

WHO/IARC National Cancer Control Plan Tool and Case Studies

Raffaella Casolino, MD, Ph.D

Medical Oncologist
Technical Officer, Cancer Team, NCD Department
World Health Organization (WHO), Geneva, Switzerland



DECLARATION OF INTERESTS

Raffaella Casolino

No Financial Conflict of Interests

WHO Employee

Outline

1. Context for the tool
2. Priority Setting
3. Structure of the tool
4. Case study

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2017 World Health Assembly (WHA) Resolution 70.12 on Cancer

Global commitment to reduce the burden of cancer

To meet the targets of the UN 2030 Agenda for Sustainable Development, including

- **3.4** on NCDs (reduce mortality by 1/3 by 2030)
- **3.8** on Universal Health Coverage (UHC)

SEVENTIETH WORLD HEALTH ASSEMBLY

WHA70.12

Agenda item 15.6

31 May 2017

Cancer prevention and control in the context of an integrated approach

The Seventieth World Health Assembly,

Having considered the report on cancer prevention and control in the context of an integrated approach;

Acknowledging that, in 2012, cancer was the second leading cause of death in the world with 8.2 million cancer-related deaths, the majority of which occurred in low- and middle-income countries;

Recognizing that cancer is a leading cause of morbidity globally and a growing public health concern, with the annual number of new cancer cases projected to increase from 14.1 million in 2012 to 21.6 million by 2030;



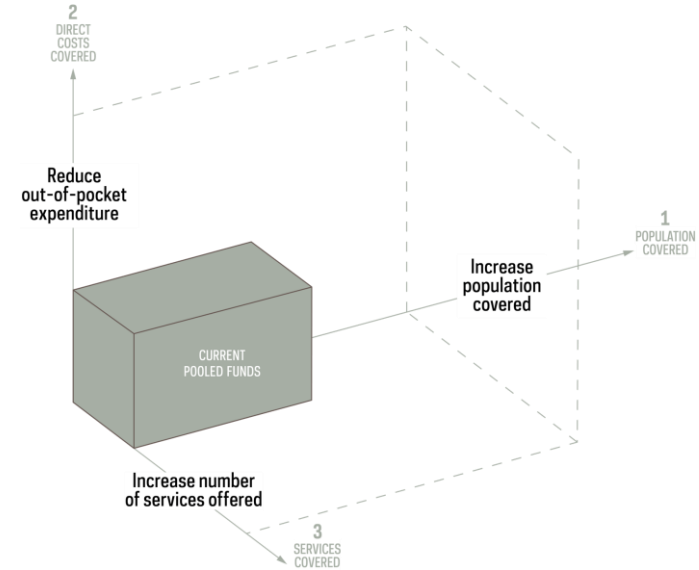
Universal health coverage (UHC)

All people have access to the healthcare services they need without facing financial hardship.

Progress towards UHC is made through a process of progressive realization by moving sequentially along 3 dimensions:

- Increase the proportion of the population covered;
- Increase the proportion of prepaid funds and reduce out-of-pocket payments;
- Expand the number of services available to the population.

Prioritization is necessary in contexts with limited resources.



WHA 2017 mandate and WHO response

Development of a cancer priority setting and costing tool

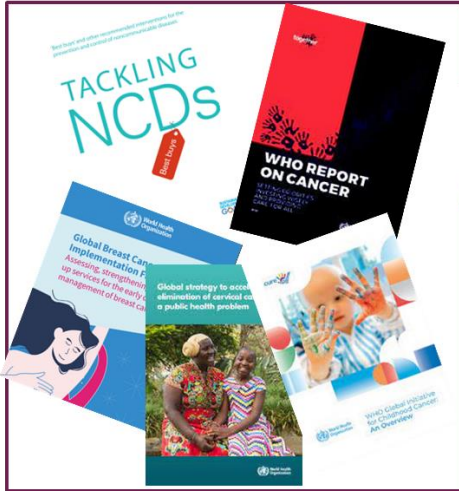
- Support to Member States in costing the national cancer control plan
- Identifying and costing priority interventions included in national cancer planning
- Designing of or updating cancer interventions included in national health benefit packages
- Supporting the governmental stakeholders to generate an investment case



Outline

1. Context for the tool
2. **Priority Setting**
3. Structure of the tool
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Priority-setting policy dialogue



(1) Define interventions

(2) Focus on scale-up

(3) Evaluate system readiness

Political but should be based on:

Data → Dialogue → Decision-making




1. Define Priority Interventions: *Best Buys*

28 NCD Best Buys
(cancer 8 total)


NCD BEST BUYS
EVIDENCE-BASED COST-EFFECTIVE PUBLIC HEALTH INTERVENTIONS TO PREVENT AND CONTROL NCDs

CANCER



- Prevent cervical cancer by **vaccination against HPV** and screening tests.
- Provide **breast cancer screening** for timely diagnosis and treatment.
- Provide **surgery, chemotherapy and radiotherapy treatment** for cancer, as well as palliative care services.

