

Cost data collection

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Outline

Purpose

Perspective

Health Care Costs:

- Health system cost
- Patient costs

Purpose

Budget Estimation

Scale up of services

Insurance (Reimbursement rates)

Inform Health Technology Assessment

Perspective of Costing

From whose point of view is the costing being undertaken?

Patient Perspective

Health-system Perspective

Societal Perspective

The perspective will determine which costs are to be included and will affect the methodology



Cost assessment methods

TOP DOWN

BOTTOM UP

*TIME FRAME: A
FINANCIAL YEAR*

Top Down vs Bottom Up

Top Down (or Gross Costing)

Accounting exercise using retrospective data on healthcare expenditures.

Dividing expenditures by the services provided in the period expenditure was done.

Is useful in case majority resource use is in form of health technologies (pharmaceuticals, medical devices etc.)

Less time consuming with low precision

Bottom Up (or Micro Costing)

Defines the type and quantity of input or ingredients used to produce the service output

Inputs include physical goods or services, human resource time, medicines, consumables, equipments etc.

Using price data and units of input resources, cost of service provisioning is computed

More time consuming with high precision



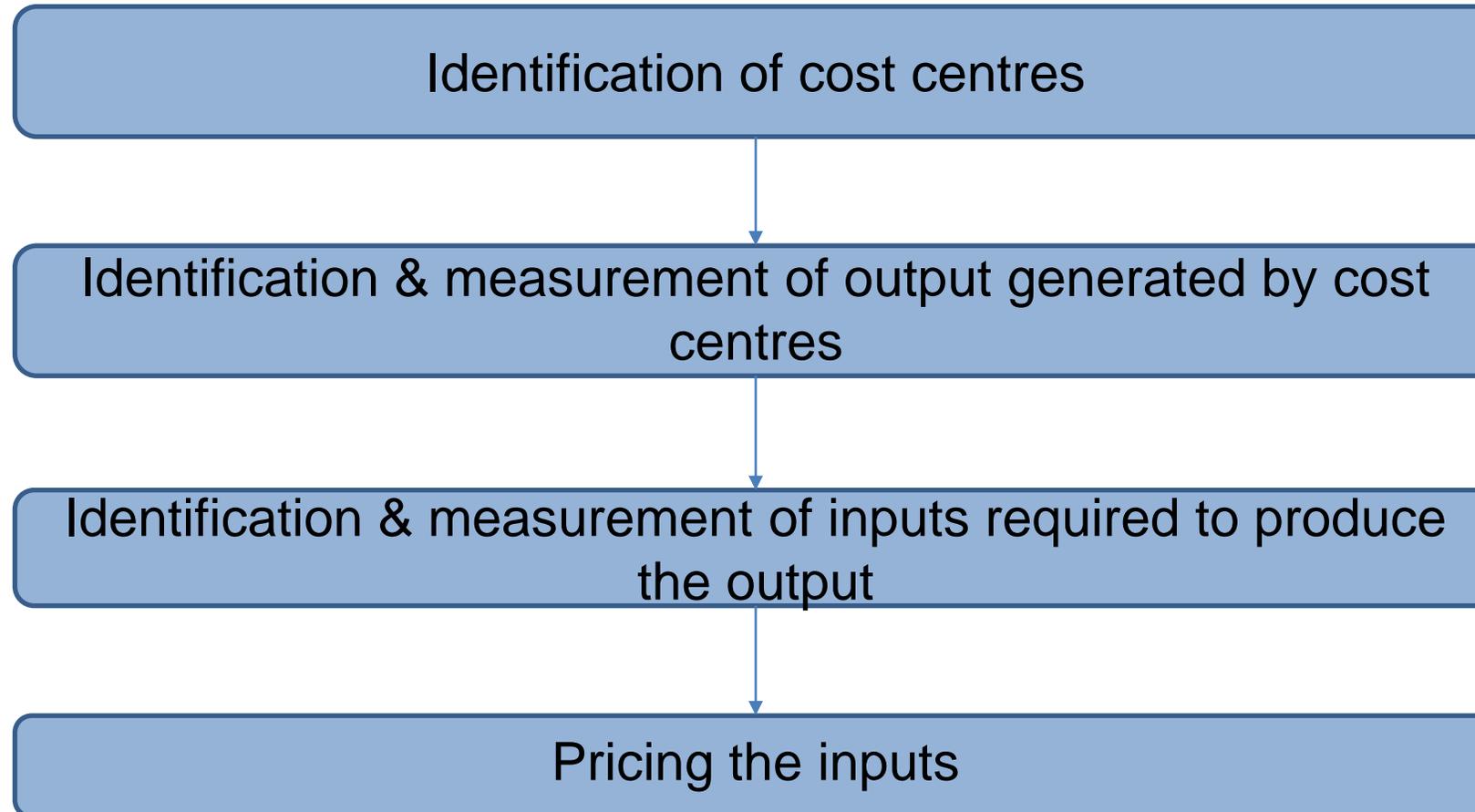
Steps of Health system costing (Bottom-up approach)

