Costing for Provider-Payment

Conceptual Framework

(As of March 2, 2022)

Background 3

Methodology 3

Guiding Principles 4

Key Concepts and Definitions 4

- Cost Centers 4
- Direct and Indirect Costs 4

Costing Process 6

- Step 1: Identification of cost centers, outputs, and line items. 6
  - Cost Centers 6
  - Outputs 8
  - Line Items and Costs 9
- Costing Data Collection 9
- Step 2: Allocate and assign input line item costs to cost centers. 10
  - Allocation of staff time and personnel costs. 12
- Step 3: Allocate total cost of administrative to ancillary and medical cost centers. 12
- Step 4: Allocate total cost of ancillary cost centers to medical cost centers. 12
- Step 5: Compute unit costs. 14
- Intermediate Costs 14
- Final Unit Costs 15

Hospital Engagement 16

- Hospital Selection 16

Data Collection Process 17

Appendix **18**

Costing Formulas 18

Background

By the passage of or enactment of Universal Health Care Law (R.A. 11223), the Philippine Health Insurance Corporation, or PhilHealth, is being positioned as the country's national strategic purchaser of health services. One of the key reforms being implemented in line with this is the shift in the Corporation's provider-payment mechanism to case-based, prospective payments through diagnosis-related group-based global budget (DRG-GB). In order that providers are paid the appropriate amounts for treatments and to effectively decrease financial burden on patients, it is imperative that PhilHealth has a comprehensive understanding of the actual costs underlying the provision of health services.

The purpose of this Costing Manual is to support provider-payment reforms by providing a framework for the reliable and consistent estimation of true costs of inpatient hospital services. The steps contained in this document are aimed at producing:

- A more comprehensive, systematic approach to costing for payment rate-setting;
- Further information on treatment costs that can assist hospital managers in improving the efficiency and performance of their hospitals.
- Improved evidence for PhilHealth stakeholders, accredited facilities, and beneficiaries to compare the efficiency and quality of health services being provided across a range of facilities.

Methodology

The Top-Down Costing Framework outlined in this manual was closely based on a model by the Joint Learning Network for Universal Health Coverage (JLN), as detailed in *Costing of Health Services for Provider Payment: A Practical Manual Based on Country Costing Challenges, Trade-offs, and Solutions (2014).* This model was based on the shared experiences of a number of low- to middle-income countries who had already developed their own costing frameworks.

For several years now, top-down costing is among the most widely used frameworks among countries implementing case-based payment mechanisms, such as the USA, UK, Germany, and many other Southeast Asian countries like Thailand and Indonesia. It is far more accessible than bottom-up costing, which requires far more rigorous data collection while delivering quality data for only a handful of conditions, and so it was determined that top-down costing would be the best and most feasible model for PhilHealth to adopt.

The JLN model for top-down costing involves six (6) main steps for the computation of the intermediate and final costs of the units of output involved in delivering treatment:

1. The determination of cost items – such as personnel services, maintenance and operating expenses;
2. The definition of cost centers – the administrative, ancillary/support, and clinical departments within the hospital;
3. The determination of total costs – as constituted by direct and indirect costs;
4. The allocation of total costs to intermediate cost centers – based on predetermined allocation rules for each type of cost;
5. The allocation of all costs to clinical cost centers;
6. The computation of unit costs for each of the clinical cost centers – based on the number of inputs for each of the cost centers.

This general framework was adapted to the Philippine context by technical experts from the European Union Philippine Health Sector Reform Contract (EU-PHSRC) in 2018. Mainly, what the team did was to adjust the list

of cost centers and key outputs to those relevant among local hospitals and develop data collection forms to collect information across all the major cost items.

This adapted framework was then put to the test through a pilot data collection round with a sample of twenty-one (21) public and private hospitals across Region III, namely from the provinces of Pampanga and Bataan. The learnings from this pilot enabled PhilHealth to further refine the costing framework, make the data collection tools more accessible, and set validations to improve the accuracy and quality of the costing data being collected. The product of this is the Costing Process detailed later in this manual, as well as the Costing Data Collection Manual attached in the annex.