TOGETHER LET'S BEAT NCDs



Close to **7 million** lives saved




This investment yields a return of:

US\$ 7
for each dollar invested




together



WHO REPORT ON CANCER
SETTING PRIORITIES. INVESTING WISELY. PROVIDING CARE FOR ALL.

DEVELOPMENT KNOWLEDGE AND LEARNING

Tackling NCDs in Kenya
Economic Evaluation of Breast and Cervical Cancer Control Interventions in Kenya



World Health Organization
Regional Office for Africa

A case for Investment in Cancers for

Investing in all childhood cancers combined would entail

MZN 2,387.05 million
in incremental costs

and result in

205751
healthy life years gained

17,677 million lives saved

which translates into an economic gain of

MZN 10,193.82 million

From 2021 to 2059




The 28 “Best Buys”

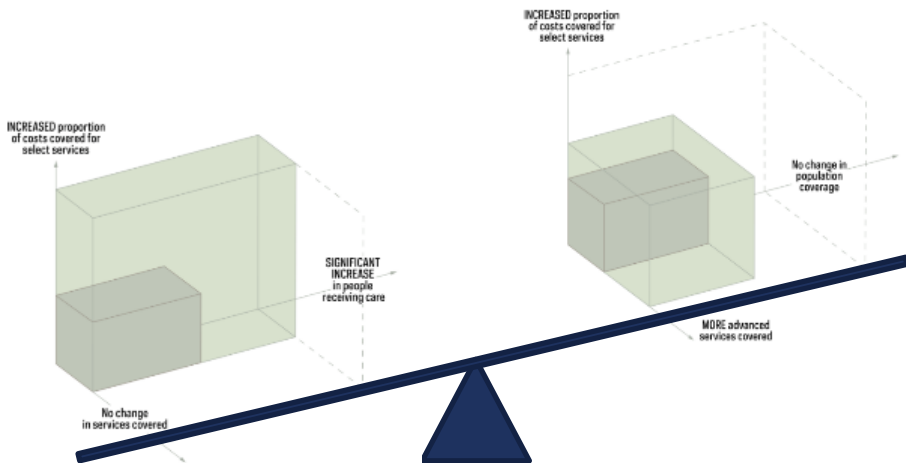
TOBACCO USE	<ul style="list-style-type: none">• Increase excise taxes and prices on tobacco products• Implement large graphic health warnings on all tobacco packages, accompanied by plain/standardized packaging• Enact and enforce comprehensive bans on tobacco advertising, promotion and sponsorship• Eliminate exposure to second-hand tobacco smoke in all indoor workplaces, public places and public transport• Implement effective mass media campaigns that educate the public about the harms of smoking/tobacco use and second-hand smoke, and encourage behavioural change• Provision of cost-covered effective population-wide support for tobacco cessation to all tobacco users
HARMFUL USE OF ALCOHOL	<ul style="list-style-type: none">• Increase excise taxes on alcoholic beverages• Enact and enforce bans or comprehensive restrictions on exposure to alcohol advertising• Enact and enforce restrictions on the physical availability of retailed alcohol
UNHEALTHY DIET	<ul style="list-style-type: none">• Reformulation policies for healthier food and beverage products• Front-of-pack labelling as part of comprehensive nutrition labelling policies• Public food procurement and service policies for healthy diets• Behavioural change communication and mass media campaigns for healthy diets• Policies to protect children from the harmful impact of food marketing on diet• Protection, promotion and support of optimal breastfeeding practices
PHYSICAL INACTIVITY	<ul style="list-style-type: none">• Implement sustained, population-wide communication campaigns about best practices to promote physical activity, with links to community-based programmes and environmental improvements to enable and support behavioural change
CARDIOVASCULAR DISEASE	<ul style="list-style-type: none">• Secondary prevention of rheumatic fever and rheumatic heart disease by developing a register of patients who receive regular prophylactic penicillin
CHRONIC RESPIRATORY DISEASE	<ul style="list-style-type: none">• Acute treatment of exacerbations of asthma with inhaled bronchodilators and oral steroids• Acute treatment of exacerbations of chronic obstructive pulmonary disease with inhaled bronchodilators and oral steroids• Long-term management of chronic obstructive pulmonary disease with inhaled bronchodilator
CANCER	<ul style="list-style-type: none">• Vaccination against human papillomavirus (1-2 doses) of 9–14-year-old girls• Cervical cancer: human papillomavirus DNA screening, starting at the age of 30 years with regular screening every 5 to 10 years• Cervical cancer: early diagnosis programmes linked with timely diagnostic work-up and comprehensive cancer treatment• Breast cancer: early diagnosis programs linked with timely diagnostic work-up and comprehensive cancer treatment• Colorectal cancer: early diagnosis programs linked with timely diagnostic work-up and comprehensive cancer treatment• Prevention of liver cancer through hepatitis B immunization• Childhood cancer: early diagnosis programmes linked with timely diagnostic work-up and comprehensive cancer treatment, focusing on six index cancers of WHO's Global initiative for childhood cancer• Early detection and comprehensive treatment of cancer for those living with HIV