- Establish objectives
- Describe service(s) to be measured
- Identify and classify resource items and units of resources utilized
- Measure resource consumption
- Place monetary value on these resource items
- Calculate the unit costs of a particular service

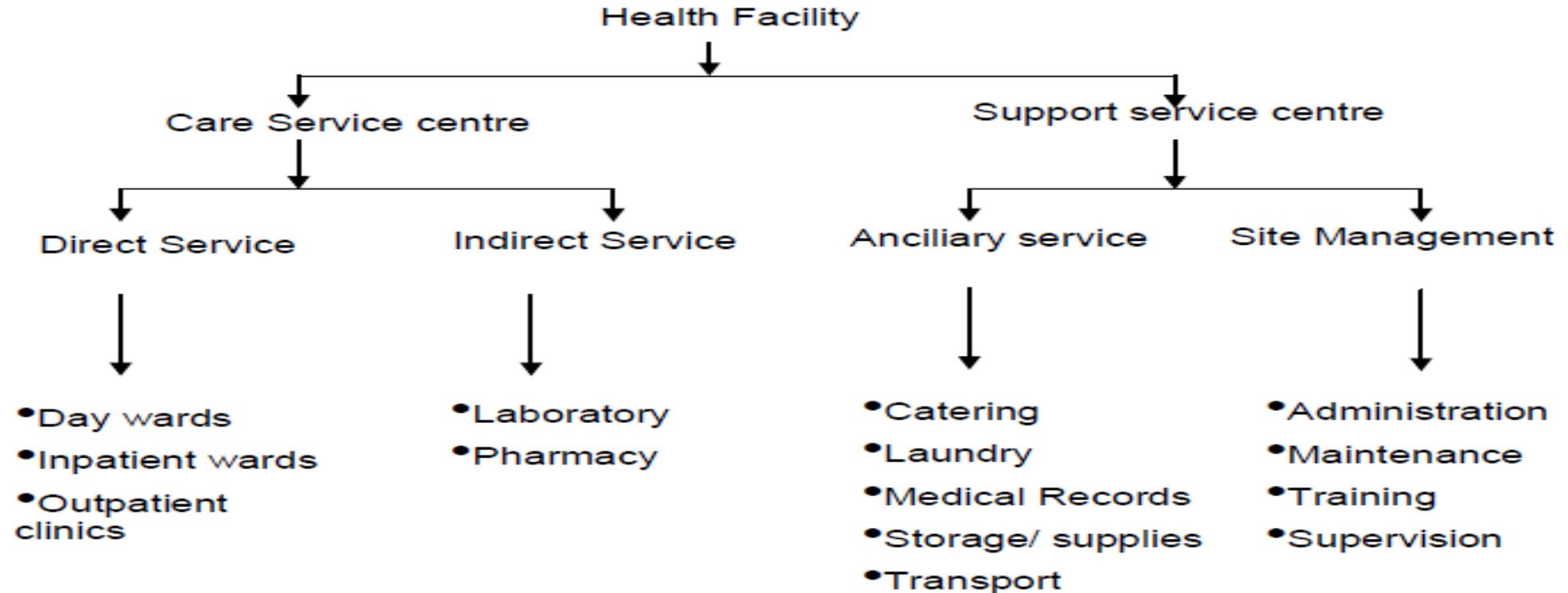
Cost centres

- A responsibility center of the organization that is held responsible for the costs that it incurs, but not for revenues or capital investments.
- Usually refers to institutional departments or services.