Guiding Principles

It was decided that costing exercises should conform to the following principles:

- The costing process should be transparent to health care institutions.
- The top-down costing methodology should be replicable at the level of the hospitals.
- To the greatest extent possible, the data to be collected from hospitals and used for rate-setting must be timely, valid, and accurate
- The full cost of services delivered should be accounted for in the estimation of actual costs.
- Costs should be allocated and apportioned using a consistent set of rules across all hospital levels.
- The methodology should be one that once institutionalized will permit hospitals to report unit costs on an annual basis.

Key Concepts and Definitions

In this section we define a set of key concepts and definitions that will form the basis of the costing process.

Cost Centers

Cost centers are centers of activity within the hospital to which the different costs will be allocated. These are defined in such a way that they correspond to the hospital's general organizational and accounting structure. At the same time, the definition of cost centers allows for the computation of the required unit costs. Cost centers are grouped into three categories:

A. **Administrative or Overhead** - These are the departments or units that assist both the latter two cost centers. Examples of these are the Billing and Claims and the Finance and Accounting units.
B. **Ancillary or Supporting** - These are the units that do not directly provide services, but rather, they support direct service centers through ancillary services. Examples of these are laboratory, diagnostic imaging, and pharmacy.
C. **Clinical or Medical** - These are the centers that provide direct patient care. Examples of these are inpatient wards and the emergency room.

Direct and Indirect Costs

Direct and indirect costs are items that are incurred during the delivery of treatments or health outputs of a health care institution.

Direct costs are those that can be attributed directly to a cost center without the use of allocation rules. For example: the annual salary of a doctor in an inpatient medical ward would be classified as a direct cost as it can be assigned directly to that inpatient medical ward.

Indirect costs are those that cannot be directly allocated to a single cost center as they are shared by a number of centers. An example of these are the cost of utilities including water and electricity.

As improvements are made to this costing framework and the cost data being collected from hospitals, one of the goals should be to increase the proportion of cost items that can be allocated directly without the use of allocation rules. This will depend heavily on the accuracy of data and reporting systems on the hospital level.

Costing Process

The following are the main steps of the overall costing process, explained in further detail below:

1. Identification of cost centers, outputs, and line items and costs.
2. Allocation of line item costs to cost centers.
3. Allocation of administrative costs to ancillary and clinical cost centers.
4. Allocation of ancillary costs to clinical cost centers.
5. Determination of unit costs.

Step 1: Identification of cost centers, outputs, and line items.

Cost Centers

A standardized data collection form includes cost centers that were identified based on the readily available data and on the scope of services and functional capacity based on the DOH licensing standards.

It was decided that the cost centers to be used for cost data collection are the following:

Classification of Hospital Departments	Department Name / Unit
Administrative/ Overhead Services	Billing and Claims
	Budget and Accounting
	Cash Operations
	Central Supply Office
	Engineering and Facilities Management
	Health Info Mgt (Admitting)
	Housekeeping
	Human Resource Management
	IT Department
	Materials Management
	Medical Social Work
	Office of the Administrative Officer
	Office of the Chief Nurse
	Office of the Chief of Medical Professional Staff / Chief of Clinics
	Office of the Medical Center Chief
	Others
	Procurement
	Security
Ancillary Support Services	Blood Bank
	Delivery Room
	Heart Station
	Laboratory
	Laundry

Classification of Hospital Departments	Department Name / Unit
	Medical ICU
	Morgue
	Neonatal ICU
	Nutrition and Dietetics
	Operating Room / Anaesthesiology / PACU / Recovery Room
	Others
	Pediatric ICU
	Pharmacy
	Physiotherapy / Rehabilitation
	Radiology / Diagnostic Imaging (CT Scan, MRI, ECG, Mammography, Endoscopy)
	Respiratory Unit
	Sterilization
	Surgical ICU
Clinical/Medical Services	Animal Bite Center
	Burn Unit
	Dental
	Diabetes MAP
	Dialysis Unit
	Emergency Medicine Department
	Endoscopy Unit
	ENT Ward*
	Family Planning Unit
	HIV Aids
	Hypertension MAP
	Internal Medicine Ward
	Malaria
	Neurosurgery Ward*
	Nuclear Medicine
	Ob/Gyne Ward
	Orthopedic Ward*
	Outpatient Department (General)
	Pediatric Ward
	Private Ward
	Psychiatric Ward*
	Radiation Oncology Unit*
	Smoking Cessation

Classification of Hospital Departments	Department Name / Unit
	Surgical Ward
	TB Dots

Table 1. List of cost centers by cost center type.