2. Focus on scale-up: progressive realization

Best investment must reach scale & achieve value for money

More people

More goods



Baseline: \$US 5.75 per capita

↑funds: \$US 6.38 per capita

Two packages with
incremental price

MORE PEOPLE

Basic package:
40% → 75% population

Radiotherapy for high-
impact, curative cancers

3 targeted therapy (eg,
rituximab)

Lives saved:
~500 by 2040

MORE GOODS

High technical package
for 40% population

Radiotherapy for (IMRT)
all indications

10+ targeted therapy
(including immunoRx)

Lives saved:
~200 by 2040

2. Focus on scale-up: progressive realization

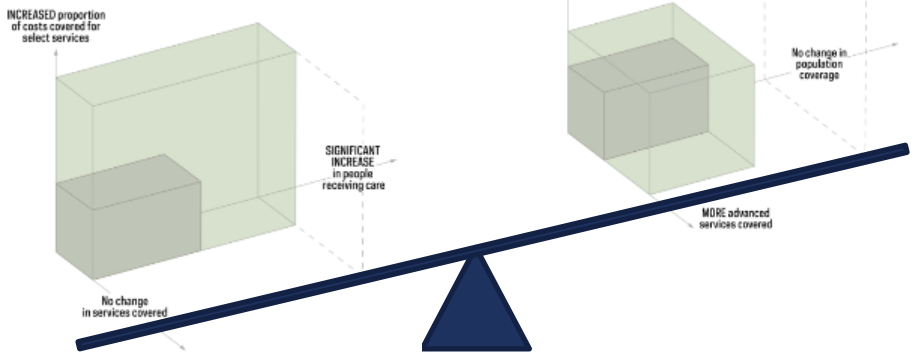
The most effective way to improve cancer outcomes and achieve greater equity is to maximize the number of individuals who have access to effective services while ensuring financial protection before introducing new services

Baseline: \$US 5.75 per capita
 ↑ funds: \$US 6.38 per capita
 Two packages with incremental price

More people



~~More goods~~



MORE PEOPLE

Basic package:
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Radiotherapy for high-impact, curative cancers

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MORE GOODS

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Radiotherapy for (IMRT) all indications

10+ targeted therapy
 (including immunoRx)

Lives saved:
~200 by 2040

Focus on expanding coverage before introducing new services

3. Evaluate system readiness

Coverage 1%
per yr:

Yes



~~Coverage 2%
per yr:~~

~~Not feasible~~



Additional salary (included in package): **\$US 7,000 per provider**

Training (included in programme cost): **\$US 200,000 per year**

Plan prioritizes breast cancer early detection –
what is *feasible*?



