

Integrated Health Tool for planning and costing (IHT)

Tuberculosis module

Costing overview

Department for HIV, Tuberculosis, Hepatitis and Sexually
Transmitted Infections

Last updated: March 2026



World Health
Organization



**Integrated
Health Tool**
for planning and costing



Outline

1. Costing methods and scope
2. Cost categories and how they are captured in IHT
3. Estimating number of people served
4. Estimating cost per person served
5. Programme-specific health system costs
6. Programme support costs
7. Costing sub-sections in IHT and their purpose
8. Where editors for quantities and prices can be found in IHT
9. Sources of defaults data

Note: See related presentation on “Budget and funder mapping” for an overview of how to use this functionality in IHT

Costing methods and scope

Purpose: Estimate total costs required to deliver TB interventions, programme-specific health system costs and programme support activities

Perspective: Provider perspective (assumes public but can be adapted for sector-wide)

Scope: TB-specific, multi-disease or comprehensive health system plan

Costing methods:

- **Ingredients approach** and **activity-based costing**
- Standard across diseases and components of IHT
- Considers cost sharing and tries to avoid double counting through centralization of data

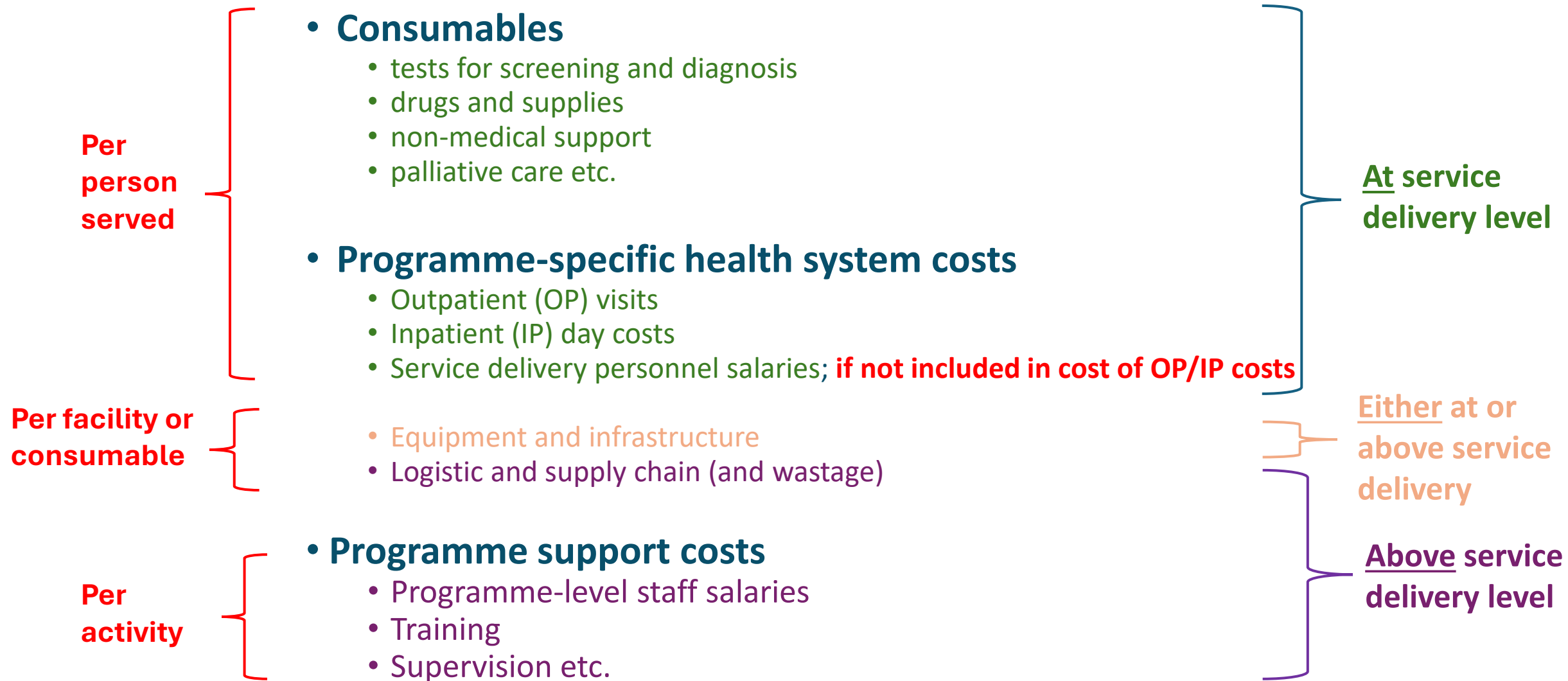
Type of costs:

- Financial costing, representing planned expenditures for a given year

How costs are categorized in IHT

- 1. Consumables**
- 2. Programme-specific health system costs**
- 3. Programme support costs**

How cost categories are captured



Costing method by cost category

$$\text{Total costs} = \text{Quantities} \times \text{Prices}$$

Two different methods required to calculate total costs

“Ingredients” approach

Consumables and programme-specific health system costs

Number of people served (Q) x
Cost per person served (P)

No. of facilities (Q) x Price of new
equipment or infrastructure (P)

“Activity-based” costing

Programme support costs

Number of programme activities* (Q) x
Cost of each activity (P)

*Units of Qs depend on activity, e.g., for training:
no. of people involved, duration, frequency of
activity, etc

Estimating number of people * (Q) by intervention and delivery channel

***Number of people served =**

Target population (number) X population in need (%) X coverage (%)

Target population, population in need and coverage

What are they?

- **Target populations (TP)** (or the universe of people that might need an intervention) is an editor that allows the user to identify the population served for each health intervention.
> the user will mostly use the TP generated by the “TB Target population estimation” and “Demographics & HIV” sections of IHT.
- **Population in need (PIN)** is an editor where user documents the percent of the target population who should get the service.
- **Coverage (Cov)** is an editor where user documents the percent of people who need a service who actually get it. It depends on data in past years and policy goals for targets.

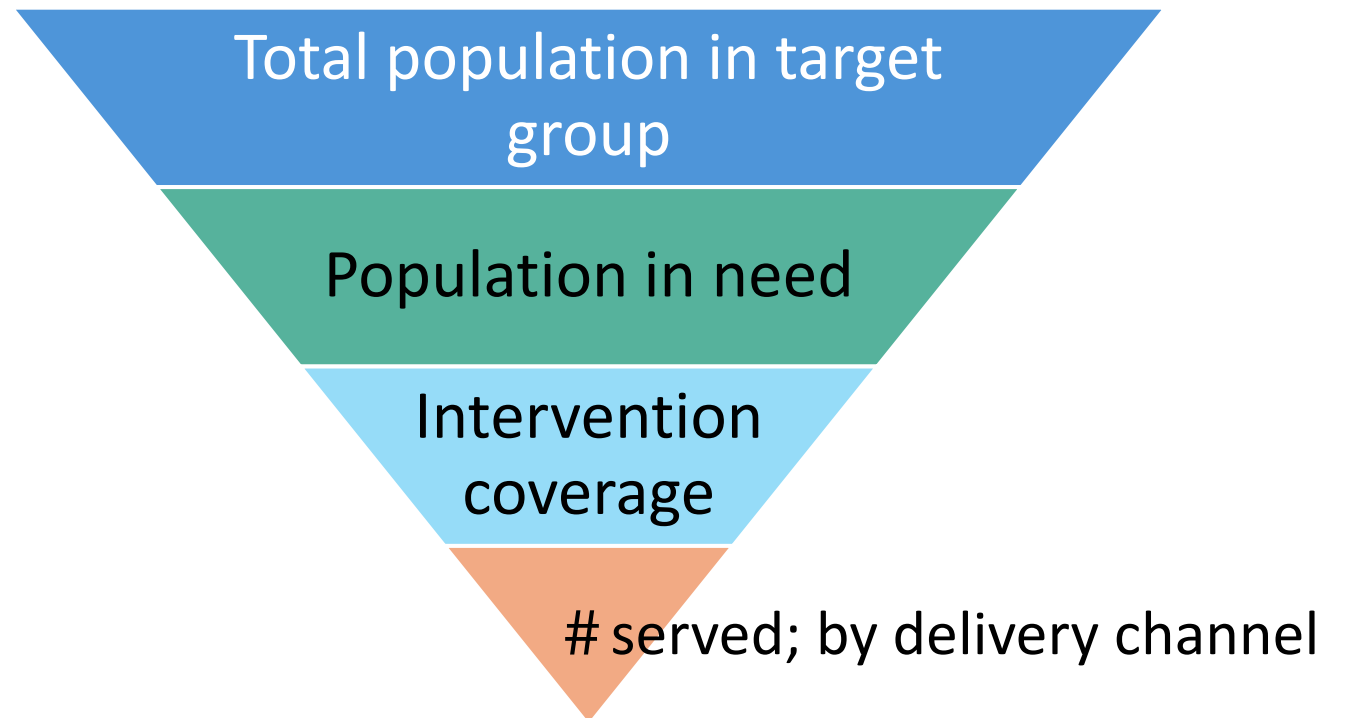
Example: Calculating number of people served by intervention and delivery channel

Question:

How many people will be treated at the general outpatient level?