Outputs

Next, the services and departments for which unit costs are computed were defined based on the service units enumerated in the previous step.

An appropriate unit of output was identified for each department for which a unit cost is desired. The choice of output and their corresponding types of unit costs were based on which would be appropriate with respect to the equitable and efficient allocation of resources. It was decided that the following outputs would be sufficient to inform the provider-payment reforms:

Cost Centers	Unit Cost of Service/Output
Laundry	Bed Day
Nutrition and Dietetics	Bed Days
Sterilization	Bed Days
Pharmacy	Prescriptions
Blood Bank	Blood Units
Laboratory	Lab Test
Radiology / Diagnostic Imaging	Imaging Test
Physiotherapy / Rehabilitation	--
Delivery Room	Delivery
Operating Room / Anesthesiology	Surgery
Surgical ICU*	Surgery Bed Day
Outpatient Department (general)	Visit
Emergency Medicine Department	Visit
Dialysis Unit	Session
Dental	Visit
Internal Medicine Ward	Bed Day
Pediatric Ward	Bed Day
Surgical Ward	Bed Day
Ob/Gyne Ward	Bed Day
Private Ward	Bed Day

Table 2. Outputs for each cost center.

Line Items and Costs

Line items that reflected crucial aspects of hospital operations were enumerated. These are items for which expense data are required from hospitals during data collection.

To share some examples, brief definitions of the line items under Personnel services are provided below. The full descriptions of all line items in the forms are contained in Costing Manual Annex:Data Collection Guide.

Expenses	Brief Description
1.0 Personnel Services	
Salary and Wages	Salaries and wages paid to workers during the accounting period.
Fringe Benefits	The parts of salaries and wages that include: step increment, personal economic relief allowance (PERA), additional compensation allowance, clothing uniform allowance, subsistence laundry allowance, productivity incentive benefits, extra hazard premiums, cash gift, and year-end bonus.
Life and Retirement Insurance Contribution and Other Benefits	Contributions to be paid by employers according to rates stipulated in the laws, including: Pag-ibig contributions, PhilHealth contributions, ECC contributions, other contributions, and other personal benefits.

Table 3. Examples of line items for Personnel Costs.

Costing Data Collection

In line with the the identified cost centers, outputs, and line items, the following data collection forms were formulated:

1. Building: For estimating the cost of infrastructure and building depreciation and the determination of the floor area for each department.
2. Diagnostic Imaging: For estimating the costs of diagnostic imaging procedures performed by the diagnostic imaging departments (Radiology, Heart Station, Endoscopy, etc.) that service the clinical departments.
3. Finance and Accounting: For obtaining the total costs and revenues of the hospital.
4. Furniture, Fixtures, and Equipment: For estimating the cost of medical equipment, non-medical equipment, furnitures, fixtures, and vehicles etc. assigned to the various departments.
5. Human Resources: For estimating the cost of personnel services by department in the hospital, based on the allocation of their staff time across hospital units.
6. Laboratory: For estimating the costs of laboratory tests performed by the Laboratory department for the clinical departments.
7. Medical Records: For obtaining data on the hospital's medical and non-medical activities, operational statistics, and general information.
8. Operating Room and Delivery Room: For estimating the cost of each procedure performed in the Operating Room and the Delivery Room, accounting for the costs of equipment, instrument, medical supplies and consumables.
9. Oxygen: For estimating the cost of oxygen consumption by the different clinical departments.
10. Pharmacy and Medical Supplies: For estimating the costs of medicines, drugs, biologicals, and medical supplies dispensed by the pharmacy to the different wards and departments.

11. Specialty Care: For estimating the costs of services rendered by specialty units for clinical units, accounting for the cost of medical equipment depreciation and the volume of outputs or services of these units. Specialty care units include: dialysis, physiotherapy, burn unit, heart station, respiratory unit, morgue, nuclear medicine, radiation oncology unit, endoscopy unit, and dental care.

