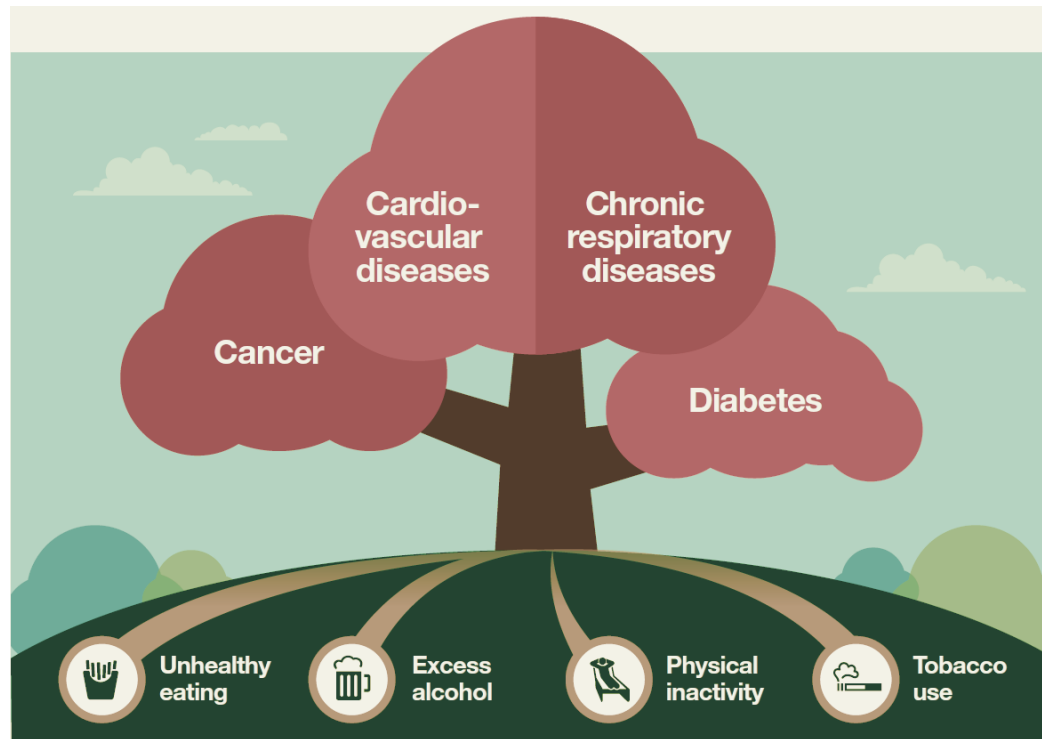


Applying the OneHealth Tool to NCDs



Agenda

Background

An Introduction to the OneHealth Tool

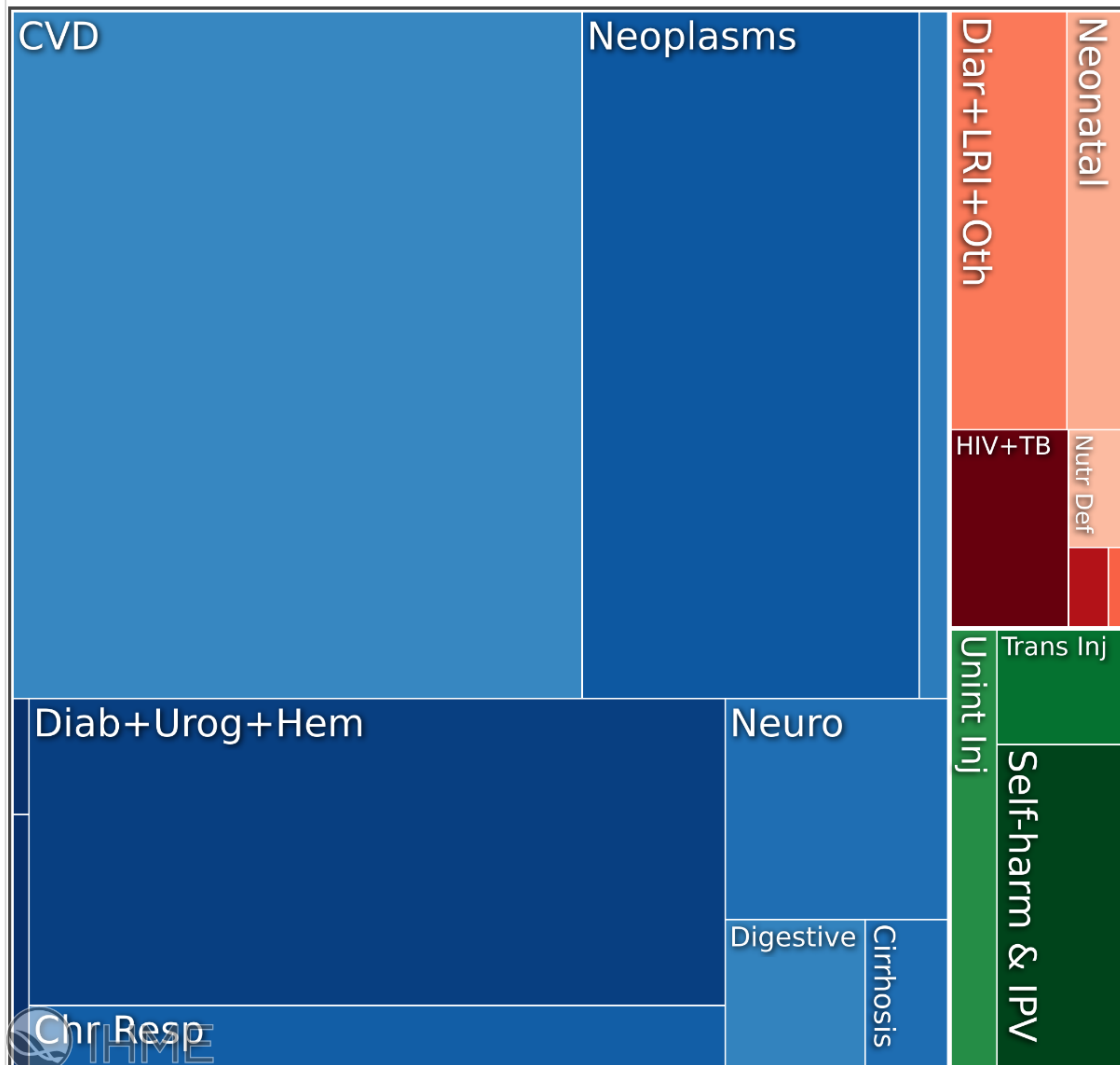
How OHT costs health interventions

Challenges

Discussion

The Noncommunicable Disease Burden

Jamaica
Both sexes, All ages, 2015, Deaths



Blue - NCDs

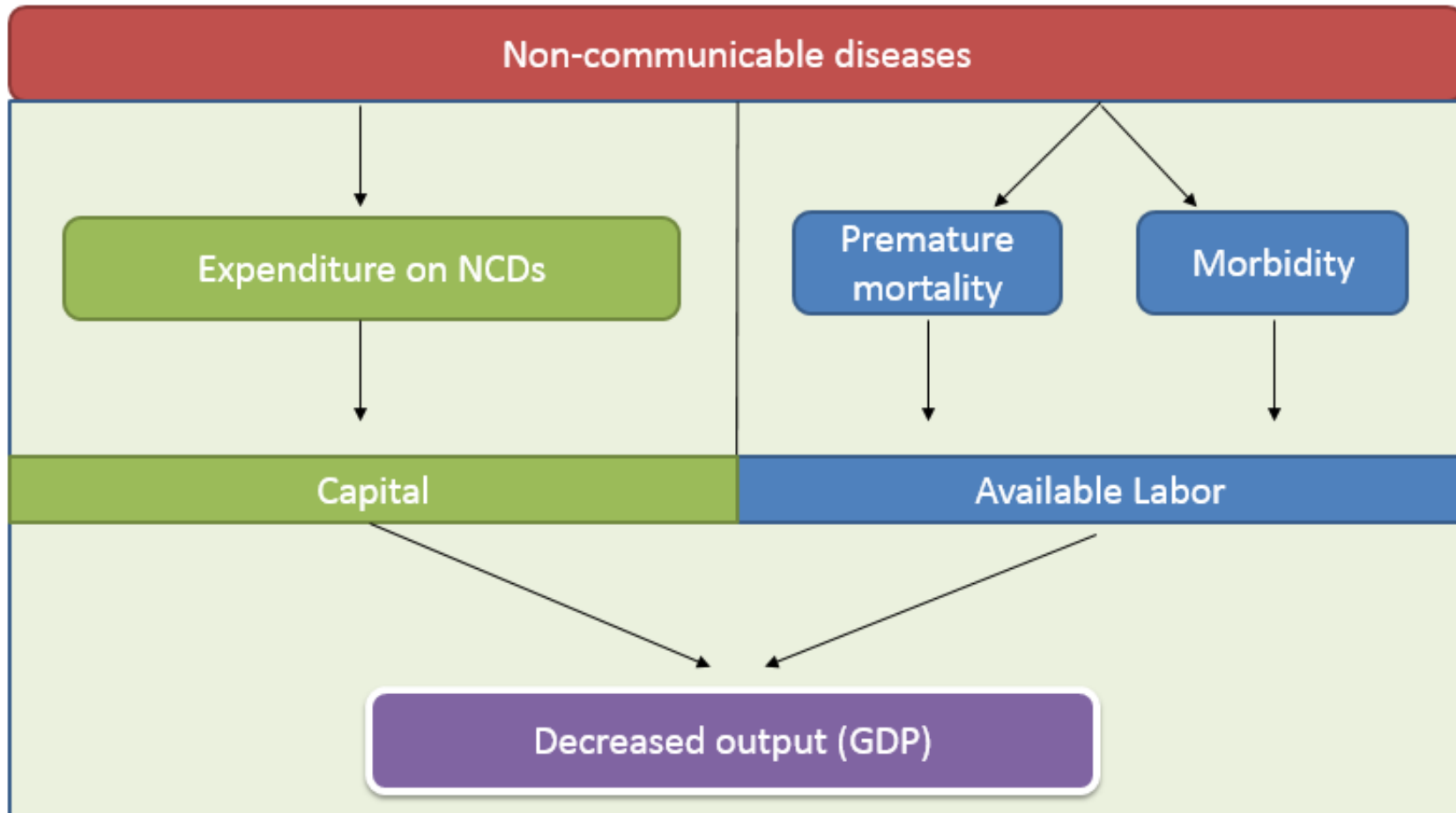
Red - Communicable diseases

Green - Injuries

Percent of all deaths

- **CVD** – 33 percent
- **Diabetes** – 18 percent
- **Cancer** – 20 percent
- **COPD** – 3.4 percent

Where health and economics meet



Interventions allow us to recover the benefits that are lost due to NCDs...

Clinical Interventions

CVD & diabetes

Screening for risk of CVD/diabetes

Treatment for those with absolute risk of CVD/diabetes
20-30%

Treatment for those with high absolute risk of