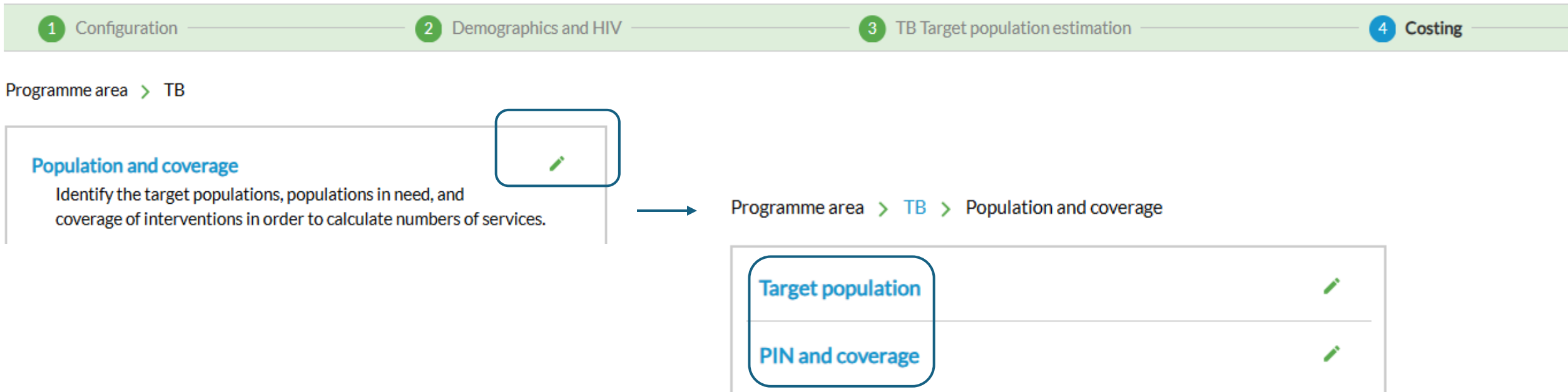
Steps:

- ☐ Target population
- ☐ Population in need
- ☐ Intervention coverage
- ☐ Number of people served
- ☐ Delivery channel



Editing target population, PIN, and coverage

- Go to **Costing** and select **Population and coverage** in vertical menu
- Steps involve review and complete **Target population** and **PIN and coverage**



Target population editor

For each intervention, the user confirms or changes population of interest by selecting from drop-down menu.

Choices in drop-down menu:

- Target population: **mapped by default** but can be replaced by another one from the list
- **Three other options** presented at the top of the list:
 - Custom target population
 - Direct entry
 - Total population

Integrated Health Tool: TB | Demonstration f...
Ethiopia 2021-2028

1 Configuration 2 Demograph

Programme area > TB > Population and coverage

Target population

PIN and coverage

Target population

Each intervention acts on a specific target population. Users should make changes with caution as adjustments to the target population may not be transferred to the impact models.

Intervention	Target Population
TB	
Screening (provider-initiated)	
PLHIV ≥ 10 years, enrolled on ART, without serious illness	PLHIV, pulmonary TB, enrolled on ART, with p...
PLHIV not on ART ≥ 10 years, without serious illness	Custom target population
PLHIV ≥ 10 years, inpatient	Total population
PLHIV, children 0-9, outpatient	Direct entry
Household contacts, children 0-14	Household contacts, pulmonary TB, children 0-14: Number eligible to be screened for TB disease
Household contacts, adults 15+	Household contacts, pulmonary TB, children 0-4: Number eligible to be screened for TB disease
Prisoners, adults 15+	Household contacts, pulmonary TB, children 5-14: Number eligible to be screened for TB disease
Miners exposed to silica, adults 15+	Household contacts, pulmonary TB, adults 15+: Number eligible to be screened for TB disease
People with untreated fibrotic lesions on chest x-ray	Prisoners, pulmonary TB, adults 15+: Number eligible to be screened for TB disease
People with risk factors for TB seeking health care	Miners exposed to silica, pulmonary TB, adults 15+: Number eligible to be screened for TB disease
Populations with structural risk factors for TB	Population with untreated fibrotic lesions on chest x-ray, pulmonary TB, adults 15+: Number eligible to be screened for TB disease
	Population with risk factors for TB seeking health care in settings with ≥ 0.1% TB prevalence, pulmonary TB, adults 15+: Number eligible to be screened for TB disease
	Populations with structural risk factors for TB and limited access to health care, pulmonary TB, adults 15+: Number eligible to be screened for TB disease
	General population in settings with ≥ 0.5% general prevalence, pulmonary TB, adults 15+: Number eligible to be screened for TB disease
	Household contacts, pulmonary TB, children 5-14: Number eligible for evaluation of TB infection
	Household contacts, pulmonary TB, adults 15+: Number eligible for evaluation of TB infection
	Household contacts, pulmonary TB, children aged 0-4: Number tested for TB infection

Target population editor: Using the “Custom target population” function

Choice in drop-down menu:

- Custom target population
- Direct entry
- Total population ✕

Target population

Each intervention acts on a specific target population. Users should make changes with caution as adjustments to the target population may not be transferred to the imp

		Custom population		
Intervention	Target Population	Sex	Starting age	Ending age
TB				
Screening (provider-initiated)				
PLHIV ≥ 10 years, enrolled on ART, without serious illness	PLHIV, pulmonary TB, enrolled on ART, witho...			
PLHIV not on ART ≥ 10 years, without serious illness	Pulmonary TB, HIV+, not on ART, population 1...			
PLHIV ≥ 10 years, inpatient	PLHIV, pulmonary TB, enrolled on ART, with s...			
PLHIV, children 0-9, outpatient	CLHIV, pulmonary TB, enrolled on ART, witho...			
Household contacts, children 0-14	Household contacts, pulmonary TB, children 0...			
Household contacts, adults 15+	Household contacts, pulmonary TB, adults 15...			
Prisoners, adults 15+	Prisoners, pulmonary TB, adults 15+: Number ...			
Miners exposed to silica, adults 15+	Miners exposed to silica, pulmonary TB, adults...			
People with untreated fibrotic lesions on chest x-ray	Population with untreated fibrotic lesions on c...			
People with risk factors for TB seeking health care	Population with risk factors for TB seeking he...			
Populations with structural risk factors for TB	Custom target population	Both sexes	0	80+
General population in settings with > 0.5% general prevalence	General population in settings with > 0.5% ge...			

Source: TB module of IHT- Costing> Population and coverage > Target Population

Target population editor: Using the “Direct entry” function

Choice in drop-down menu:

- Custom target population
- Direct entry
- Total population

×?□

Target population

Each intervention acts on a specific target population. Users should make changes with caution as adjustments to the target population may not be transferred to the impact models.