Hospitals participating in the costing process will be capacitated in filling up the forms and are entrusted with submitting only timely, accurate, and valid data through these, to serve as the basis for the costing analysis in the succeeding steps.

Step 2: Allocate and assign input line item costs to cost centers.

A set of allocation rules are used to obtain the total direct costs that can be allocated to each cost center, by line item. The table below provides the suggested rules for allocating line item costs to a given cost center.

In this step we will follow a set of allocation rules to obtain the total ”direct” cost of each administrative, ancillary and medical cost center, by line item. The tables below indicated the rules for allocating line item costs to a given cost center.

Direct Cost Item	Description	Allocation	Data Collection Forms
Drugs and Medicines	Total annual expenditure on drugs and medicines	Allocated to each hospital unit based on consumption	• Pharmacy Form (Drugs and Medicines) • Finance and Accounting Form (Revenues and Expenditures)
Furnitures and Fixtures Depreciation	Total annual cost of depreciation of furnitures and fixtures	Allocated to each hospital unit based on ownership of the relevant furnitures	• Furniture, Fixtures, and Equipment (Furnitures and Fixtures)
Laboratory Supplies	Total annual expenditure on laboratory supplies	Allocated to each hospital unit based on consumption	• Laboratory Form (Supplies) • Finance and Accounting Form (Revenues and Expenditures)
Medical Equipment Depreciation	Total annual cost of depreciation of medical equipment (sum of either annual depreciation value or procurement/donation value over useful life years)	Allocated to each hospital unit based on ownership of the relevant equipment	• Furniture, Fixtures, and Equipment (Medical Equipment)
Medical Supplies	Total annual expenditure on medical supplies	Allocated to each hospital unit based on consumption	• Pharmacy Form (Medical Supplies) • Finance and Accounting Form (Revenues and Expenditures)
Non-Medical Equipment Depreciation	Total annual cost of depreciation of non-medical equipment	Allocated to each hospital unit based on ownership of the relevant equipment	• Furniture, Fixtures, and Equipment (Non-Medical Equipment)
Oxygen	Total annual cost of oxygen supplies	Allocated to each hospital unit based on consumption	• Oxygen

Personnel Services	Total expenses for salary/wages/compensation by each hospital unit	Allocated to each hospital unit based on the personnel assigned to each hospital unit	• Human Resources (Staff Allocation)

Table 4. Allocation rules for direct cost items.

Indirect Cost Item	Description	Allocation	Data Collection Forms
Building Depreciation	Total annual cost of depreciation of buildings	Allocated to each hospital unit based on floor area	• Building Form (General Information
Food Supplies	Food Supplies Expenses; Cooking Gas Expenses	Allocated to each hospital unit based on total number of patient bed-days	• Finance and Accounting Form (Revenues and Expenditures)
Housekeeping	Cleaning/Housekeeping Supplies; Janitorial Services	Allocated to each hospital unit based on floor area	• Building Form (General Information) • Finance and Accounting Form (Revenues and Expenditures)
Office Supplies	Office Supplies Expenses	Allocated to each hospital unit based on full-time equivalent staff (FTE)	• Human Resources (Staff Time Allocation) • Finance and Accounting Form (Revenues and Expenditures)
Other Overhead Costs	Other Maintenance and Operating Expenses	Allocated to each hospital unit based on share of all other indirect costs	• Finance and Accounting Form (Revenues and Expenditures)
Repairs and Maintenance	Repairs and Maintenance for: Investment Property, Land Improvements, Infrastructure Assets, Buildings and Other Structures, Machinery and Equipment, Transportation Equipment, and Other Plant, Property, and Equipment	Allocated to each hospital unit based on floor area	• Building Form (General Information) • Finance and Accounting Form (Revenues and Expenditures)
Telecommunications	Telephone Expenses; Internet Subscription Expenses; Cable, Satellite, Telegraph, and Radio Expenses	Allocated to each hospital unit based on full-time equivalent staff (FTE)	
Travel and Training	Travel Expenses; Training Expenses	Allocated to each hospital unit based on full-time equivalent staff (FTE)	
Utilities	Water Expenses; Electricity Expenses	Allocated to each hospital unit based on floor area	

Table 5. Allocation rules for indirect cost items.

The sum of all direct and indirect costs that are allocated to each cost center is referred to as the Total Pre Step Down Cost.