CVD/diabetes (>30%)

Treatment of new cases of acute myocardial infarction
(AMI) with aspirin

Treatment of cases with type I diabetes (with insulin)

Screening to prevent diabetic foot

Standard Glycemic control

Intensive glycemic control

Respiratory disease

Identification and control of asthma

Asthma: Inhaled short acting beta agonist for intermittent
asthma

Asthma: Low dose inhaled beclometasone + SABA

Asthma: High dose inhaled beclometasone + SABA

COPD: Smoking cessation

COPD: Inhaled salbutamol

COPD: Low-dose oral theophylline

COPD: Ipratropium inhaler

COPD: Exacerbation treatment with oxygen

Policy Instruments

Tobacco

Protect people from tobacco smoke

Offer to help quit tobacco use: Brief clinical
intervention

Offer to help quit tobacco use: mCessation

Warn about danger: Warning labels

Warn about danger: Mass media campaign

Enforce bans on tobacco advertising

Raise taxes on tobacco

Plain packaging of tobacco products

Alcohol

Enforce restrictions on availability of retailed alcohol

Enforce restrictions on alcohol advertising

Raise taxes on alcoholic beverages

Screening and brief intervention for hazardous
alcohol use

Physical inactivity: Awareness campaigns

Physical inactivity

Brief advice as part of routine care

Salt

Sodium: Harness industry for reformulation

Sodium: Adopt standards: Front of pack labelling

Sodium: Knowledge: Education and communication

Sodium: Environment: Salt reduction strategies in
community-based eating spaces

...but they come at a cost

Medical

- Personnel
- Drugs
- Devices
- Lab tests
- Radiological procedures
- Blood products
- Health education
- Health worker training