Intervention	Target Population	Direct entry								Custom pop	
		2021	2022	2023	2024	2025	2026	2027	2028	Sex	
TB											
Screening (provider-initiated)											
PLHIV ≥ 10 years, enrolled on ART, without serious illness	PLHIV, pulmonary TB, enrolled on ART, witho... ▼										
PLHIV not on ART ≥ 10 years, without serious illness	Pulmonary TB, HIV+, not on ART, population 1... ▼										
PLHIV ≥ 10 years, inpatient	PLHIV, pulmonary TB, enrolled on ART, with s... ▼										
PLHIV, children 0-9, outpatient	CLHIV, pulmonary TB, enrolled on ART, witho... ▼										
Household contacts, children 0-14	Household contacts, pulmonary TB, children 0... ▼										
Household contacts, adults 15+	Household contacts, pulmonary TB, adults 15... ▼										
Prisoners, adults 15+	Prisoners, pulmonary TB, adults 15+: Number ... ▼										
Miners exposed to silica, adults 15+	Direct entry ▼	0	0	0	0	0	0	0	0		
People with untreated fibrotic lesions on chest x-ray	Population with untreated fibrotic lesions on c... ▼										

Source: TB module of IHT- Costing> Population and coverage > Target population

Population in Need (PIN) editor

For each intervention the user completes % PIN for target populations selected in previous step


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MyF

1 Configuration
2 Demographic

Programme area > TB > Population and coverage

Target population

PIN and coverage

Show all years of scale-up:
☒ Population in need (PIN)
☐ Coverage

Enter population in need and coverage data into the table below.

Intervention	Target	PIN			
		2023	2024	2025	
TB					
Screening (provider-initiated)					
PLHIV ≥ 10 years, enrolled on ART, without serious illness	PLHIV, pulmonary TB, enrolled on ART, without serious illness, population 10+: Number eligible to be screened for TB disease	100	100	100	
PLHIV not on ART ≥ 10 years, without serious illness	Pulmonary TB, HIV+, not on ART, population 10+: Number eligible to be screened for TB disease	100	100	100	
PLHIV ≥ 10 years, inpatient	PLHIV, pulmonary TB, enrolled on ART, with serious illness, population 10+: Number eligible to be screened for TB disease	100	100	100	
PLHIV, children 0-9, outpatient	CLHIV, pulmonary TB, enrolled on ART, without serious illness, children 0-9: Number eligible to be screened for TB disease	100	100	100	
Household contacts, children 0-14	Household contacts, pulmonary TB, children 0-14: Number eligible to be screened for TB disease	100	100	100	
Household contacts, adults 15+	Household contacts, pulmonary TB, adults 15+: Number eligible to be screened for TB disease	100	100	100	
Prisoners, adults 15+	Prisoners, pulmonary TB, adults 15+: Number eligible to be screened for TB disease	100	100	100	
Miners exposed to silica, adults 15+	Miners exposed to silica, pulmonary TB, adults 15+: Number eligible to be screened for TB disease	100	100	100	
People with untreated fibrotic lesions on chest x-ray	Population with untreated fibrotic lesions on chest x-ray, pulmonary TB, adults 15+: Number eligible to be screened for TB disease	100	100	100	
People with risk factors for TB seeking health care	Population with risk factors for TB seeking health care in settings with ≥ 0.1% TB prevalence, pulmonary TB, adults 15+: Number	100	100	100	

Source: TB module of IHT: Costing > Population and coverage > PIN and coverage

Coverage editor

- For each intervention the user completes % Coverage out of PIN.
- Important! IHT operates **links between coverage** completed in **Costing** and coverage of screening, diagnosis, TPT and vaccination completed in **TB Target Population estimation** > changes in one will be reflected in the other.

Integrated Health Tool: TB | Demonstration f... | Evidash 2021-2023

1 Configuration 2 Demographic

Programme area > TB > Population and coverage

Target population

PIN and coverage

PIN and Coverage

Show all years of scale-up:

☐ Population in need (PIN)

☒ Coverage

Enter population in need and coverage data into the table below.

Intervention	Target	PIN		Coverage						
		Start 2021	End 2028	2021	2022	2023	2024	2025	2026	
TB										
Screening (provider-initiated)										
PLHIV ≥ 10 years, enrolled on ART, without serious illness	PLHIV, pulmonary TB, enrolled on ART, without serious illness, population 10+: Number eligible to be screened for TB disease	100	100	60	60	60	66	72		
PLHIV not on ART ≥ 10 years, without serious illness	Pulmonary TB, HIV+, not on ART, population 10+: Number eligible to be screened for TB disease	100	100	47	53	59	65	71		
PLHIV ≥ 10 years, inpatient	PLHIV, pulmonary TB, enrolled on ART, with serious illness, population 10+: Number eligible to be screened for TB disease	100	100	80	80	80	80	80		
PLHIV, children 0-9, outpatient	CLHIV, pulmonary TB, enrolled on ART, without serious illness, children 0-9: Number eligible to be screened for TB disease	100	100	60	60	60	66	72		
Household contacts, children 0-14	Household contacts, pulmonary TB, children 0-14: Number eligible to be screened for TB disease	100	100	17	17	24	37	50		
Household contacts, children 0-4	Household contacts, pulmonary TB, children 0-4: Number eligible to be screened for TB disease	100	100	24	24	25	37	50		
Household contacts, children 5-14	Household contacts, pulmonary TB, children 5-14: Number eligible to be screened for TB disease	100	100	13	14	24	37	50		
Household contacts, adults 15+	Household contacts, pulmonary TB, adults 15+: Number eligible to be screened for TB disease	100	100	47	47	47	55	64		
Prisoners, adults 15+	Prisoners, pulmonary TB, adults 15+: Number eligible to be screened for TB disease	100	100	50	50	55	62	69		
Miners exposed to silica, adults 15+	Miners exposed to silica, pulmonary TB, adults 15+: Number eligible to be screened for TB disease	100	100	60	60	64	69	74		
People with untreated fibrotic lesions on chest x-ray	Population with untreated fibrotic lesions on	100	100	0	0	0	0	0		

Source: TB module of IHT- Costing > Population and coverage > PIN and coverage

Example: customizing TP, PIN and coverage for screening interventions

PIN and Coverage

Show all years of scale-up:

- ☐ Population in need (PIN)
- ☐ Coverage

Enter population in need and coverage data into the table below.

		PIN		Coverage	
Intervention	Target	Start 2021	End 2028	Start 2021	End 2028
TB					
Screening (provider-initiated)					
PLHIV ≥ 10 years, enrolled on ART, without serious illness	PLHIV, pulmonary TB, enrolled on ART, without serious illness, population 10+: Number eligible to be screened for TB disease	100	100	60	90
PLHIV not on ART ≥ 10 years, without serious illness	Pulmonary TB, HIV+, not on ART, population 10+: Number eligible to be screened for TB disease	100	100	47	90
PLHIV ≥ 10 years, inpatient	PLHIV, pulmonary TB, enrolled on ART, with serious illness, population 10+: Number eligible to be screened for TB disease	100	100	80	80
PLHIV, children 0-9, outpatient	CLHIV, pulmonary TB, enrolled on ART, without serious illness, children 0-9: Number eligible to be screened for TB disease	100	100	60	90
Household contacts, children 0-14	Household contacts, pulmonary TB, children 0-14: Number eligible to be screened for TB disease	100	100	17	90
Household contacts, children 0-4	Household contacts, pulmonary TB, children 0-4: Number eligible to be screened for TB disease	100	100	24	90
Household contacts, children 5-14	Household contacts, pulmonary TB, children 5-14: Number eligible to be screened for TB disease	100	100	13	90
Household contacts, adults 15+	Household contacts, pulmonary TB, adults 15+: Number eligible to be screened for TB disease	100	100	47	90
Prisoners, adults 15+	Prisoners, pulmonary TB, adults 15+: Number eligible to be screened for TB disease	100	100	50	90
Miners exposed to silica, adults 15+	Miners exposed to silica, pulmonary TB, adults	100	100	60	90

Target Populations for screening are narrowly defined and automatically linked to “TB Target population estimation” generated outputs

PIN for screening can therefore be 100%

Coverage should reflect baseline and scale-up strategies for systematic screening

Source: TB module of IHT- Costing > PIN and coverage

Delivery channels editor

- Reminder: Delivery channels must sum to 100% for each intervention!

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RS Training fil...
Kenya 2023-2028

1 Configuration2 Demograph

Programme area > TB

Population and coverage
Identify the target populations, populations in need, and coverage of interventions in order to calculate numbers of services.

