconomics.gov.in/costing\\_web/](https://www.healthconomics.gov.in/costing_web/)). Accessed October 10, 2019.

Healthcare Services in India study. The same methodologic approach used for the database costings will be used allowing for the collation and comparison of the different cost estimates. It is hoped that the summary data from this additional study will be made available on the National Health System Cost Database.

Two further initiatives linked to the cost database are being implemented to address cost information gaps. First, an effort is underway to make improved cost predictions for areas where cost evidence is still unavailable. Rather than using a mean unit cost value for the country, a particular sector (private/public) or state, existing cost data can be used to construct a cost function and obtain cost predictions for sites with different scale, input mix, or other key characteristics.<sup>28–30</sup> These type of analyses have the potential to be particularly useful for policymakers engaged in price setting. The cost predictions provide a basis from which to set differential prices for facilities with different characteristics, resource use, and quality standards. Second, the wider dissemination of costing materials, a methods manual and cost data collection tools, are all being made available free of charge on the cost database website to facilitate improved quality data collection and a standardized methodology across all facility costing studies. The methods and data collection documents in addition to the cost predictions are available on the database website.

## Conclusions

Cost data are critical to the role of strategic purchasing in healthcare. Currently, there are few published and readily accessible cost data in India to inform HTA and insurance design but as this commentary indicates the tide is beginning to turn. The National Health System cost database resource represents a first step in providing easily accessible reference cost data for India. It makes average health facility cost data collected from multiple states freely available for researchers and policymakers for the first time. The establishment of the database is a call to action to fill this evidence gap and to empower the government of India in its roll out of AB-PMJAY. By improving access to health service cost data, the database will enable better and more informed decision making in one of the largest healthcare program in the world.

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