Allocation of staff time and personnel costs.

With regard to the allocation of costs for personnel services in particular, there is the concept of Full Time Equivalent Staff, or FTE. It is possible that a particular staff member might divide his/her time across different cost centers. Hence, the allocation by FTE for each cost center is determined by the total amount of time rendered by staff, whether these are staff who dedicate their entire time to that cost center alone or those who spend only part of their time there. It is the sum of all these hours across the staff that is used for allocation of costs by FTE.

Step 3: Allocate total cost of administrative to ancillary and medical cost centers.

In this step, the total direct and indirect costs of administrative cost centers are allocated first to ancillary and support cost centers, then to clinical and medical cost centers.

All direct and indirect costs across all administrative cost centers are summed up to come up with a single number to be allocated downward to ancillary and clinical cost centers based on each cost center's percentage share of the total FTEs. These allocated amounts are referred to as the *Total First Step Down Costs*.

Step 4: Allocate total cost of ancillary cost centers to medical cost centers.

In this step, the costs of ancillary cost centers - now including their shares of the costs of the administrative cost centers - are allocated to the clinical and medical cost centers.

The following are the list of the relevant cost items, the hospital units to which their costs will be allocated to, and the corresponding allocation statistic:

Ancillary Unit	Allocate to:	Allocation Statistic	Data Source
Blood Bank	All units	Blood units consumption	Laboratory (Outputs: blood banking tests)
Delivery Room	Ob/Gyne Ward	--	--
Diagnostic and Imaging	All units	No. of diagnostic imaging tests	Diagnostic Imaging (Outputs)
Laboratory	All units	No. of laboratory tests	Laboratory (Outputs)
Laundry	All units	Patient bed-days	Medical Records (Summary Statistics)
Medical ICU	All units	Patient bed-days	Medical Records (Summary Statistics)
Morgue	All units	Deaths	Medical Records (Summary Statistics)
Neonatal ICU	Pediatric Ward	--	--
Nutrition and Dietetics	All units	Patient bed-days	Medical Records (Summary Statistics)
Operating Room / Anesthesiology	Surgical Ward	--	--
Pharmacy	All units	Pharmacy consumption	Pharmacy (Drugs and Medicines)
Physiotherapy / Rehabilitation	All units	No. of specialty care outputs	Specialty Care (Outputs)

Respiratory Unit	All units	Patient bed-days	Medical Records (Summary Statistics)
Specialty Care	All units	No. of specialty care outputs	Specialty Care (Outputs)
Sterilization	All units	Patient bed-days	Medical Records (Summary Statistics)
Surgical ICU	Surgical Ward	--	--

Table 6. Allocation rules for ancillary cost centers.

The resulting amounts for each clinical cost center will be referred to as the Total Second Step Down Cost.

Step 5: Compute unit costs.

Now that the total costs have been determined for each of the clinical and medical cost centers, it is now possible to determine: (1) the intermediate costs, meaning the unit costs for ancillary and clinical cost centers before the final allocation from ancillary to clinical, and (2) the final unit costs, meaning the unit costs for each output produced by a clinical cost center after the allocation from ancillary to clinical.

Intermediate Costs

Intermediate cost can be taken through the following:

1. Obtain the total intermediate cost for each ancillary and clinical cost center.

   Total Intermediate Cost (ancillary, clinical c) = Total Pre Step Down Cost (ancillary, clinical c) + First Step Down Cost (ancillary, clinical c)

2. Divide the total intermediate cost by the total number of service units rendered.

   Intermediate Unit Cost (ancillary, clinical c) = Total Intermediate Cost (ancillary, clinical c) / Total Service Units (ancillary, clinical c)

Intermediate Costs will be computed for all of the following:

Classification	Hospital Units	Unit of Service/Output
Ancillary / Support	Blood Bank	Blood Units
Ancillary / Support	Delivery Room	Delivery
Ancillary / Support	Laboratory	Lab Test
Ancillary / Support	Laundry	Bed Day
Ancillary / Support	Nutrition and Dietetics	Bed Days
Ancillary / Support	Operating Room / Anesthesiology	Surgery
Ancillary / Support	Pharmacy	Prescriptions
Ancillary / Support	Physiotherapy / Rehabilitation	Physiotherapy Sessions
Ancillary / Support	Radiology / Diagnostic Imaging	Imaging Test
Ancillary / Support	Sterilization	Bed Days
Ancillary / Support	Surgical ICU*	Surgery Bed Day
Clinical / Medical	Dental	Visit
Clinical / Medical	Dialysis Unit	Session
Clinical / Medical	Emergency Medicine Department	Visit
Clinical / Medical	Internal Medicine Ward	Bed Day
Clinical / Medical	Ob/Gyne Ward	Bed Day
Clinical / Medical	Outpatient Department (general)	Visit
Clinical / Medical	Pediatric Ward	Bed Day
Clinical / Medical	Private Ward	Bed Day

Clinical / Medical	Surgical Ward	Bed Day

Table 7. Ancillary and Clinical Hospital Units and their Outputs for Intermediate Costs.

Final Unit Costs

After the allocation from ancillary to clinical, it becomes possible to compute the final unit cost for each of the outpatient and inpatient clinical and medical cost centers, as follows:

Final Unit Cost (clinical c) = Total Allocated Cost (clinical c) / Total Service Unit (clinical c)

FInal Unit Costs will be computed for all of the following:

Type of Unit	Clinical and Medical Cost Centers	Unit Cost of Service/Output
Outpatient	Dental	Visit
Outpatient	Dialysis Unit	Session
Inpatient	Emergency Medicine Department	Visit
Inpatient	Internal Medicine Ward	Bed Day
Inpatient	Ob/Gyne Ward	Bed Day
Outpatient	Outpatient Department (general)	Outpatient Visit
Inpatient	Pediatric Ward	Bed Day
Inpatient	Private Ward	Bed Day
Inpatient	Surgical Ward	Bed Day
Outpatient	Animal Bite Center	Outpatient Visit
Outpatient	TB Dots	Outpatient Visit
Outpatient	HIV Aids	Outpatient Visit
Outpatient	Family Planning Unit	Outpatient Visit
Outpatient	Smoking Cessation	Outpatient Visit
Outpatient	Malaria	Outpatient Visit
Outpatient	Diabetes MAP	Outpatient Visit
Outpatient	Hypertension MAP	Outpatient Visit

Table 8. Final Unit Costs for Clinical and Medical Centers.

The unit costs for inpatient units in particular will be used for rate-setting. The unit costs obtained for outpatient departments will also be useful for formulating outpatient benefit packages and comparing costs across hospitals.

Hospital Engagement

Hospital Selection

This section presents the concepts and methods for sampling hospitals for costing data collection.

Scope and Coverage

The unit of enumeration for each round of data collection is the hospital. Hospitals are defined as any health care establishment offering inpatient services that are promotive, preventive, curative, or rehabilitative.

The following types of hospitals are considered for the sampling:

a. General hospitals: These are hospitals that provide services of all kinds of illnesses, injuries, or infirmities. It is composed primarily of outpatient departments, emergency, family and community medicine, pediatrics, internal medicine, obstetrics-gynecology, surgery, diagnostics, laboratory services, imaging facilities, and a pharmacy. These can be further subdivided into:
    - Level 1 - These are general hospitals that, at most, have isolation facilities, maternity services, and dental clinics, 1st level x-rays, a secondary clinical laboratory with a clinical pathologist, a blood station, and a pharmacy.
    - Level 2 - These can offer all the services a Level 1 hospital can but also departmentalized clinical services, respiratory units, an intensive care unit (ICU), a neonatal intensive care unit (NICU), a high risk pregnancy unit (HRPU) a clinical laboratory, and 2nd level x-rays.
    - Level 3 - These can offer all the services a Level 2 hospital can but also provides teaching/training/research, physical medicine and rehabilitation science, ambulatory surgery, dialysis, tertiary laboratories, a blood bank, and 3rd level x-rays.
b. Specialty hospitals - These are tertiary hospitals that fall under the following:
    - Hospitals that specialize in the treatment of either patients suffering from particular conditions requiring a range of specialized treatment (e.g. the Philippine Orthopedic Center, National Center of Mental Health)
    - Hospitals specializing in the treatment of patients belonging to a particular population like children, women, or elderly (ex: the National Children's Hospital, Philippine Heart Center). These include all tertiary
    - Hospitals located all over the country serving as referral hospitals in the different regions of the country and providing a range of tertiary services.