Delivery channels
Enter the percent of interventions delivered at different levels.

Intervention inputs
Define the resources required for each beneficiary receiving an intervention in order to estimate a price per person reached. Distribute the services across the different levels of care at which they can be delivered.

Health systems costs
Enter costs of personnel time, inpatient days and outpatient visits, and medical equipment.

Programme costing
Estimate the costs of above service delivery costs associated with a programme.

Budget and funder mapping
Assign IHT costs to user defined cost categories and identify funding sources.

Intervention overview
Review the inputs entered around populations, coverage, intervention inputs, and level of care at which services are delivered.

Delivery channels: percent of interventions delivered at different levels

Year to display
Baseline and target

	Outreach		Prehospital emergency		General outpatient services		First referral	
	Target 2028	Baseline 2023	Target 2028	Baseline 2023	Target 2028	Baseline 2023	Target 2028	Baseline 2023
Asthma: Inhaled short acting beta agonist for intermittent asthma	0	0	0	0	0	50	50	50
TB infection prevention, testing (provider-initiated)								
Testing of latent TB infection, household contact, children 5-14	20	20	20	0	0	20	20	20
Testing of latent TB infection, household contact, adults 15+	20	20	20	0	0	20	20	20
Testing of latent TB infection, household contact, children 0-4	20	20	20	0	0	20	20	20
Testing of latent TB infection, other high-risk groups, adults 15+	20	20	20	0	0	20	20	20
TB infection prevention, medication (provider-initiated)								
TB preventive treatment, adults	0	0	0	0	0	33	33	34
TB preventive treatment, children 0-14	0	0	0	0	0	33	33	34
TB preventive treatment, MDR/RR TB strain	0	0	0	0	0	33	33	34
Case finding (patient-initiated)								
Pulmonary TB case finding (patient-initiated), HIV-negative, adults 15+	0	0	0	0	0	50	50	50
Pulmonary TB case finding (patient-initiated), HIV-negative, children < 15	0	0	0	0	0	50	50	50
Extra-pulmonary TB case finding (patient-initiated), HIV-negative, adults 15+	0	0	0	0	0	50	50	50
Extra-pulmonary TB case finding (patient-initiated), HIV-negative, children < 15	0	0	0	0	0	50	50	50
Diagnosis (patient-initiated)								
Pulmonary TB disease, adults 15+	20	20	20	0	0	20	20	20

* Service distribution allocated to WASH, Other non-health, and Private sector is not costed by the Integrated Health Tool.

Source: TB module of IHT: Costing > Delivery channels

Reviewing number of people served in Results

- User can check the estimated numbers of people served in the Results section:
 - by intervention
 - by health and age profile

1 Configuration

2 Demographics and HIV

3 TB Target population estimation

4 Costing

5 Impact

6 Results

Results

Search

Number of people served

Number of people served by intervention

Number of people served by health and age profile

Resource requirements

Cost

Impact

Cost and impact

TB Results

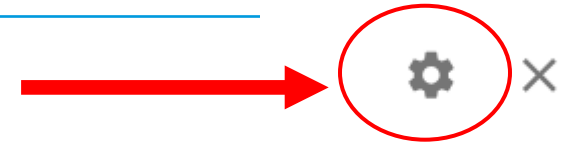
Here you can display results for the Integrated Health Tool. From the left side panel, use the down arrow to expand the section to see what results are available. Click on the right arrow to show the result you would like to see. When you select multiple results they will be stacked on top of one another. You can remove a result from the stack by clicking on the X associated with the result.

Contact us

Source: TB module of IHT: Results

Customizing display of number of people served by intervention and delivery channel

Several options for customizing results using cog wheel on the right



Number of people served by intervention: TB

Search

	2023	2024
TB		
Screening (provider-initiated)		
PLHIV ≥ 10 years, enrolled on ART, without serious illness	502	541
PLHIV not on ART ≥ 10 years, without serious illness	0	0
PLHIV ≥ 10 years, inpatient	26	28
PLHIV, children 0-9, outpatient	24	26
Household contacts, children 0-14	23,027	25,670
Household contacts, adults 15+	60,489	67,432
Prisoners, adults 15+	0	0
Miners exposed to silica, adults 15+	0	0
People with untreated fibrotic lesions on chest x-ray	0	0
People with risk factors for TB seeking health care	0	0