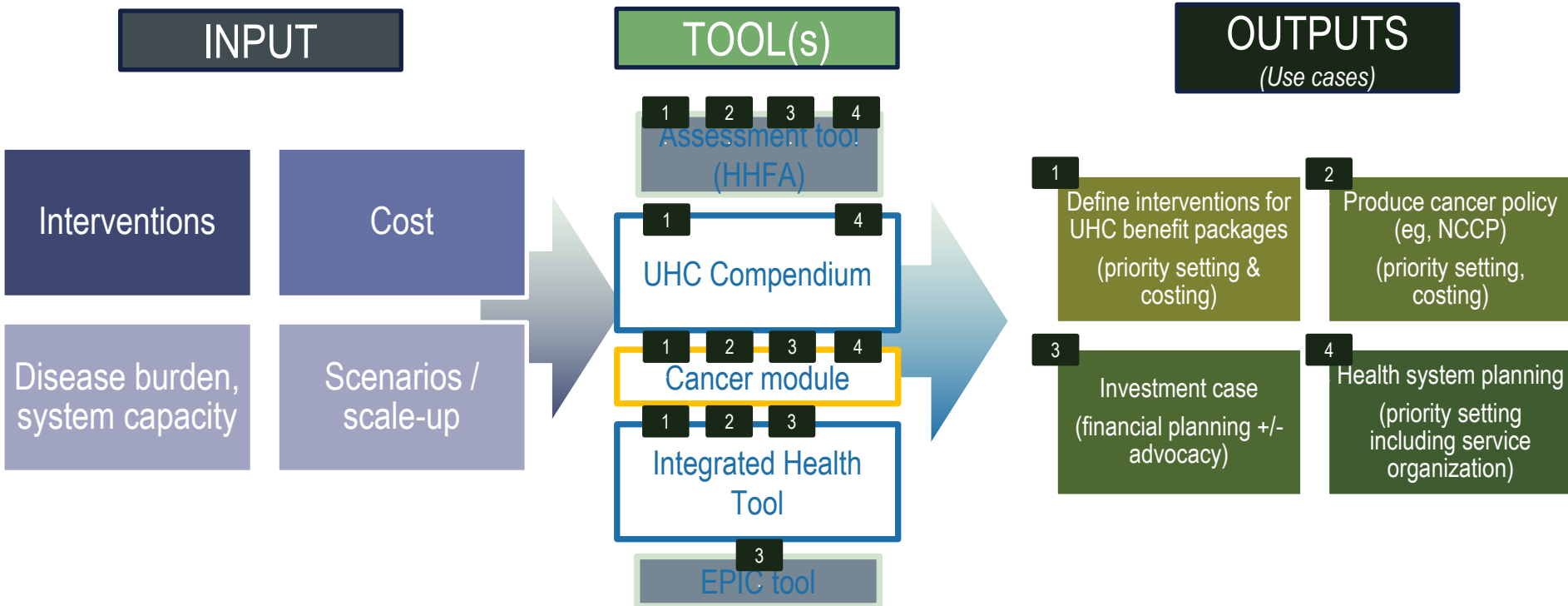
Not needed

Purchase ~~30~~ new
machines for breast cancer
screening programme

Outline

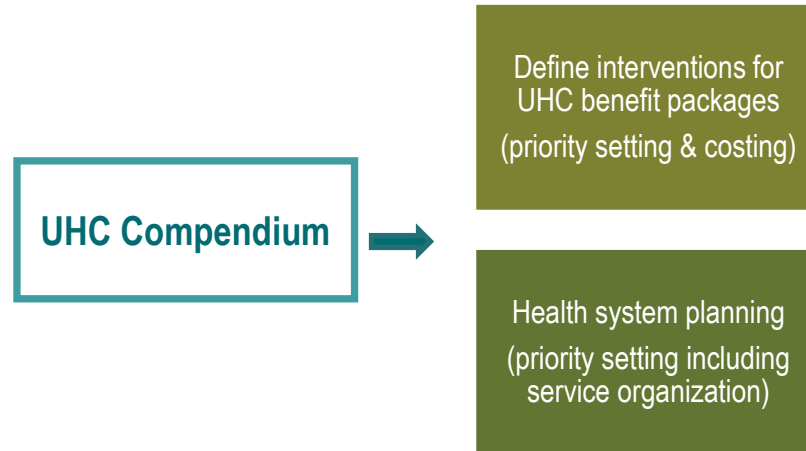
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WHO/IARC Tool(s)