The hospital to be selected for the study is ideally representative of the different hospital service capabilities (Levels 1-3) and ownership (public or private).

The participating hospitals for this costing study will be selected from the list of accredited health facilities from the PhilHealth Central Office at the time that PhilHealth is preparing to conduct the costing data collection.

Sampling Methodology

First, the sample size for the costing survey shall be determined by PhilHealth through the following criteria:

- Budget availability for capacity-building of hospital staff on the costing survey

- Manageability of the data collection process with respect to the number of available PhilHealth staff to supervise and assist hospital teams (given the rigor required for the data collection process, it is unlikely that PhilHealth be able to manage more than 5 hospitals at a time for each staff)

Then, stratified random sampling will be used to determine the hospitals constituting the facility sample, accounting for the following classifications:

- Hospital service capability (Level 1, Level 2, or Level 3)
- Facility ownership (public or private)
- Major island region (Luzon, Visayas, and Mindanao)

Only hospitals that express willingness to participate in the costing exercise and have dedicated staff to allocate during the set data collection time period will be included in the final sample.

Data Collection Process

This section details how health care providers shall be engaged throughout the data collection process.

Orientation and Capacity-Building

Representatives from the hospitals participating in the data collection process will all be invited to a PhilHealth-hosted training on costing. These sessions will serve as:

- Orientation on:
    a. The overall goals and direction of provider-payment reforms
    b. The role of costing in successful rate-setting and provider engagement
    c. The importance of costing data for both rate-setting and measuring provider efficiency and performance
    d. The overall flow of the costing process
- Capacity-building on:
    a. Navigating the different costing data collection forms
    b. Identifying the appropriate hospital personnel for the accomplishment of each form
    c. Complying to the minimum requirements for data completion, accuracy, and validity
    d. Preventing and/or correcting errors and missing information throughout the data collection
    e. Communicating errors, clarifications, and other concerns with PhilHealth
    f. Preparing the data for submission and submitting it through the proper channels

Insight Sharing

After the costing data have been submitted and analyzed, operational insights on hospital operations and efficiency will be shared back to the participating hospitals. This sharing will be done to foster a continuing sense of partnership as well as to maximize the value of the costing data. The insights from this will also convey analyses on:

- The cost items that are the leading contributors to direct and indirect costs;
- The hospital units that account for the greatest shares of direct and indirect costs;
- Comparisons across hospitals on the composition of direct and indirect costs in terms of cost items;
- Comparisons of final unit costs across hospital units within the same hospitals, and against hospitals with the same service capability and ownership;

- Any other insights that the team may find useful for hospital management during the exploratory data analysis.

This will be provided in an engaging fashion through data visualizations and summaries that should be readily available and accessible to representatives of the participating hospitals.

Appendix

Costing Formulas

* Note that "(c)" in all the below formulas shall be shorthand for cost center.

Step 1: Allocate and assign input line item costs to cost centers.

The Total Pre Step Down Cost for each hospital unit is computed as follows:

- Total Direct Cost = Total Drugs and Medicines Cost + Total Medical Supplies Cost + Total Medical Equipment Depreciation + Total Non-Medical Equipment Depreciation + Total Furnitures and Fixtures Depreciation + Total Office Supplies Cost + Total Housekeeping Cost + Total Oxygen Cost + Total Personnel Cost
- Total Indirect Cost = Total Food Supply Cost + Total Traveling and Training Cost + Total Utilities Cost + Total Telephone and Communications Cost + Total Building Depreciation Cost + Total Repairs and Maintenance Cost + Other Overhead Costs
- Total Pre Step Down Cost = Total Direct Cost + Total Indirect Cost

Step 2: Allocate total cost of administrative to ancillary and medical cost centers.

The Total First Step Down Cost for each of the ancillary and medical cost centers is computed as follows:

- Total Administrative Cost = $\sum$ Total Pre Step Down Cost (c)
- Total First Step Down Cost (ancillary, clinical) = Total Administrative Cost * % of Total FTE (ancillary, clinical), where % Total FTE (ancillary, clinical) = $\sum$ FTE (ancillary, clinical $_c$) / Total FTE (ancillary, clinical)

Step 3: Allocate total cost of ancillary cost centers to medical cost centers.