Configuration

Display type



Programme areas

TB

Delivery channels

All



Split costed delivery channels



Show number of services by intervention group

First
2025

Final
2030

2023

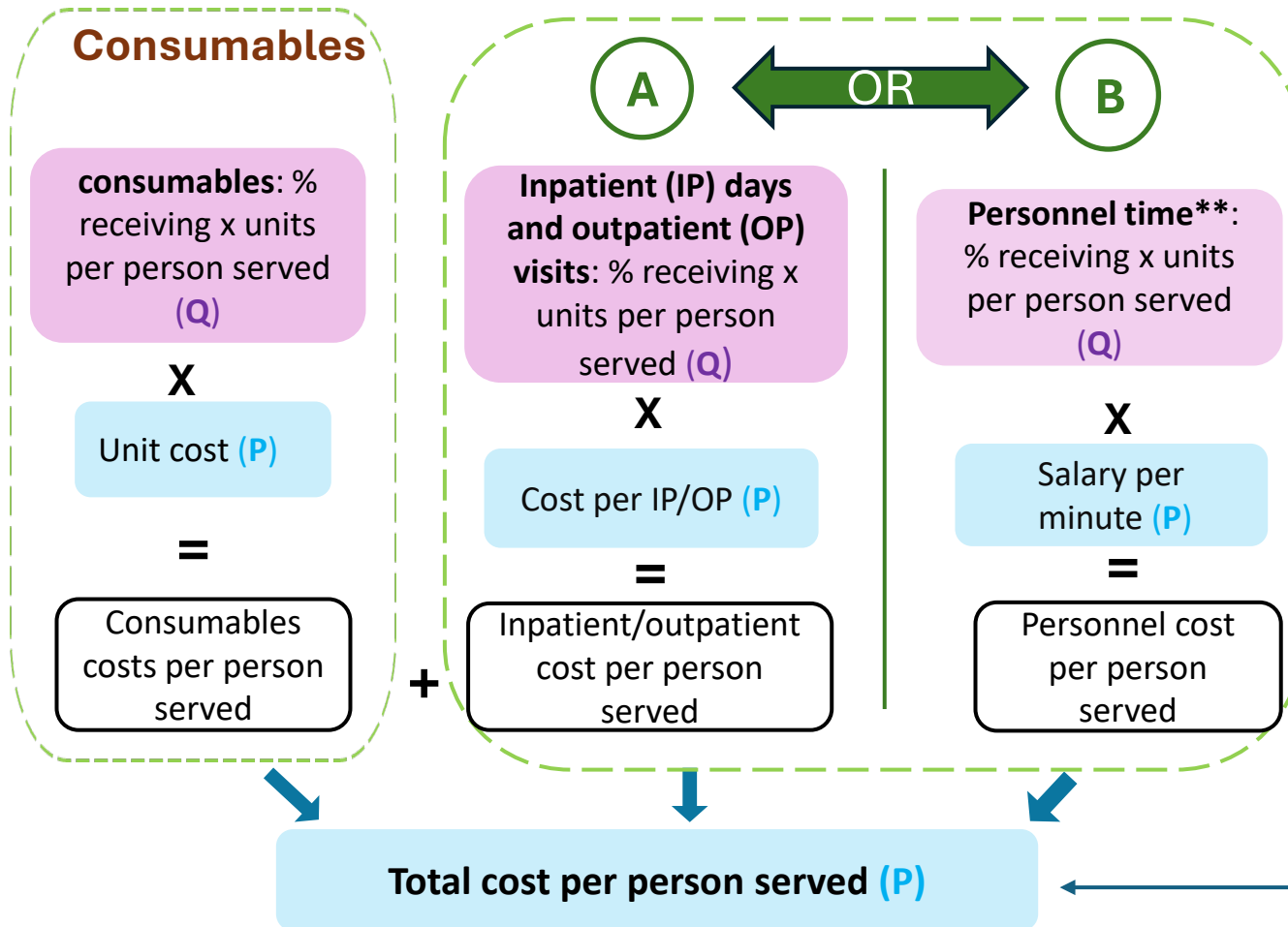
2033

Apply

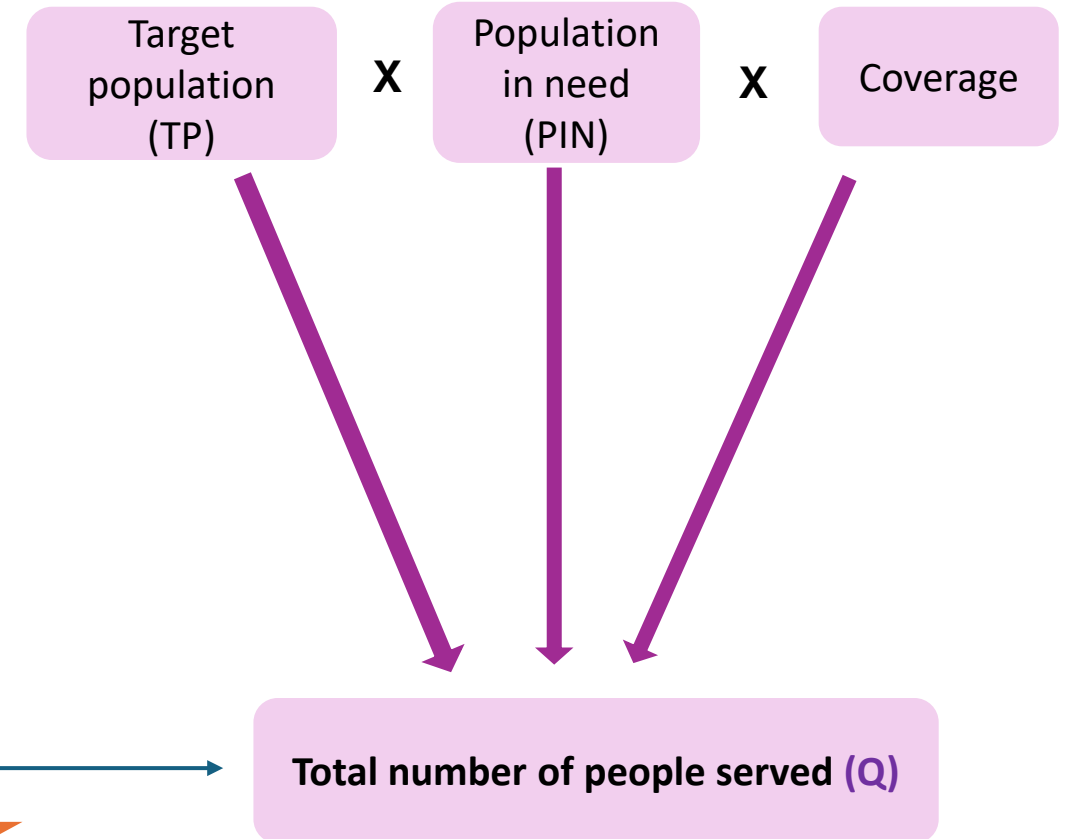
**Estimating cost per person served (P) by
intervention and delivery channel**

Ingredients approach to estimate cost per person served

Cost per person served (P)



Number of people served (Q)



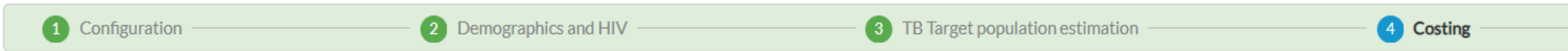
X

Total costs per person served
(aggregated across intervention groups)

**inclusion of IP/OP costs or personnel costs depends on the use case*

*** include personnel costs for service delivery if not included in, or in lieu of including costs of IP/OP visits*

Editing quantities (Qs) in IHT



Programme area > TB

Population and coverage

Identify the target populations, populations in need, and coverage of interventions in order to calculate numbers of services.

Delivery channels

Enter the percent of interventions delivered at different levels.

Intervention inputs

Define the resources required for each person receiving an intervention in order to estimate a weighted average cost per person reached.

Intervention inputs

Note: Click on an intervention in the editor to enter detailed values

Year: 2023

Average consumables cost per person served

Average personnel time per person served

Search

	Community	Outreach	Prehospital emergency	General outpatient services	First referral
TB infection prevention, testing (provider-initiated)					
Testing of latent TB infection, household contact, children 5-14	-	-	-	3.42	3.42
Testing of latent TB infection, household contact, adults 15+	-	-	-	3.42	3.42
Testing of latent TB infection, household contact, children 0-4	-	-	-	-	-
Testing of latent TB infection, other high-risk groups, adults 15+	-	-	-	3.42	3.42
TB infection prevention, medication (provider-initiated)					

- Use drop down to select, review and edit: % receiving, number of units, times per day, and days per case.
- These can vary by delivery channel

Source: TB module of IHT- Costing > Intervention inputs

Managing average consumables cost per person served, by intervention and delivery channel

Intervention: Testing of latent TB infection, household contact, children 5-14

Consumables Health providers Visits

Consumables

Delivery channel
General outpatient services

- Consumables are reviewed by intervention and delivery channel
- Default prices can be changed as per procurement pricing in country/year
- Adding new consumables can be managed in this editor or in “Configuration”; changes are carried out throughout the tool

Consumable	Perc receiving this type of treatment	Note	Number of units	Times/day	Days/case	Units/case	Unit cost (USD) (2023)	Cost/average case (USD) (2023)		
Tuberculin skin test (TST)	65.0		1.0	1	1	1	0.89	0.58		
TB antigen-based skin test (TBST) for diagnosis	5.0		1.0	1	1	1	0.89	0.04		
Interferon-gamma release assay (IGRA)	30.0		1.0	1	1	1	9.32	2.80		
Total								3.42		

Add a new group

Add new consumables

Copy to all channels

Managing average personnel time per person served, by intervention and delivery channel

Intervention: Testing of latent TB infection, household contact, children 5-14

Consumables

Health providers

Visits

Health provider time requirements

Delivery channel

General outpatient services

- Defaults using ISCO workforce types
- Custom staff types can be added
- Outpatient visits and inpatient days are reviewed in the same manner under the “Visits” tab

Staff type	Percent treated (2023)	Note	Minutes	Number of days/visits	Total minutes (2023)		
TST and TBST					0		
Paramedical practitioners	95.0		7.7	1	7		
IGRA					0		
Medical and pathology laboratory technicians	5.0		13.0	1	1		
Total minutes					8		

Add a new group



Add new health providers



Copy to all channels

Source: TB module of IHT- Costing > Intervention inputs > Average personnel time per person served > select an intervention > select a delivery channel

Reviewing Results

- User can check the estimated resource requirements and costs of each of these categories in the Results section by:
 - intervention
 - delivery channel

The screenshot displays the 'Results' section of the Integrated Health Tool (IHT). At the top, a horizontal progress bar shows six steps: 1 Configuration, 2 Demographics and HIV, 3 TB Target population estimation, 4 Costing, 5 Impact, and 6 Results. The 'Results' step is highlighted with a blue circle and a red rectangular box. Below the progress bar, the main content area is titled 'TB Results' and contains a paragraph explaining how to view results. On the left, a sidebar lists several categories: 'Results' (with a search bar and a close button), 'Number of people served', 'Resource requirements' (expanded to show 'Units of consumables', 'Number of outpatient visits', 'Number of inpatient days', and 'Personnel time'), 'Cost' (expanded to show 'Consumables costs'), and 'Consumables costs'. Each category has a right-pointing arrow to expand it, except for 'Number of people served' which has a down arrow and 'Consumables costs' which has a right arrow.

1 Configuration 2 Demographics and HIV 3 TB Target population estimation 4 Costing 5 Impact 6 Results

Results

Search

Number of people served

Resource requirements

- Units of consumables
- Number of outpatient visits
- Number of inpatient days
- Personnel time

Cost

- Consumables costs

TB Results

Here you can display results for the Integrated Health Tool. From the left side panel, use the down arrow to expand the section to see what results are available. Click on the right arrow to show the result you would like to see. When you select multiple results they will be stacked on top of one another. You can remove a result from the stack by clicking on the X associated with the result.