Data collection methodology: Health System Costs



Identification of cost centres



**Human
Resources**

Capital

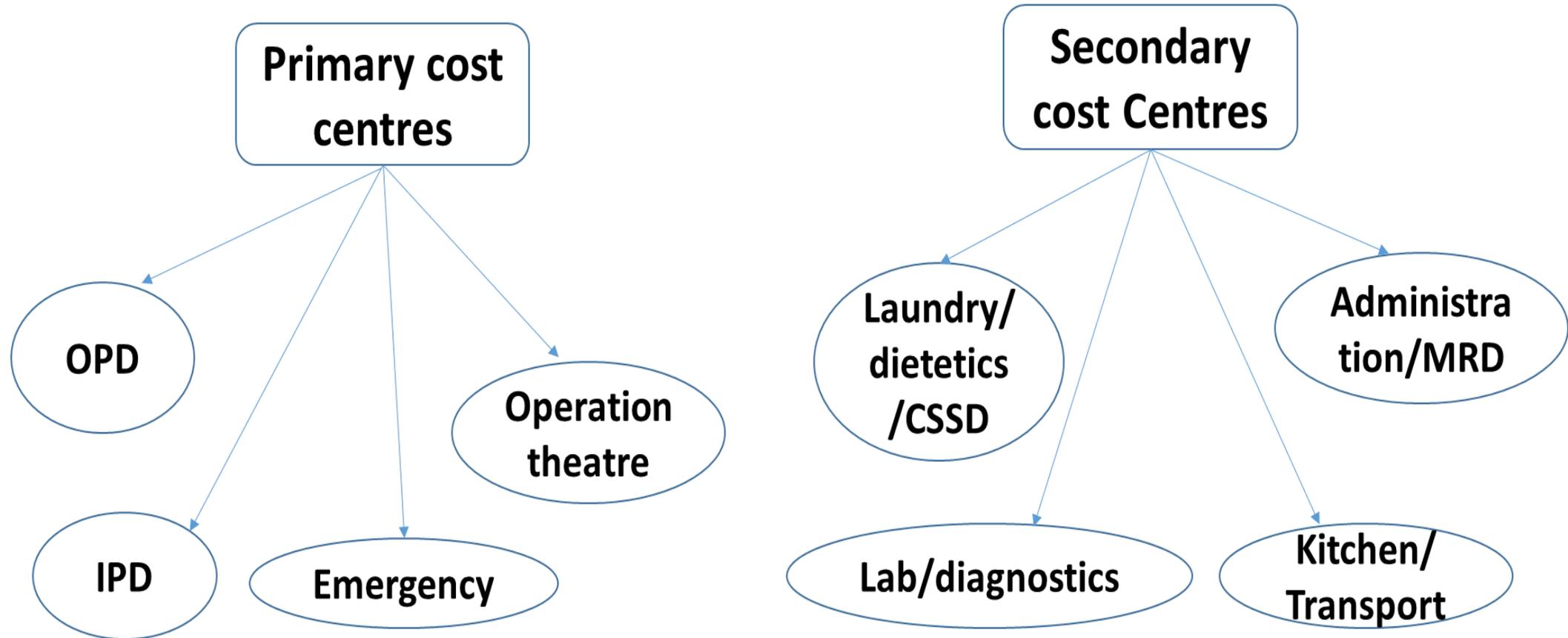
Equipments

Consumables

**Non-
consumables**

Overhead

Identification of cost centres



Identification of outputs

- Number of outpatient consultations
- Number of patients admitted for inpatient care (& bed-days stay)
- Number of surgeries/operations
 - Number of PTCA operations
 - Number of laparoscopic hysterectomies
- Number of diagnostic tests

Units of outputs

| Services | Unit |
|--------------------------|---|
| Routine OPD | Number of patients |
| Inpatient Department | Number of patients & Average length of stay |
| Institutional deliveries | Number of deliveries |
| CATH Lab | Number of surgeries |
| Operation theatre | Number of surgeries |
| Immunisation | Number of doses |
| Special care services | Number of patients |
| DOTS provision | Number of patients |
| Meetings | Number of meetings |

Identification of inputs

Capital

- Space/building
- Equipment
(medical and non-medical)
- Furniture
- Vehicles

Recurrent

- Salaries of human resource
- Drugs
- Consumables (Sanitary, Surgical, Stationary)
- Overheads (water, electricity, telephone, diesel, etc.)

