Developing and Costing State-Flexible Essential Health Package (EHP) for India

Key Output

• Developed a draft framework for a State-flexible Essential Health Package for 34 prioritized health categories.
• 492 health care services across promotive, preventive, curative, rehabilitative and palliative care were identified under four broader categories: 1) Women’s and Child Health, 2) Communicable diseases, 3) Non-Communicable diseases and 4) Selected broader determinants of health.
• System Costs estimated at different levels of care at select health facilities for the District of Mallapuram in Kerala State.
• Unit costing and estimation of treatment cost for 80 health conditions. (This included estimated treatment cost for 25 conditions contributing to 70% of DALYs).
• Integrated care-pathway developed for the management of four Diseases (Cardiovascular Disease, Diabetes, Tuberculosis and Anaemia) with associated cost-effectiveness framework which could be adapted and modified at the State level.

Introduction

In many countries considering or in various stages of implementing Universal Health Coverage, Essential Health Packages (EHPs) are often promoted as an effective way to reduce health inequity while improving health service delivery by focussing on effective interventions and levels at which they should be available. Overall EHPs aim to enhance universality, health outcomes, equity and access by concentrating scarce resources on interventions which provide the best ‘value for money’. EHPs are intended to be a guaranteed minimum – An EHP in a low-middle-income country could consist of a limited list of public health and clinical interventions which will be provided at primary and/or secondary level care. In contrast, in richer countries packages are often described according to what they exclude. In addition to the, “content or ‘scope’ of the package, there are also decisions to be made about the level at which the services under EHP will be delivered, and the ‘shape’ of the delivery model”. To deliver the services outlined in an EHP, human resources, drugs, equipment and other infrastructure required to deal with interventions within the package should be available. Universal Health Coverage (UHC) is defined in the 12th plan document as “Ensuring equitable access for all Indians to affordable, accountable and quality health services from public and private sector where the government is the guarantor and enabler, although not necessarily the only provider, of health and related services”. The vision for UHC also addressed the wider social determinants of health through inter-sectoral co-ordination of various ministries as an important pre-requisite for achieving Universal coverage.

Essential Health Package (EHP)

Our approach to developing an Essential Health Package (EHP) not only considers disease management but also address broader determinants of health. However, currently, there is no global consensus on the methodology for development of EHPs. Countries around the world have adopted different approaches in defining health packages, some have framed benefit packages as defined set of healthcare services while others have incorporated broader determinants of health (water, sanitation, education, nutrition etc.) as part of basic population wide health services. Since health is a State Govt. responsibility in India, it was imperative to develop an “Essential Health Package” that was flexible enough to address State health priorities. A National Essential Health Package could also serve as a guide for States to eventually formulate State-specific health packages based on disease burdens, health system capacity and resource availability.

Objectives

1. This exercise provides a frame work for the development of an Essential Health Package that is flexible to State health needs.
2. To estimate Unit Level Costs for delivering the health services identified under the Essential Health Package.

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1 DALYs lost based on Global Burden of Disease - WHO Data repository (2012)
2 Service Delivery Seminar Series, Draft Technical Brief No. 2, 3 July 2008: Essential Health Packages: What Are They For? What Do They Change?
Framework for Design of Essential Health Package

A framework for an EHP summarized in Figure 1 was developed based on a review of published literature and Central and State level expert consultations with multiple stakeholders. The EHP framework was developed around the following dimensions: (1) needs assessment through synthesis of global experiences, national and state level policies and programs and disease burden; (2) priority setting through a feasibility study to identify specific health conditions and corresponding services and (3) establishing linkages between various components of the health system demonstrated as care pathways proposed for select health conditions (CVD, Diabetes, TB and Anaemia).

Methodology

The study involved two phases of evidence collation and synthesis. The first phase dealt with identification and development of National Essential Health Package for India. This exercise involved global review of evidence from 14 countries on methodologies and approaches for developing an EHP. This was complemented by a national and sub-national level situation analysis of the Indian health system on health services, disease burden and availability of public health infrastructure.

34 broad health categories were identified that comprised of 492 health services in consultation with experts from Centre and States (academia, civil society, government officials, medical, allied health and health economics).

The second phase involved:
1. Unit cost estimation for treatment of 80 health conditions;
2. Care pathways for population level management of selected health conditions along with a framework for cost estimation.

Burden of Disease

One of the challenges in estimating disease burden in India was the presence of multiple data sources. These include, government reports (reported cases), individual studies (region specific studies), WHO data repository and other large scale surveys like NSSO (based on nationally representative samples). Many of these studies and health matrices differed in methodological assessments. After a review of a range of data sources and detailed expert consultations, a consensus was built on using the following sources of disease burden data: NCMH projections for 2015, Global Burden of Disease (GBD) data repository (WHO, 2012), NFHS-3 (2004-2005), along with reported figures from National Census and the Crime Bureau of India, for priority setting.