Programme-specific health system costs

Programme-specific health system costs

- Includes programme-specific or allocated shared of health system costs
- Involves the following categories:
 1. **Cost of outpatient (OP) visits and inpatient (IP) day** (calculated by IHT using default data that can be changed); **inclusion depends on the use case**
 2. **Personnel salaries (at service delivery level); used only if user replaces defaults on cost per OP/IP with data that do not include average personnel costs at health facilities**
 3. **Equipment and infrastructure**
 - Either within health facilities or in the form of a programme-specific laboratory facility.
 - Can be estimated based on an aggregate cost per facility type or a detailed breakdown of equipment needs
 - Maintenance and calibration costs should be included in the estimates.
 - Aggregated in results as the total cost by facility type, and number of facilities to be equipped with new equipment
 4. **Logistics and supply chain**
 - Estimated as a % of programme-specific logistics and supply chain and wastage costs

Cost of inpatient days and outpatient visits

Reminder: Inclusion of these costs depends on the use case.

- **Number** of inpatient days (IP) and outpatient visits (OP) per person served (**Q**)

Ref. >> Costing>> Intervention inputs

- **Cost** per inpatient days and outpatient visit costs (**P**)

Automatically calculated by IHT with IHT default costs (WHO CHOICE) that can be changed by the user

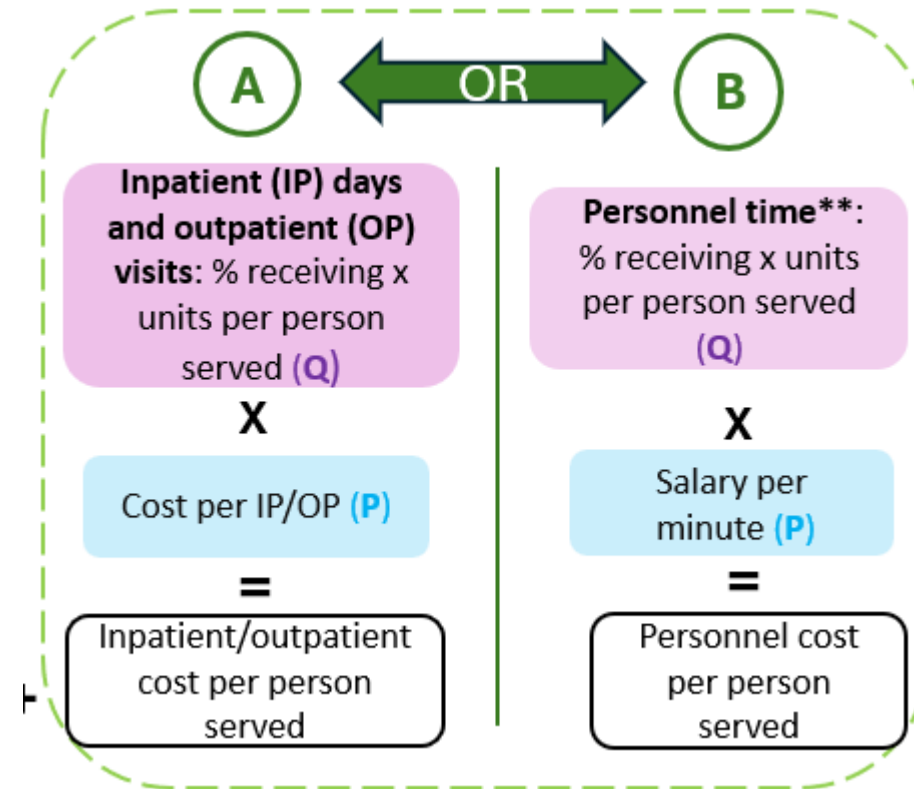
Ref. >> Costing>> Programme-specific health system costs>> Outpatient and inpatient costs

- **Total costs of IP and OP per person served by intervention and delivery channel**

Calculation: **sum of Q X P**

- Number of inpatient days_{level} X cost per inpatient day_{level}
- Number of outpatient visits_{level} X cost per outpatient visits_{level}

Either option A or B should be included since default data in IHT for OP/IP costs already include average personnel costs for service delivery



Personnel salaries (for service delivery)

Reminder: Inclusion of these costs depends on the use case.

- Personnel **time per person served** (Q)

Ref. >> Costing>> Intervention inputs

- Personnel **salary per minute** (P)

Automatically calculated by IHT with user-entered annual salary, days worked per year, hours worked per day, and % of time spent on activities other than service delivery

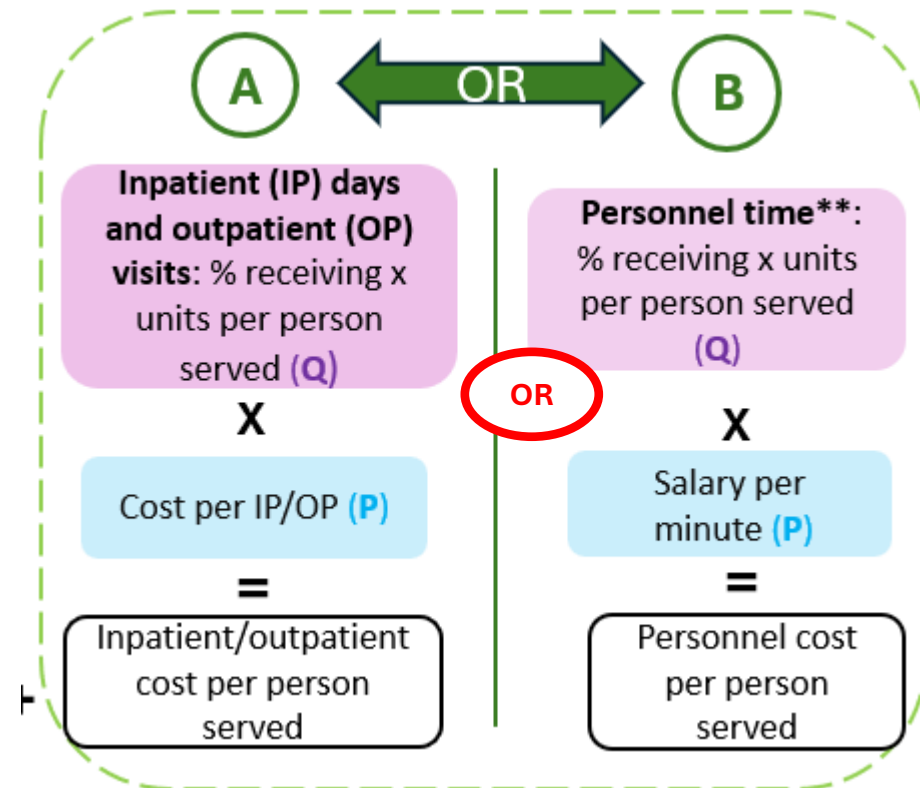
Ref. >> Costing>> Programme-specific health system costs>> Current salaries and benefits for staff

- Personnel **costs per person served by intervention and delivery channel**

Calculation: **sum of Q X P**

- Number of minutes by personnel type per person served X salary per minute

Either option A or B should be included since default data in IHT for OP/IP costs already include average personnel costs for service delivery



Medical equipment for TB care

❑ Costs of medical equipment for TB care by facility type X number of facilities needing to be equipped

- **Purchase costs** per facility can be entered as a round number or users can review and revise a list of equipment and quantities per facility type which are used to compose a total cost per facility.
- **Maintenance costs** can be entered as an absolute number or percent of purchase prices.
- **Calibration costs** are entered as an absolute number per facility or per device.

❑ Facility targets should be adjusted to reflect lab scaleup plans

CompensationTime utilizationOutpatient and inpatient costsInfrastructure and equipmentFacility targets

Manage medical equipment per facility:

☒ Enter total cost directly

☐ Enter details used to calculate total cost

Enter maintenance costs:

☐ As absolute number

☒ As a percentage of equipment costs

Facility	Purchase costs (USD)	Maintenance costs (%)	Calibration costs (USD)
Facilities delivering interventions			
Health post	163,473	10%	500
Prehospital emergency	0	10%	0
Health centre	163,473	10%	750
Free-standing general outpatient clinic	0	10%	0
District/General hospital	531,787	10%	1,000
National/Regional/Provincial hospital	910,626	10%	2,000
Free-standing specialized outpatient clinic	16,896,426	10%	0

Logistics, supply chain and wastage costs

- Applied as a percentage over and above the costs of consumables estimated in **Intervention costing**
- Percent can be varied by each drug if sufficient information is available.