Others

- Funds and grants
- Cash benefits
- Revenue generated
- IEC materials

Capital Resources

| Inputs | Source of Information on quantity | Units |
|--|--|---|
| Space/building | Facility survey/Availability of facility maps | Square feet or metre |
| Equipment (Medical and non-medical) | Physical observation/Non-consumables stock registers | Number of each equipment in working condition |

Recurrent Resources

| Inputs | Details | Source of Information on quantity | Units |
|---|---|--|--------------------------|
| Wages <ul style="list-style-type: none"> • Medical or non medical • Regular or part time • Partly or completely involved | <ul style="list-style-type: none"> • Monthly gross salary • Annual incentives (TA/DA) • Housing allowance • Facility of transport • Other special allowances | Salary slips of each staff member from the accounts department | INR |
| Drugs and consumables | <ul style="list-style-type: none"> • Drugs • Injections • Surgical | Consumables stock registers/Indent books/vouchers/pharmacy and store records | Number of items consumed |

Recurrent Resources

| Inputs | Source of Information on quantity | Units |
|--------------------|--|---|
| Electricity | Electricity bill | Annual expenditure in INR |
| Water | Water bill | Annual expenditure in INR |
| Internet | Bill | Annual expenditure in INR |
| Laundry | Respective records/Account records | Number of different items/Annual expenditure in INR |
| Dietetics | Respective records/Account records | Number of diets served/Annual expenditure in INR |

Recurrent Resources

| Inputs | Source of Information on quantity | Units |
|---|---|--|
| Stationary | Quantity of stationary items consumed/Account records | Number of items consumed/ Annual expenditure in INR |
| IEC material | Account records | Annual expenditure in INR |
| Maintenance of equipment | Account records | Annual expenditure in INR |
| Maintenance of equipment | Account records | Annual expenditure in INR |
| Transport (Maintenance, insurance, fuel) | Account records | Annual expenditure in INR |

Pricing of inputs

| Inputs | Price | Source |
|-------------|---------------------|--|
| Space | Market rental price | Key informant interviews (KIIs) Rental land price from government to private sector |
| Equipment | Procurement price | Rate contract list of the respective states/ providers |
| Drugs | Procurement price | |
| Consumables | Procurement price | |
| Furniture | Procurement price | |