In line with the allocation statistics determined in Table 9, ancillary and support services costs are allocated downward to clinical and medical cost centers as follows:

Ancillary Unit	Allocation Formula
Blood Bank	All units
Delivery Room	Second Step Down (Ob/Gyne Ward) = Total First Step Down (Delivery Room)

Ancillary Unit	Allocation Formula
Diagnostic Imaging	Second Step Down (clinical c) = Total First Step Down (Diagnostic Imaging) * % Diagnostic Imaging (clinical c) where % Diagnostic Imaging (clinical c) = Diagnostic Imaging (clinical c) / (Total no. of radiology tests as reported in the Diagnostic Imaging Form - Outputs)
Laboratory	Second Step Down (clinical c) = Total First Step Down (Laboratory) * % Lab Tests (clinical c) where % Lab Tests (clinical c) = Lab Tests (clinical c) / (Total no. of lab tests as reported in the Laboratory Form - Outputs)
Laundry	Second Step Down (clinical c) = Total First Step Down (Laundry) * % Bed Days (clinical c) where % Bed Days (clinical c) = Bed Days (clinical c) / Total Bed Days, as reported in the Medical Records Form - Summary Statistics
Medical ICU	Second Step Down (clinical c) = Total First Step Down (Medical ICU) * % Bed Days (clinical c) where % Bed Days (clinical c) = Bed Days (clinical c) / Total Bed Days, as reported in the Medical Records Form - Summary Statistics
Morgue	Second Step Down (clinical c) = Total First Step Down (Morgue) * % Deaths (clinical c) where % Deaths (clinical c) = Deaths (clinical c) / Total Deaths, as reported in the Medical Records Form - Summary Statistics
Neonatal ICU	Second Step Down (Pediatric Ward) = Total First Step Down (Neonatal ICU)
Nutrition and Dietetics	Second Step Down (clinical c) = Total First Step Down
Operating Room	Second Step Down (Surgical Ward) = Total First Step Down (Operating Room)
Pharmacy	Second Step Down (clinical c) = Total First Step Down (Pharmacy) * % Pharmacy (clinical c) where % Pharmacy (clinical c) = Total Drugs and Medicines Cost (clinical c) / Total Drugs and Medicines Cost, as reported in the Pharmacy and Medical Supplies Form - Drugs and Medicines Consumption
Physiotherapy / Rehabilitation	Second Step Down (clinical c) = Total First Step Down (Physiotherapy) * % Physiotherapy (clinical c) where % Physiotherapy (clinical c) = Physio Sessions (clinical c) / Total Physio Sessions, as reported in the Specialty Care Form - Outputs
Respiratory Unit	Second Step Down (clinical c) = Total First Step Down (Respiratory) * % Bed Days (clinical c) where % Bed Days (clinical c) = Bed Days (clinical c) / Total Bed Days, as reported in the Medical Records Form - Summary Statistics
Specialty Care	Second Step Down (clinical c) = Total First Step Down (Specialty Care) * % Service Units (clinical c), where % Service Units (clinical c) = Service Units (clinical c) / Total Service Units, as reported in the Specialty Care Form - Outputs
Sterilization	Second Step Down (clinical c) = Total First Step Down (Sterilization) * % Bed Days (clinical c) where % Bed Days (clinical c) = Bed Days (clinical c) / Total Bed Days, as reported in the Medical Records Form - Summary Statistics
Surgical ICU	Second Step Down (Pediatric Ward) = Total First Step Down (Surgical ICU)

Table 9. Allocation formulas for second step down allocation from ancillary/support to clinical/medical.

The total allocated cost for each clinical or medical cost center would thus be derived by:

Total Allocated Cost (clinical c) = Total Pre Step Down Cost (clinical c) + Total First Step Down (clinical c) + Total Second Step Down (clinical c)

Step 4: Compute unit cost for each final cost center.

The formula for determining the Final Unit Cost for each clinical cost center and their respective outputs is as follows:

Final Unit Cost (clinical c) = Total Allocated Cost (clinical c) / Total Units of Output Rendered (clinical c)