The screenshot displays the 'Configuration' tab of the IHT Costing software, specifically the 'Logistics and supply chain' section. The interface is divided into two main panels. The left panel, titled 'Programme area > TB', contains several configuration sections: 'Population and coverage', 'Delivery channels', 'Intervention inputs', 'Health systems costs' (highlighted with a red box), 'Programme support costs', 'Budget and funder mapping', and 'Intervention overview'. The 'Health systems costs' section includes the instruction: 'Enter costs of personnel time (service delivery), outpatient and inpatient services, equipment and infrastructure, logistics and supply chain.' The right panel shows a table of 'Logistics and supply chain costs (%)' for various consumables. The table has three columns: 'Consumable', 'Logistics and supply chain costs (%)', and 'Wastage (%)'. The table lists 18 different drug regimens, all with a value of 0 in the 'Logistics and supply chain costs (%)' column. The table is scrollable, and a search bar is visible at the top of the table area.

Consumable	Logistics and supply chain costs (%)	Wastage (%)
12 Bdq(6m)-Lfx-Lzd-Cfz-Cs	0	0
12 Cm-Mfx-PASER- Cs-Amax/Civ - Z / 12 Mfx- PASER- CS- Amax/Civ	0	0
12 Km(Cm) Z Lfx(Ofx) Pto Cs (PAS) / 12 Z Lfx(Ofx) Pto Cs (PAS)	0	0
12 Z-Am-Pto-Cs-PAS-Lfx/12 Z-Pto-Cs-PAS-Lfx	0	0
12 Z-Ami-Lfx-Eto-Cs-PAS / 12 Z-Lfx-Eto-Cs-PAS	0	0
12 Z-Cm-Lfx-Pto-Cs-PAS / 12 Z-Lfx-Pto-Cs-PAS	0	0
12 Z-Cm-Pto-Cs-PAS-Lfx/12 Z-Pto-Cs-PAS-Lfx	0	0
12 Z-Km-Lfx-Pto-Cs-PAS / 12 Z-Lfx-Pto-Cs-PAS	0	0
18 (Lfx or Mfx)-Lzd-Dlm(6+)-Z-E	0	0
18 Bdq(6)-Cfz-Cs-Dlm(6)-(Z or E), XDR regimen for those resistant to linezolid	0	0
18 Bdq(6+)-Lfx/Mx-Lzd-(Cfz or Cs), Longer regimen with no group C drugs	0	0
18 Bdq(6+)-Lfx/Mx-Lzd-(Cfz or Cs), Longer regimen, standard, child	0	0
18 Bdq(6+)-Lfx/Mx-Lzd-Dlm(6+)-(Z or E), Longer regimen, without group B drugs	0	0
18 Bdq(6+)-Lfx/Mx-Lzd-Dlm(6+)-Z-E, Longer regimen for those resistant to bedaquiline, clofazimine, cycloserine	0	0
18 Lfx-Cfz-Cs-Dlm(6)-(Z or E), Longer regimen without bedaquiline and linezolid	0	0
18 Lzd-Cfz-Cs-Dlm(6)-(Z or E), XDR regimen for children	0	0
18 Lzd-Cfz-Cs-Dlm(6)-(Z or E), XDR regimen for those resistant to	0	0

Programme support costs

Programme support costing in IHT

- Estimates costs of activities that are **managed above service-delivery level and are associated with the delivery of the disease programme.**
- **Examples of programme support costs** include costs of personnel for administration, management and administration, in-service training, supervision, maintenance.
- Programme support costs are estimated in the TB module of IHT under >> **Costing** >> **Programme support costs**, in combination with **Configuration** >> **Programme support and administration input prices** (i.e. centralized input price repository)
- The structure of the interface and costing methods are common across all diseases
- **Costing approach for *Programme support costing* in IHT**

$$\text{Cost}_{\text{activity}} = Q_{\text{input}} \times P_{\text{input}},$$

where $Q_{\text{input}} = U_{\text{nits}} \times D_{\text{uration}} \times F_{\text{requency}}$ (each activity may have multiple inputs)

Default menu for programme activities

Sections and sub-sections headings are standard & common to all health areas in the IHT; i.e., can not be edited but adding “custom costing section” and sub-section possible.

Manage programme costing sections

Programme-specific transport cost			
Communication, media and outreach			
Advocacy			
General programme management and administration			
Research and innovation			
<u>Community and civil society engagement, social participation</u>			
Multisectoral engagement			

Add custom costing section

Manage programme costing sub-sections for: Community and civil society engagement, social participation

Engagement and coordination			
Social outreach activities			
Social media and website platform			

Add custom sub-section

Managing activities and sub-activities

- **Default activities** (in sections) are only suggestions (*i.e. typical*).
 - Suggestions not relevant? Delete default activities, rename, add new ones (flexible interface!)

Programme costing

Costing section: **Community and civil society engagement, social participation**

Costing sub-section: **Social outreach activities**

Activites	Unit of measure	Unit cost (USD)	Number of units	Duration	Frequency				
					2022	2032			
Advocacy and communication, TB - HIV									
Advocacy, human rights - Support to TB survivor-led groups									
Advocacy, patient group mobilisation									
Advocacy, private diagnostic centers									
Advocacy, resource mobilization									
Advocacy, social protection access									
Advocacy, TB community network building									
Advocacy, TB survivor-led groups engagement									

Add activities



Add cost inputs



Managing prices per programme activity

Add cost inputs for activities ✕

Costing section: **Community and civil society engagement, social participation**

Costing sub-section: **Social outreach activities**

1. Use the dropdown to select the activity where the cost inputs should be added
2. Use the search box or scroll the list to find existing cost inputs
3. Click on all of the existing cost inputs you would like to add to the selected activity
4. To add cost inputs to another activity, select another activity from the dropdown
5. When you are done adding cost inputs, click the ✕ to return to the editor

Activity
Advocacy and communication, TB - HIV

Search ✕

- ☐ Radio spot airing
- ☐ TV ad development
- ☐ TV ad airing
- ☐ Mobile phone
- ☐ Air time
- ☐ Promotional materials: T-shirt
- ☐ Promotional materials: Pin
- ☐ Promotional materials: mug

Supervision

- ☐ Cost per supervisory trip: national staff to regional level
- ☐ Cost per supervisory trip: national staff to local level

Apply

- **First, user defines P activity** using “add cost inputs for activities” (this adds input type) with pre-populated prices per input in **Configuration** (entered by user)

Managing quantities per programme activity

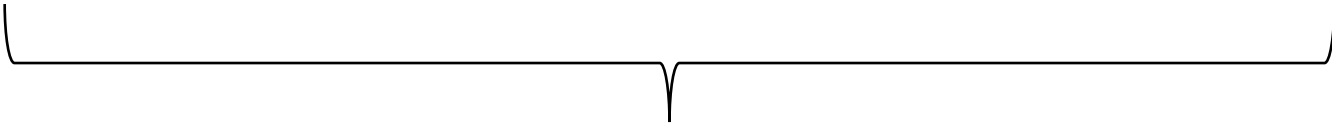
- Second, user defines **Q** per activity by entering **U**nits, **D**uration, **F**requency per year for each activity input

		F requency					
		Frequency					
Activites	Cost inputs	Unit of measure	Unit cost (USD)	Number of units	Duration	2022	2023

Pactivity

Units

Duration



Qactivity

Example: In-service training

Reminder: Unit of analysis: activity

Units of measure Qs depend on activity, e.g., for training: no. of people involved, duration, frequency of activity, etc



Unit costs (P) to be entered by user (in “Configuration” unit cost repository)

Cost inputs	Unit of measure	Unit costs (USD)	Number of units	Duration	Frequency			
					Year1	Year2	Year3	Year4
Participants per diem	Per participant per day	35	30	3	0	2	3	3
Facilitator per diem	Per facilitator per day	40	3	3	0	2	3	3
Hotel stay	Per person per day	70	33	3	0	2	3	3
Refreshments and lunch	Per person per day	25	33	3	0	2	3	3
Training venue rental	Per day	85	1	3	0	2	3	3
Cost of training materials	Per copy	5	30	1	0	2	3	3

Two ways to access programme support unit costs and prices

1. Go to **Configuration** to access **Programme support and administration input prices** (edit input prices)
2. Go to **Costing** and select **Programme support costs** in vertical menu (view input prices).

