**Project Title:** Integrated Primary Health Care Costing Activity in India: Proposal for TAMIL NADU

Background:

A strong, responsive, and sustainable primary health care (PHC) system is essential for achieving universal health coverage (UHC) under which all people have access to good quality health services without suffering financial hardship. However, for many, PHC services are unavailable, inaccessible, or unaffordable in the absence of sufficient resources. In low-income countries especially, the need for increasing resources for PHC is greatest where it estimated that PHC spending per capita needs to increase from $25 to $65 while health work forces need to increase from 5·6 workers per 1000 population to 6·7 per 1000 population, delivering an average of 5·9 out patient visits per capita per year.

PHC in India

In 2018, the Government of India launched *Ayushman Bharat*, a two-pronged strategy for increasing access to quality healthcare and achieving UHC. The first component of *Ayushman Bharat* is the scaleup of the *Pradhan Mantri Jan Arogya Yojana* (PMJAY), a health insurance scheme aimed at providing coverage for secondary and tertiary care to the most vulnerable and poor population in the country. The second component of the strategy aims to provide free, comprehensive, and quality PHC services through an upgrade of its existing public sector PHC network.

PHC Costing Activity

The objectives of the proposed PHC costing activity will be to:

1. produce an analysis of PHC network costs, develop an actual and normative cost model using the tool, and facilitate the further use of tool and results – e.g. to assess financing needs and gaps, mobilize domestic and external resources, plan and allocate resources for greater effectiveness, efficiency and equity; prepare budgets; and/or to calculate provider payment rates.
2. The activity will estimate the actual and normative costs of the public sector package of PHC services as defined by the government, which is likely be the HWC package provided across formal service networks comprising PHC, APHCs, and SHC levels.
3. Data on actual PHC services and costs will be collected from routinely collected facility-leveldataonfinancialflows,expenditures,resourceutilization,andhealthservicedelivery,
4. This includes HMIS, expenditure reports, Programme Implementation Plans(PIP), among others.
5. Geographic scope of this activity has yet to be confirmed, the preference would be to focus on a sample of (~50-75) total facilities in Tamil Nadu, Punjab, and Tamil Nadu states. IIT-M will lead the work for Tamil Nadu, while other partner institutions will take up responsibilities of other states.

Study to be conducted by IIT-M in Tamil Nadu during the period August 2021–December 2021.

1. The study will not involve patient interviews or the use of confidential or identifiable patient data.
2. IIT-M will ensure appropriate government approvals necessary to conduct this study in Tamil Nadu. Such approvals when applicable may include, but not limited to, an Institution Review Board(IRB)approval, exemption, or non-human research subject determination.

Objective of the Assignment

1. The objective of the assignment is to conduct PHC costing study aimed at producing ananalys is of PHC network costs, develop an actual and normative cost model using the tool, and facilitate the further use of tool and results–e.g.to assess financing needs and gaps, mobilize domestic and external resources, plan and allocate resources for greater effectiveness, efficiency and equity; prepare budgets; and/or to calculate provider payment rates.
2. The study will estimate the actual and normative costs of the public sector package of PHC services as defined by the government, which is likely be the HWC package provided across formal service networks comprising Community Health Centres CHC, PHC, and SHC levels.

Proposed Scope of work

1. Determine key stakeholders and participants of desired products from the work, including but not limited to key decision-makers in Tamil Nadu (at State, District and Block level); leading local experts such as those in academia; and any additional partner organizations needed for data collection;
2. Obtain the necessary buy-in, approvals, and supporting documentation required for data collection;
3. Develop State specific study design/methodology in collaboration with the ACCESS Health team;
4. Develop/customizeStatespecificdatacollectiontoolsincollaborationwiththeACCESSHealthteam;
5. Develop detailed work plan and standard operating procedures for data collection, validation, and reporting;
6. Constitute a technical advisory panel to provide guidance;
7. Identify general data sources – e.g., policies, plans, norms and standards, service packages, incidence and prevalence rates, health information system, financial records and reports, medicines and supply records, staffing records;
8. Select facilities to be included in the sample in consultation with the Health Department, Government of Tamil Nadu;
9. Collect sample actual data (e.g., disaggregated numbers of inpatient and outpatient services, facility equipment, labor costs, and above-service delivery costs, financing flows [budget and allocations], and costs of medicines, supplies and reagents); Populate sample models with actual data;
10. Collect normative data (e.g. population of tool with normative data (e.g., standard treatment protocols for each PHC service package, incidence/expected utilization of each service);
11. Populate the tool with normative data;
12. Produce aggregated network, sub-national results, and national results;
13. Review findings with stakeholders;
14. Produce and present final state report; and
15. Hand-over of report and models and training in use of tool and approach and in updating of models to the state Health Department.

Methodology (Sampling)

Indian Institute of Technology and The Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh had conducted a similar study in 6 Indian states, of which Tamil Nadu (TN) was also studied. In this study, a multistage stratified random sampling was followed for selection of health facilities and the cost data was collected for the reference period 2014-15. We believe this study could potentially be used as a baseline for the current work since the data collection dates back to the period before the implementation of HWCs.