UHC Compendium: a global repository of interventions for UHC

Inputs needed to support Health Benefit Packages design



Developed with ESMO support

From Excel Sheets

Name of intervention		Step 2A: Define the type of visit for each bundle				Step 2B: Assign population in need	Step 2c: Assign actions needed for each visit	Step 3a: Define/confirm res	HEALTH PRODUCT									
Bundle ID	Bundle name	Target population	Type of visit (standardised classification - select from dropdown)	Visit description	outpatient visits /	Pop-in-need (Visit level) - text description	Actions	Tasks	Healthcare Setting	% share for HP	Name of Medicine = to Health Product	Included in EML?	Note/description	ATC Code	Route of administration	Strength	Units per day	Number of days
2	[core] Diagnosis of lung cancer and						Thoracentesis		Outpatient care									
2	[core] Diagnosis of lung cancer and						Open lobectomy		Specialized surgery									
2	[core] Diagnosis of lung cancer and	Adults with lung cancer	Inpatient stay for	Inpatient stay for mx of	7	20% of adults with	Open lobectomy		Specialized surgery									
2	[core] Diagnosis of lung cancer and						Open lobectomy		Specialized surgery									
2	[core] Diagnosis of lung cancer and						Open lobectomy		Specialized surgery									
2	[core] Diagnosis of lung cancer and						Open lobectomy		Specialized surgery	100%	Cefazolin	Yes	https://r	J01SB04	Parenteral	2g	1	1
2	[core] Diagnosis of lung cancer and						Open mediastinal lymph node dissection		Specialized surgery									
2	[core] Diagnosis of lung cancer and						Open mediastinal lymph node dissection		Specialized surgery									
2	[core] Diagnosis of lung cancer and						Open mediastinal lymph node dissection		Specialized surgery									
2	[core] Diagnosis of lung cancer and						Open mediastinal lymph node dissection		Specialized surgery									
2	[core] Diagnosis of lung cancer and	Adults with lung cancer	Brief visit	Follow-up visit for mx of	1	20% of adults with	History and physical examination		Specialized surgery									
2	[core] Diagnosis of lung cancer and						Basic laboratory tests											
2	[core] Diagnosis of lung cancer and	Adults with lung cancer	Facility based visit	Facility based visit for mx	6	20% of adults with	Intravenous chemotherapy (adjuvant)				Cisplatin	Yes	https://r	L01XA01	Parenteral	50 mg per 1.75 mg/		12
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (adjuvant)				Vinorelbine	Yes	https://r	N01CB06	Parenteral	10 mg per r 30mg/n		24
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (adjuvant)				Gemcitabine	Yes	https://r	N01BC06	Parenteral	200 mg in v 1250 m		24
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (adjuvant)		Outpatient care									
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (adjuvant)		Outpatient care									
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (adjuvant)		Outpatient care									
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (adjuvant)		Pharmacy, Pharmaceuticals and other medical non-durable goods									
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (adjuvant)		Pharmacy, Pharmaceuticals and other medical non-durable goods									
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (adjuvant)		Specialized treatment									
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (adjuvant)		Specialized treatment									
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (concurrent)				Carboplatin	Yes	https://r	L01XA02	Parenteral	50 mg per 1.360 mg		6
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (concurrent)				Paclitaxel	Yes	https://r	N01CB01	Parenteral	6mg/ml 200 mg		6
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (concurrent)				Etoposide	Yes	https://r	N01CB03	Parenteral	20mg/ml 35 mg/l		6
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (concurrent)		Outpatient care									
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (concurrent)		Outpatient care									
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (concurrent)		Outpatient care									
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (concurrent)		Pharmacy, Pharmaceuticals and other medical non-durable goods									
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (concurrent)		Pharmacy, Pharmaceuticals and other medical non-durable goods									
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (concurrent)		Specialized treatment									
2	[core] Diagnosis of lung cancer and						Intravenous chemotherapy (concurrent)		Specialized treatment									
2	[core] Diagnosis of lung cancer and	Adults with lung cancer	Brief visit	Follow-up visit for mx of	1	20% of adults with	History and physical examination											
2	[core] Diagnosis of lung cancer and						Basic laboratory tests											

...To the online platform; 24 Cancer Types



UHC Compendium database is linked to an interactive service selection tool which allows users to review from a country specific context and burden of disease.

Countries will be able to select services that best fit their needs, then review package costs and cost-effectiveness and revise packages content based on explicit criteria.

SPDI allows a package to be contextualized and services assigned to country specific service delivery platforms.

Quick access to WHO guidance and references - creating one-stop access to the most up-to-date guidance.

Allows planners and experts to collaborate on package development and revisions.