Non-medical

- Administration
- Physical facilities
- Overhead costs
- Capital (e.g. equipment)
- Utilities
- Policy enforcement



Introduction to the OneHealth Tool

The OneHealth Tool

- **WHAT?** A software tool for medium term **strategic health planning** (3-15 yrs)
- **BY WHOM?**
 - Developed by the United Nations Inter-Agency Working Group on Costing (**IAWG-COSTING**) incl. WHO, UNICEF, WB, UNAIDS, UNFPA, UNDP, UNWOMEN.
- **FOR WHOM?**
 - Health sector planners (e.g. **MoH** Department of planning) – ability to input country-specific data
 - Donors, academe, NGOs and UN agencies
- **PURPOSE?**
 - Facilitate **analysis of the financial costs and benefits** associated with implementing “Best Buy” interventions, including those for NCDs

Inputs

Prevalence of NCDs
& risk factors

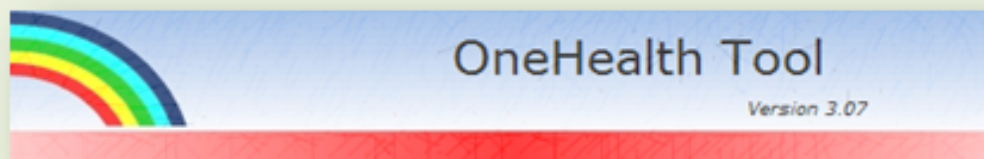
Current coverage levels
of treatment, and
policies in place

Local drug prices, & cost of
outpatient/inpatient visits

Demographics

Custom
treatments

Calculations



Interventions

Scale up interventions from
baseline to target level

Costs

Health Benefits

Cost of drugs and supplies
Cost of inpatient/outpatient visits
Cost to implement and enforce policies

Intervention's impact leads to
improved health (e.g. disease
prevention, remission)

Outputs

Total cost to scale up clinical
interventions and/or policy instruments

Healthy life years gained
Mortality averted
Incidence averted

Arriving at Costs

Costs

- Financial planning tool, takes into account costs from a government perspective (usually national-level)
- Seeks a price-tag for scaling up packages of “best-buy” interventions, moving from countries’ current baseline levels to target coverage levels
- Bottom-up, ingredients-based approach
 - **Price x quantity** – The number of resources used x the unit cost

Population in Need and Coverage Levels

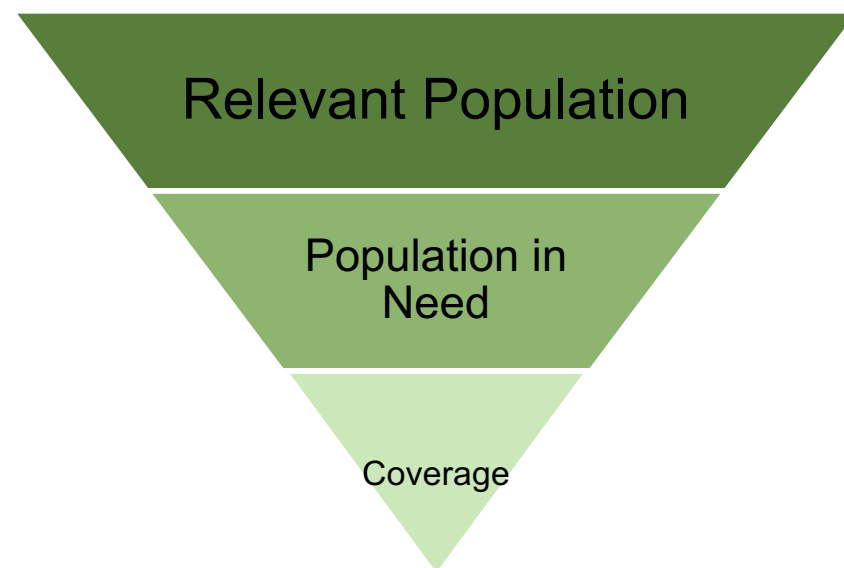
Intervention: Treat individuals with a 10-year CVD risk ≥ 30 percent