Costing Estimations at National and Regional level

A costing exercise was undertaken for estimating unit costs for treatment of 80 health conditions. Unit level costing was undertaken using standard treatment protocols and expert opinion. The costing exercise included five sets of cost components (drugs, health workforce, diagnostics, including estimation of system costs) for following services: Inpatient & Outpatient Care, Operation Theatre per hour and Delivery Room Utilization per delivery. The estimation for the system cost was drawn from Malappuram district in Kerala State. Our cost estimates suggest the following:

1. India need to spend ₹ 1195.78 per capita to treat 25 priority health conditions contributing to 70% of DALYs lost (As per GBD-WHO (2012) estimates) assuming 70% of total population access public health facility.
2. Estimated cost for provisioning of 80 select conditions assuming 70% of total population will access public health facilities will be ₹ 1626.38 per capita.

Note: While preventive and promotive services are mentioned in our framework they have not been costed in the exercise above. Two challenges faced in this exercise were: the 1) Lack of availability of accurate and complete data on existing preventive and promotive services 2) Paucity of evaluation and impact assessments of preventive and promotive services in hospitals and school health programs.

Figure 1: Framework for development of EHP
Utilizing Unit Cost Estimates for Priority Setting

The calculated unit cost for treatment of 80 health conditions can be used for estimating resources required for management of selected health condition at State as well as National level. We have attempted development of disease management pathway for four health conditions. Of these conditions we have populated the pathway for Cardio Vascular Disease (CVD + Diabetes) with data from Census (Age Distribution), Age specific prevalence data on CVD from NCMH projections for 2015 and unit cost for treatment of various Cardio Vascular Diseases along with co-morbidities as calculated above. We have also estimated some of preventive and promotive health services like counselling, preventive screening (Non-Laboratory Based), and used CGHS purchase rate for laboratory based screening.

Care Pathways for select Health Conditions

A well-defined Care Pathway needs two inputs:

1. The precise definition of a disease or a treatment related condition that could occur in a population.
2. The conditional probability associated with that condition, since it could manifest itself along any one of the pathways that the disease or the treatment strategy could take.

With these two inputs clearly defined, the Care Pathway can be used to answer a number of very important health systems related questions:

1. Cost of managing a specific disease in a population.
2. The infrastructure requirements associated with that specific disease.
3. The quantum and types of human resources required to handle the burden of disease in a population.

The Cardio Vascular Disease + Diabetes Pathway

In this pathway Diabetes and Cardio Vascular Disease has been combined into one in order to ensure that when population level screening is done, given the high level of overlap between the risk factors for both these conditions, it does not have to be repeated for each disease type and that the need for confirmatory laboratory tests is minimised.

This is a complex pathway and has a number of steps.

The path for management of CVD can be graphically represented as shown below in Figure 2 and Figure 2b (with a link to the Diabetes Management Pathway). The first part is the full pathway, while the second includes the Diabetes Treatment Protocol which is a sub-pathway of the overall CVD + Diabetes Pathway. (For this exercise we have used treatment cost of managing Diabetes which can be altered by State Authorities while developing State specific policies).

In order to arrive at the cost associated with the entire Pathway, the conditional probability data needs to be supplemented with following costing data:

The conditional probabilities taken together with the associated costs produce a cost of ₹ 320.14 per capita required for entire population. It is important to note here that population level (non-invasive) screening plays a key role. It has a high cost of as much as Rs.6.5 per adult that is older than 35 years but allows care to be focussed only on high risk individuals so that the high cost laboratory test of Rs 199.40 can be deployed in parsimonious manner. And, since the screening can be carried out by local village youth, it also ends up minimising the need for scarce skilled manpower (such as trained lab technicians).

Figure 2: Care pathway for Management of CVD & Diabetes

3 DAL Assumptions:

- Costing exercise were based on facility based treatment cost and doesn't include costs incurred on outreach activities, district and state level admin cost, preventive, promotive, rehabilitative and palliative services.
- Administrative overheads were taken at 10% of treatment cost estimation.
The School based education campaign for children below the age of 21 accounts for almost a third of the total cost of ₹320.14. This expenditure would need to be examined very carefully as there are resource limitations. Laboratory based opportunistic screening for individuals aged more than 35 and comprehensive diet counselling adds almost ₹255 to the overall expenditure. These approaches may need to be re-examined if there are budgetary constraints. Health education campaigns and opportunistic screening for younger adults are dependent on State level capacity and initiative.

Key Policy Recommendations

1. Service packages are critical as it serves as a blueprint to assess the kinds of resources needed to strengthen the health system for the delivery of the services.

2. Based on the care pathway the burden of Cardio Vascular Diseases can be managed by Indian States at Rs. 320.14 per capita using the proposed UHC Care pathway as against Rs. 349.83/- per capita estimated using the current conventional treatment-based pathway.¹

3. A national level costing exercise with more representative sample is needed for developing efficient resource allocation in Health Sector.

¹ Costing on Conventional pathway is based on following assumptions
Risk of CVD is negligible in < 20 Yrs. (2) Prevalence of CVD is 9.86% in person >20 Yrs; (3) 20 % of total population does regular preventive check-up of which 90% of high risk population follow regular treatment protocol. (4) cost of managing emergency is Rs. 6077 which is treatment cost of managing hypertensive stroke.