Key staff members

Head of the facility/MO/SMO

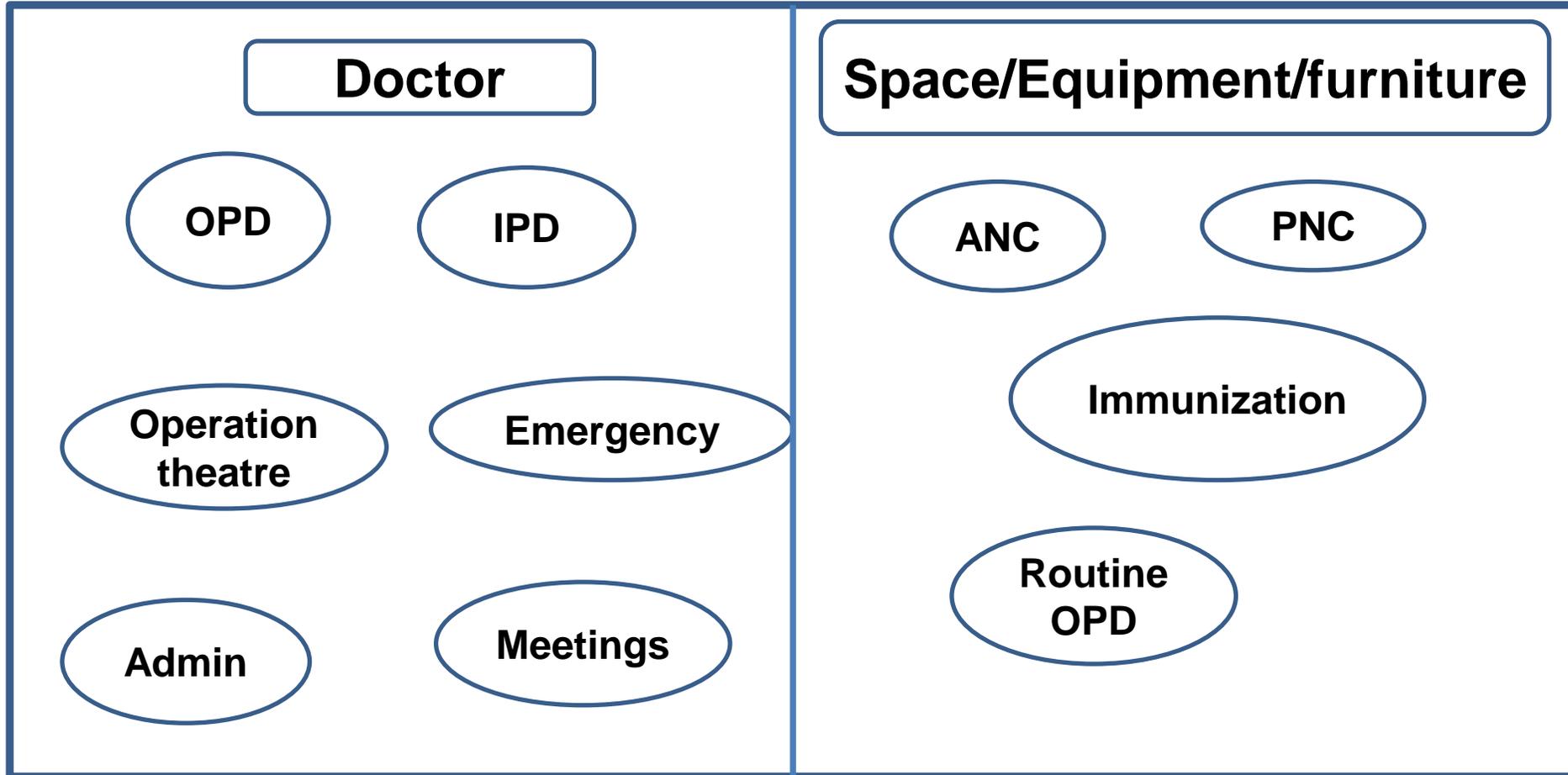
Head nurse/ward sister

Accountant/administrative assistant

Data entry operator/manager

Pharmacist

Joint/ Shared Resources



Time allocation methods

- Used for apportioning of joint costs
- Methods
 - Time and motion studies
 - Diary method
 - **Interview based**
 - Data based

Time allocation: Interviews & observation

| Activity name | Type of activity | | Fixed schedule activity | | | Routine activity | | |
|------------------------|------------------|---------|-------------------------|---------------------------|--|----------------------------------|--|--|
| | Fixed schedule | Routine | Frequency | Hours per day of activity | Days for which the activity was done during the reference year | Time per person (in minutes) (a) | Number of beneficiaries on a routine day (b) | If not (a) and (b) then how much time to do the activity |
| OPD | | | | | | | | |
| IPD | | | | | | | | |
| Operation Theatre | | | | | | | | |
| General Administration | | | | | | | | |
| Teaching/Training | | | | | | | | |
| Workshop/Conference | | | | | | | | |
| Outreach | | | | | | | | |
| Meetings | | | | | | | | |
| Research | | | | | | | | |
| Others (Specify) | | | | | | | | |

- Meetings with state level stakeholders
- Meetings with local authorities
- Meetings with institutional incharges for obtaining permissions

Engagement of stakeholders

- Development of data collection and entry tools
- Recruitment and training of staff
 - Pilot study
- Developing a data collection plan

Preparation of inputs

- 3 levels of checks: At the time of data collection, data entry and data sharing
- Ready communication with supervisory team to address discrepancies
- Recollection of missing data
- Sharing of corrected data with central team

Review & Quality Check

Data collection

- Identification of cost centres
- Identification of data sources and contact persons
- Undertaking collection as per norms and suggestions
- Focus on human resources, drugs & consumables and physical area data.