Relevant population: All adults \geq age 40 | 849,000 people

Population in Need (prevalence): Of all adults ≥ 40 , about 4.2 percent have a 10-year CVD risk ≥ 30 percent | 35,658 people

Baseline Coverage: About 40 percent of adults with a 10-year CVD risk ≥ 30 percent are already being treated in the prescribed manner | 14,263 people

Target Coverage: The goal is to treat 65 percent of adults with a 10-year CVD risk ≥ 30 percent by 2030 | 23,178 people



Population in Need and Coverage Levels

Intervention: Treat individuals with a 10-year CVD risk ≥ 30 percent

Scenario 1: Base Coverage

2016	2017	2018	2019	2020	2021
40	40	40	40	40	40



Scenario 2: Target Coverage

2016	2017	2018	2019	2020	2021
40	41.8	43.6	45.4	47.1	48.9



642 additional people

The Ingredients-based approach (Drugs and Supplies)

Drug/Supply	% who receive treatment	# of units of the drug or supply required	# of Days per case	Total # of units per case	Unit cost (Jamaican dollars)	Cost per average case (Jamaican dollars)
Drugs and supplies required per client						
Hydrochlorothiazide, tablet, 25 mg	95	1	365	365	2.02	<u>700.63</u>
Enalapril, tablet, 20 mg	50	1	365	365	3.17	<u>578.51</u>
Atenolol, tablets, 50 mg	5	1.5	365	548	0.74	<u>20.27</u>
Amlodipine, tablet, 10 mg	60	0.5	365	183	3.62	<u>396.34</u>
Simvastatin, 15 mg	100	1.0	365	365	4.44	<u>1,620.57</u>
Acetyl salysilic acid (aspirin), tab, 75mg	100	1	365	365	0.22	<u>80.19</u>
Lab tests per client						
Blood glucose level test	30	1	1	1	254.00	254.00
Cholesterol test	30	1	1	1	254.00	254.00
Urine analysis	30	1	1	1	232.41	232.41
Total average cost per case						= <u>4,136.92</u>

Personnel time required per case: 100% will have four visits with a doctor, 10 minutes each. 7% will also have four 20-minute visits with a nurse to manage complications due to diabetes.

Visits/ inpatient time required per case: 93%, four outpatient visits per year; 7% eight outpatient visits per year