In this context, we propose to select 2 districts of TN from the previous study. This will enable us to assess the upscaling progress from non-HWCs to HWCs and the associated incremental costs. Therefore, the sample will include 2 districts from the previous study and one district and one municipal corporation which were not part of the previous study. The new district and corporation will be selected randomly.

In each district one rural administrative block will be selected. Under each rural block, the following seven sample health facilities will be selected:

* 1Community Health Centre (block CHC, or equivalent)
* 2Primary Health Centres (PHCs)
* 4HealthSubCentres(2 SCs under each of the 2 selected PHCs)

UndertheMunicipalCorporationthefollowingsevensamplehealthfacilitieswillbeselected:

* 1Urban CHC (or equivalent)
* 2Urban Primary Health Centres
* 4Urban Health Sub Centres(2HSCs under each of the 2 selected UPHCs)

Stage1: Sample State

* Tamil Nadu

State 2: Sample District

* In the previous study, all the districts in each state were stratified into good, average and poor based on pre-decided parameters viz. health system performance, availability of health system infrastructure/ human resources and service utilization.
* Two Districts belonging to two strata from the old sample will be selected. The remaining 1 district will be selected from the 3rd stratum.
* However, the districts will be finally chosen in consultation and agreement with the respective State Health Departments.

Stage 3: Sample Rural Blocks and Municipal Corporation

* Similar to stage 2, the two blocks selected in the previous study will be selected.
* The third block (in the third sample district) and the Municipal Corporation will be selected randomly.

Stage 4: Sample Health Facilities

* Similar to stage 3, all the facilities in respective blocks that were selected in the previous study will be selected.
* Health facilities in the third block (in the third sample district) and the Municipal Corporation will be selected randomly from the list of functional HWCs in that block or municipal corporation.
* A corporation which has all the 7 facilities or their equivalent in its jurisdiction will be selected in consultation with the State Health Department. If one corporation does not have all the 7health facilities within its jurisdiction, remaining facilities will be selected from a different corporation.

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| **District/ Municipal Corporation (MC)** | **Block CHC (Equivalent)** | **PHC (1)** | **PHC (2)** | **HSC (1)** | **HSC (2)** | **HSC (3)** | **HSC (4)** |
| Puddukatai | Viralimalai | Kodumbalur | Rasanaicken Patti | Athipallam | Mathripatti | Viralur | Avoor |
| Perambalur | Labbaikudikadu | Maruvathur | Kunnam | Athiyur | Vayalur | Vayalapadi | Veppur |
| Krishnagiri | Shoolagiri | Uthanapalli | Kakkadasam | Bennangur | Keelkuppam | N Vellalapatti | PeriyathalaPadi |
| Kanjivaram (MC) |  |  |  |  |  |  |  |

This is tentative and will be finalised in consultation with the Health Department.

Selection process will be purposive in nature after due consultation with the state and district health authorities. Also, the proximity of study blocks from the State capital and District Hospitals will be considered during sample selection.



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| Level | Data Sources | Key Stakeholders |
| State | State Budget; State Program Implementation Plan; HMIS Reports; Annual Health Statistics; Drug Intent and Supply details for facilities from Medical Supplies Corporation; Fund Utilisation and Expenditure data under Plan, Non-Plan and NHM heads | Director of Health Services; Additional Director Planning; State Program Manager, NHM, State Finance/Accounts Manager, State Demographer/Statistician |
| District | District Health Allocation and Expenditure, HMIS reports; Facility wise HR details; Drug supply to facilities | District Medical Officer, District Program Manager, NHM, District Finance Manager/ Accounts Manager; District HMIS Manager; District Manager Medical Supplies  Corporation; Cold Chain Manager |
| Block Health Office(CHC/Block PHC) | Salary details of regular employees at CHC, Service Delivery details, Transport vehicle contract details, Drug supply -programme-wise, (Health Information Management System (HMIS) data for outcome indicators | Block Health Officer and Team: Administrative Officer/ Clerk; Block Program Manager, NHM |
| Facility(PHC) | List of staff (Regular/Contractual),Accredited Social Health Activist (ASHA)incentives, Financial Management Report(FMR), Statement of usage of untied funds/maintenance grant, Drugs and Consumable supply, Utilities expenses | Medical Officer; Staff Nurse, Pharmacist, Laboratory Technician, Facility Clerk |
| Facility HSC | Service Delivery details, Statement of usage of untied funds/maintenance grant, Drugs and Consumable supply, Utilities expenses | Mid-Level Health Provider), Auxiliary Nurse Midwife (ANM), ASHA, Multi-Purpose Health Worker(MPHW |

\*Though not specified in the scope of work, we believe that primary care is also provided at the District Hospital. Therefore, the district hospital of the district in which the study block is located will also be included