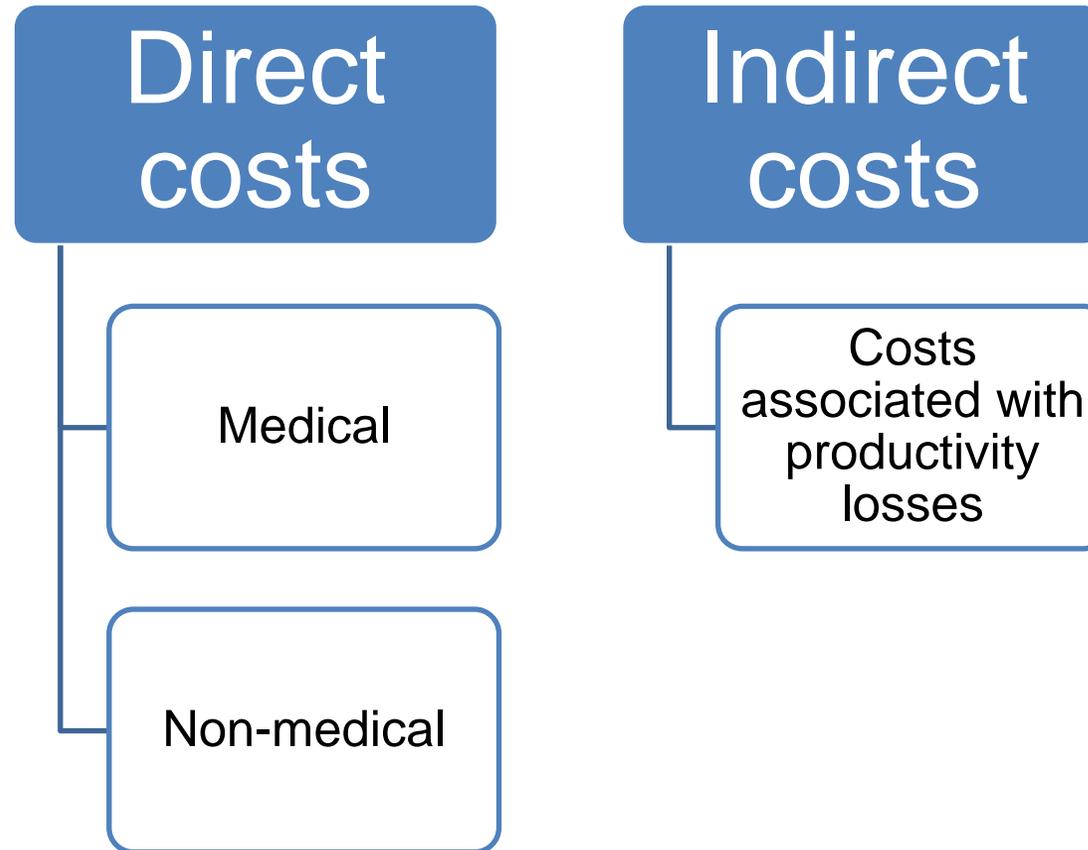
Patient Costs



What is Out-of-pocket expenditure (OOPE)

- **Out-of-pocket** payments (OOPs) are defined as direct payments made by individuals to **health** care providers at the time of service use.
- For example, when operating a vehicle, gasoline, parking fees and tolls are considered out-of-pocket expenses for a trip.
- Similarly, in case OOPE related to illness, all expenditures incurred for seeking care will be considered.

Types of Patient costs



Different components of OOPE

Components
of OOPE

Travelling cost

Medicines

Lab tests/Diagnostics

Procedure/surgery

User fees/Hospital charges (including bed charges, diagnostics etc.)

Informal payment

Boarding/lodging

Food

Other

Total



Components of OOPE

Direct Medical Costs: costs which are incurred for a defined intervention and all follow-up costs for a particular illness.

- Drugs: All the drugs that the patient paid for a particular procedure
- Diagnostics: All the tests and scans that the patient underwent and paid from his own pocket
- Procedure/User fees: The fees charged by the health facility either for a particular procedure or general user fee



Components of OOPE

Direct Non-medical cost: These are the additional costs incurred by the patient while seeking the medical care for a particular illness

- Travel: This includes expenses incurred by the patient and his caregiver while travelling to a health facility, be it in the public transport or the personal vehicle.
- The field investigator should also record the number of visits in case the patient visits the facility multiple times for a particular treatment.
- Boarding/Lodging: This involves the cost borne by the patient and his caregiver for the overnight stay in or near the health facility especially for patients who travel to different cities to seek treatment as well as for the caregivers of the admitted patients.
- Food: This involves the cost incurred by the patient and his caregiver on food etc. during his/her visit to the health facility.

Thank you