The screenshot displays the IHT- Costing interface with two main panels. The top panel shows the 'Costing' tab selected in the navigation bar, with a red box around it and a circled '1'. The bottom panel shows the 'Configuration' tab selected, with a red box around it and a circled '2'. In the left sidebar of the Configuration panel, 'Programme support and administration input prices' is highlighted with a red box. The main content area of the Configuration panel shows a table titled 'Programme support and administration input prices' with columns: Cost category, Cost inputs, Unit of measure, Unit cost (USD), Note, and Source. The table lists various roles and their associated unit costs, all set to 0. At the bottom of the interface, there are buttons for 'Back', 'Next', 'Add cost categories', and 'Add cost inputs'.

1 Configuration 2 Demographics and HIV 3 TB Target population estimation 4 Costing 1

Programme area > TB

Population and coverage ✓
Identify the target populations, populations in need, and coverage of interventions in order to calculate numbers of services.

Delivery channels ✓
Enter the percent of interventions delivered at different levels.

Intervention inputs ✓
Define the resources required for each person receiving an intervention in order to estimate a weighted average cost per person reached.

Health systems costs ✓
Enter costs of personnel time (service delivery), outpatient and inpatient services, equipment and infrastructure, logistics and supply chain.

Programme support costs ✓
Estimate the costs of above service delivery costs associated with a programme.

Budget and funder mapping ✓
Map costs to budget categories and funding sources.

Intervention overview ✓
Review the inputs entered around populations, coverage, intervention inputs, and level of care at which services are delivered.

2

1 Configuration 2 Demographics and HIV 3 TB Target population estimation 4 Costing

Intervention groups and Interventions

Delivery channels

Facility and staff types

Programme support and administration input prices

Currency and Inflation

Batch-entry

Configure existing elements

Add new elements

Programme support and administration input prices

Cost category	Cost inputs	Unit of measure	Unit cost (USD)	Note	Source		
Human Resources: Programme administration							
	Director	Annual salary	0				
	Manager	Annual salary	0				
	Officers	Annual salary	0				
	Support staff	Annual salary	0				
	Technical officer	Annual salary	0				
	Programmer	Annual salary	0				
	IT computing officer	Annual salary	0				
	Statistician	Annual salary	0				
	Administrative officer		0				
	Clerical officer		0				
	Secretary		0				
	Accountant		0				
	IT computing manager		0				
	Cleaner		0				
	Public health specialist		0				
	Public health officer		0				
	Health educator/trainer		0				
	Public relations manager		0				

Add cost categories + Add cost inputs +

Back Next

Source: TB module of IHT- Costing > programme support costs; or Configuration

Review of programme support costs in Results

Check **Cost**_{activity} (i.e. total cost per activity) by going to Results and using customizable display options from menu

The screenshot displays the 'Results' section of the IHT- Costing application. The top navigation bar includes steps 1 through 6, with 'Results' (step 6) highlighted. On the left, a sidebar menu lists various categories: 'Results', 'Number of people served', 'Resource requirements', 'Cost', 'Intervention costs', 'Programme support costs' (highlighted with a red box), 'TB specific health systems costs', 'Summary costs', 'Cost drivers', 'Average costs of consumables by intervention', 'Budget and funder mapping', 'Impact', and 'Cost and impact'. A gear icon is positioned next to the text 'This “Configuration” window pops up in Results visuals for Programme costs as you click on the gear icon'. To the right, the 'Configuration' window is open, showing settings for 'Display type' (a grid icon is selected), 'Display in USD' (checked), 'Display with inflation' (unchecked), 'Display as percentages' (unchecked), 'Show subsections' (checked), 'Show activities' (checked), 'Show cost categories' (checked), and 'Show cost inputs' (checked). At the bottom of the configuration window, there is a date range selector with 'First' (2022) and 'Final' (2023) markers, and an 'Apply' button.

1 Configuration 2 Demographics and HIV 3 TB Target population estimation 4 Costing 5 Impact 6 Results

Results

Search

Number of people served

Resource requirements

Cost

Intervention costs

Programme support costs

TB specific health systems costs

Summary costs

Cost drivers

Average costs of consumables by intervention

Budget and funder mapping

Impact

Cost and impact

This “Configuration” window pops up in Results visuals for Programme costs as you click on the gear icon

Configuration

Display type

Display in USD

Display with inflation

Display as percentages

Show subsections

Show activities

Show cost categories

Show cost inputs

First Final

2022 2023

2022 2032

Apply

Source: TB module of IHT- Costing > Results

Summary of costing subsections in IHT and their purpose

1 Configuration — 2 Demographics and HIV — 3 TB Target population estimation — 4 Costing

Population and coverage



Identify the target populations, populations in need, and coverage of interventions in order to calculate numbers of services.

Delivery channels



Enter the percent of interventions delivered at different levels.

Intervention inputs



Define the resources required for each person receiving an intervention in order to estimate a weighted average cost per person reached.

Health systems costs



Enter costs of personnel time (service delivery), outpatient and inpatient services, equipment and infrastructure, logistics and supply chain.

Programme support costs



Estimate the costs of above service delivery costs associated with a programme.

Budget and funder mapping



Map costs to budget categories and funding sources.

Intervention overview



Review the inputs entered around populations, coverage, intervention inputs, and level of care at which services are delivered.

- **Estimate number of people served** by intervention (Target population, Population in Need, Coverage)
- Distribute people served **by delivery channel**
- **Quantify consumables, IP/OP or personnel time** by person served
- **Enter costs of personnel** (service delivery), **equipment, logistics and supplies, visits and hospital stays**
- **Enter programme support costs:** personnel (administration), training, etc.
- **Map** and categorize costs by **budget category or source of funding**
- **Review and validation** of inputs relevant to intervention costing

Source: TB module of IHT- Costing

Where Quantities and Prices can be found in IHT

Quantities

Intervention inputs

- **Consumables**
 - tests for screening and diagnosis
 - drugs and supplies
 - non-medical support
 - palliative care etc.

Programme-specific health systems costs

- **Programme-specific health system costs**
 - Outpatient (OP) visits
 - Inpatient (IP) day costs
 - Service delivery personnel salaries

Programme support costs

- **Programme support**
 - Programme-level staff salaries
 - Training
 - Supervision etc.

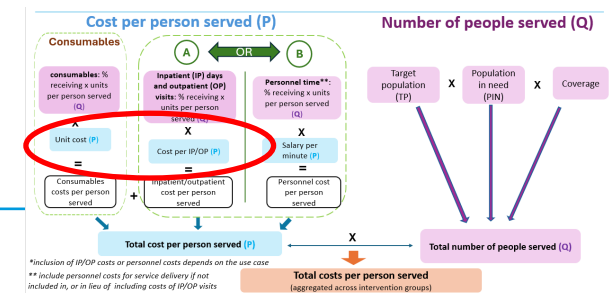
Prices

Configuration>
(configure existing elements)
or
Intervention inputs

Programme-specific health system costs

Configuration>
(Programme support and administration input prices);
or (view only)
programme costs

Source of default data



Unit cost of consumables and equipment

- Quantities: primary research, existing tools and key informant input gathered by WHO
- Prices for consumables: Global Drug Facility (GDF) catalogue, FIND and UNICEF
- Prices for equipment: GDF, FIND, WHO medical device database

Cost per IP/OP

- country-specific estimates of unit cost per outpatient visit or bed day from WHO CHOICE econometric model

Note: Default data are in line with Global Health Costs Consortium (GHCC) Reference Case for Estimating the Costs of Global Health Services and Interventions.