Table: Activity Plan, Timelines, Responsibility matrix for costing study

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|  | | Activities | | Time Frame | Key Stakeholders / Additional Points /  Remarks |
| A. Planning and Preparation Activities | | | | | |
| 1 | | Securing permissions from the State and District Health Authorities and selection of facilities for the study.  Coordination with districts and selected facilities for the study | | September 2021 | * Letter from CHP-ADRI to State and District Health Authorities * Follow up Calls * Finalization of selected facility list |
|  | |  | |  | Key Stakeholders / Additional Points /  Remarks |
|  | |  | |  | - Letters from Civil Surgeons to selected facilities |
| 2 | Selection of field investigators and field September 2021 supervisors | | | | - To be recruited as per sampling plan |
| 3 | Training and Planning Session for the field team | | September 2021 | | - will be done in coordination with partners and AHI |
| B. Data Collection Activities | | | | | |
| 4 | Collection of State Level Secondary Data | | September 2021 | | -Coordination with Directorate of Health Services, State Health Society of National Health Mission, State Medical Supplies Corporation and other stakeholders |
| 5 | Collection of District Level Secondary  Data September 2021 | | | | - Coordination with Civil Surgeons, District Health Society of National Health Mission, District Warehouses of Medical Supplies Corporation and other stakeholders |
| 6 | Data Collection from first block (4 HSC, 2 APHC, 1 PHC | | October 2021 | |  |
| 7 | Review and Analysis of Data from Block October 2021 I  Feedback to data collectors and customization of the tool if required | | | |  |
| 8 | Training session for the field investigators based on the review of  the data collected from first block | | November 2021 | | To be coordinated by AHI |
| 9 | Data Collection from the subsequent  four blocks in three states November 2021 | | | | - |

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| C. Analysis & Report Development | | | |
| 1 | Review of actual data collected from all blocks  Finalization of the costing data set from all three states |  | * Reviews of report section on Skype * Discussions on report section may be included with the meetings on Block I data * AHI, IHSC and Partner Institutions |
| 2 | Analysis of costing data from three states |  | * Populating Sample Models with Actual Data * Populate the tool with normative data. * Produce aggregated network, sun- national and national results * AHI, IHSC and Partner Institutions |
| 3 | Review findings with stakeholders |  | * Sharing & Discussions on Data Analysis Outputs – Tables, Graphs etc. and Report Structure * AHI, IHSC and Partner Institutions |

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| 4 | Development of the final report |  | -MSH AHI, IHSC and Partner Institutions |
| 5 | Submission of final report  Hand-over of report and models and training in use of tool and approach and in updating of models. |  | -Presentation off final report finding to all stakeholders   * Review comments from incorporation * MSH AHI, IHSC and Partner Institutions |

Gantt Chart:

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| **No.** | **Activities** | **Month1** | | | | **Month2** | | | | **Month3** | | | | **Month4** | | | |
|  |  | W1 | W2 | W3 | W4 | W1 | W2 | W3 | W4 | W1 | W2 | W3 | W4 | W1 | W2 | W3 | W4 |
| 1 | Permission from the DoH |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | Study tools\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | Recruitment of investigators |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | Training of investigators\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | Collection of state level secondary data |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | Collection of district level secondary data |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | Data collection from the first block |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | Review & analysis of data from the first block\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | Customization of tool, if required\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | Additional training of investigators, if required\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | Data collection in remaining blocks |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | Data analysis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | Report |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | Dissemination |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

*Effective date for calculation of timelines will be within one week of the award of the sub-grant*

*\* timeline dependent on AHI scheduling these activities and providing technical back-up support*

**Budget**

The total budget approved is USD 10,600 inclusive of taxes.

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| **No.** | **Budget heads** | **Budget(US$)** |
| **1** | **Fees** | **6600** |
| (i) | Principal Investigator-State Lead: Prof. Umakant Dash | 6600 |
| **2** | **Expenses** | **4000** |
| (i) | Travel and Transportation | 4000 |
|  | **Total** | **10600** |

Prof. V R Muraleedharan (IIT Madras) will oversee the data collection provide the necessary guidance in the overall process.

**Bank Account Details**

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| Name of the Beneficiary | The Registrar, IIT Madras |
| Bank Name | Canara Bank |
| Bank Address | IIT, Chennai, Chennai 600036 |
| Account Number | 2722101016162 |
| IFSC Code | CNRB0002722 |
| Swift Code | CNRBINBBIIT |

**Remuneration**

The entire fee/compensation, not exceeding USD 10,600 inclusive of taxes would be paid to the account mentioned above held by the Indian Institute of Technology Madras.

**Payment Terms**

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| **Instalment No** | **Deliverable** | **Percentage of grant amount disbursed** | **Payment Due** | **Amount in USD** |
| 1 | Inception Report Data from the first block | 25% | September 2021 | 2,650.00 |
| 2 | Data from 3 sample blocks and 1 Municipal Corporation from Tamil Nadu State | 25% | October 2021 | 2,650.00 |
| 3 | Draft report on the data analysis for Tamil Nadu State and final report | 50% | November 2021 | 5,300.00 |
| **Total** | | | | **10,600.00** |

**Term of Contract**

This contract period is from **September 15, 2021** to **November 30, 2021.** Indian Institute of Technology Madras will be engaged under the agreement from the date of signing the contract till the date of closure as mentioned above**. The contract will be considered closed when the deliverable is received, and final report is submitted.**