Costing the rest

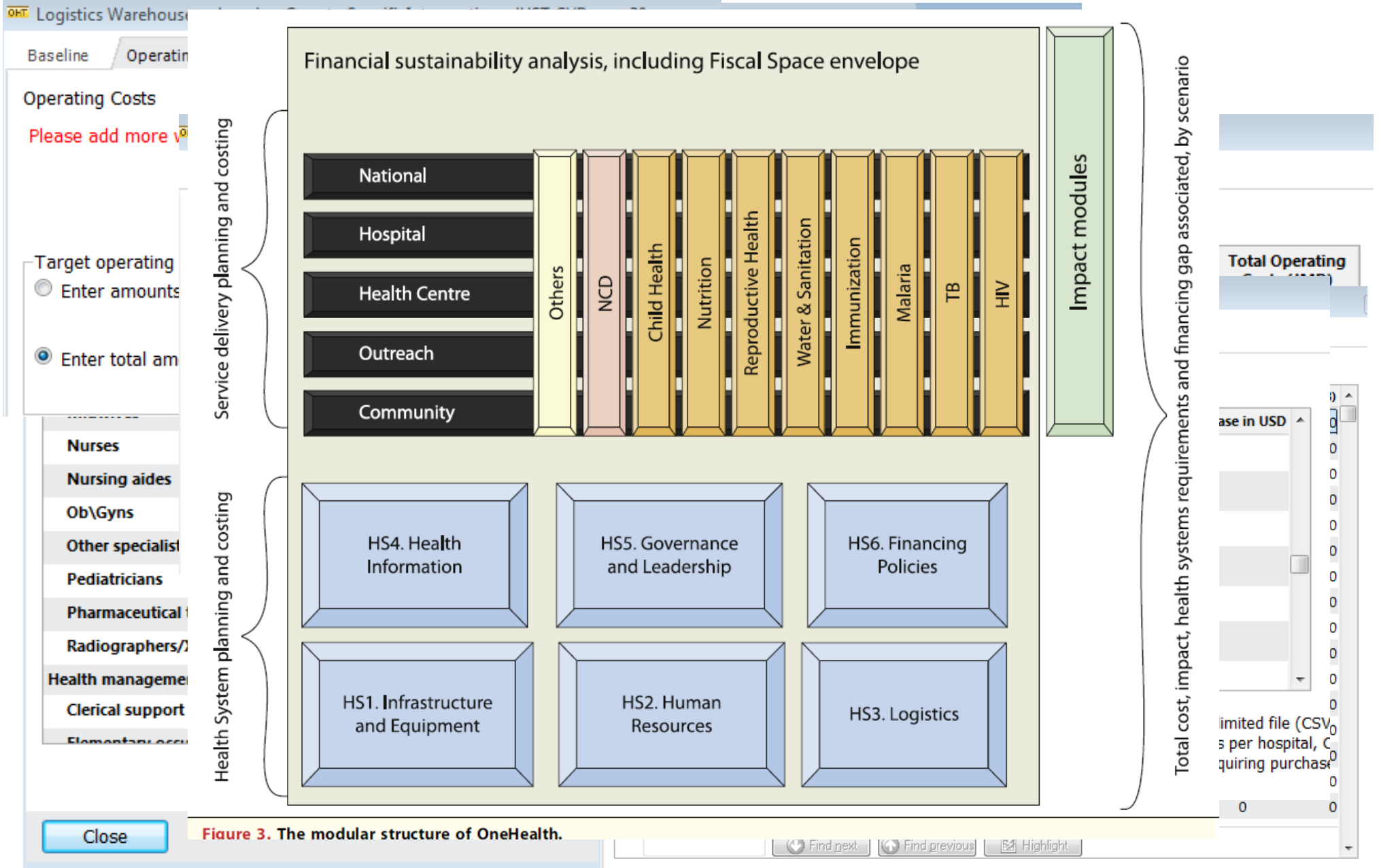


Figure 3. The modular structure of OneHealth.

Costing the rest (cont.)

Mixed method: # of outpatient/inpatient visits multiplied by the average cost of an outpatient/inpatient visit

Most precise



Micro-costing

Each component of resource use (e.g., lab tests, days of stay by ward, drugs) is estimated and a unit cost is derived for each

Case-mix group

Gives the cost for each category of case or hospital patient. Takes account of length of stay. Precision depends on the level of detail in specifying the types of cases

Disease-specific per diem (or daily cost)

Gives the average daily cost for treatments in each disease category. These may still be quite broad

Average per diem (or daily cost)

Averages the per diem over all categories of patient. Available in most health care systems.

Least precise

Challenges

Coverage Levels

OHT does not incorporate the cost of overcoming bottlenecks. For example, increasing coverage may require mass media campaigns or training health workers.

OHT considers a best case scenario where every single person is reached by an intervention scale up, and every single person receives the full treatment regimen.

It does not take into account how many people actually take up treatment after they are diagnosed with a disease, nor adherence levels after take up. (e.g. no attention to affordability, access, knowledge, or other issues)

An evolving product...

The **NCD module has been built out quickly**, and it has many quirks as a result. (e.g. Costs and benefits mismatch)

The definitions of interventions, health impact sizes of treatments, and many other things come from the WHO, but are **not documented** and in many cases are impossible for the user to track down.

Risk factor policies: benefits can be attained, but there is currently no way to cost the policies in the tool (WHO NCD Costing Tool Excel sheet)

A black box? Benefits calculations are difficult to follow

Our experience trying to learn the tool has led to dozens of calls/emails with the programmers, internet research, reading guides, talking to WHO employees, trial and error, our own testing...

Questions