General approach to cancers

Ovarian cancer

Thyroid cancer

Cervical cancer

Breast cancer

Lung cancer

> Early detection, diagnosis and staging of lung cancer

> Treatment of lung cancer

> Management of complications of lung cancer treatment



	COM	PRE	OPT	1RL	2RL	
> History and physical examination	●	●	●	●	●	⊗
> Basic laboratory tests	●	●	●	●	●	⊗
> Advanced laboratory tests	●	●	●	●	●	⊗
> Computed tomography (CT) scan	●	●	●	●	●	⊗
> Ultrasound	●	●	●	●	●	⊗
> X-ray	●	●	●	●	●	⊗
> Positron emission tomography (PET) scan	●	●	●	●	●	⊗
> Magnetic resonance imaging (MRI)	●	●	●	●	●	⊗
> Spirometry	●	●	●	●	●	⊗
> Bronchoscopy	●	●	●	●	●	⊗
> Biopsy - lung (CT guided)	●	●	●	●	●	⊗
> Biopsy - Transbronchial needle aspiration (non-ultrasound guided)	●	●	●	●	●	⊗

> Early detection, diagnosis and staging of lung cancer

> Treatment of lung cancer

> Management of complications of lung cancer treatment



▼ Intravenous chemotherapy (concurrent)



Tasks

Review advice, provide counselling and information and obtain consent
 Conduct clinical assessment specific to the therapy
 Prescribe intravenous chemotherapy
 Conduct independent check of intravenous chemotherapy prescription regimen and doses
 Prepare hazardous medicine
 Administer intravenous targeted therapy
 Monitor during administration of intravenous chemotherapy
 Provide post-procedural counselling and advice
 Provide post-procedural medical care

Health worker 1

Nursing Professionals →
 Specialist Medical Practitioners →
 Specialist Medical Practitioners →
 Pharmacists →
 Pharmacist →
 Nursing Professionals →
 Nursing Professionals →
 Nursing Professionals →
 Specialist Medical Practitioners →

Health worker 2

Nursing Professionals
 Specialist Medical Practitioners
 Specialist Medical Practitioners
 Pharmacists
 Specialist Medical Practitioners
 Nursing Professionals
 Nursing Professionals
 Nursing Professionals
 Specialist Medical Practitioners

Medical devices

Reusable Clinical assessment Module , Single use Clinical assessment , Single use Blood sampling , Reusable Hazardous Medicine Preparation Module , Single use Hazardous Medicine Preparation , ...

In vitro diagnostic tests

None

Medicines

[Paclitaxel](#), [Etoposide](#), [Carboplatin](#)

Type Of Care

None

Action Category

None

Life stage

None

Programmes

Non-communicable diseases

Links

- [core] Diagnosis of lung cancer and management with surgery, systemic therapy and/or radiation therapy

Links

None

Chemotherapy concurrent to radiotherapy

NONCOMMUNICABLE DISEASES AND MENTAL HEALTH

Cancer

Cervical cancer

Management of invasive cervical cancer

Chemotherapy concurrent to radiotherapy

Curative surgery

Curative radiotherapy

Monitoring for toxicities

Patient counseling

Palliative and supportive care



Short text description

Patients with more advanced stage of cervical cancer (1B2 onwards) are treated with concurrent chemoradiation. The exact treatment protocol will depend on the stage of cancer, histology findings, performance status, and preferences of a patient.

Health programme



Noncommunicable diseases, Palliative care

Target population

Patients with invasive cervical cancer

Age/Life course stage

Relevant stages are marked in blue



Disclaimer: This page provides an illustration of the resource requirements for the selected clinical action. Resource requirements vary in different contexts, and this illustration should be used only as a reference point for contextualization.

Resources required



Health workers: 4



Medicines: 4



Medical devices: 1

Delivery platform

Specialized inpatient services

SDG context



3.4 By 2030, reduce by one third premature mortality from noncommunicable diseases through prevention and treatment and promote mental health and well-being

Classifications

ICD-11 (International classification of diseases)
2C77.Z Malignant neoplasm of cervix uteri, unspecified
MG30.10 Chronic cancer pain
QB97 Chemotherapy session for neoplasm.
XMT7SS Cancer chemotherapy drug regimen

ICHI (International classification of health interventions)
NMF.GA.BA Destruction of lesion or tissue of cervix by radiation therapy

ICF (International classification of Functioning)
b280 Pain
b1309 Energy and drive functions, unspecified

References

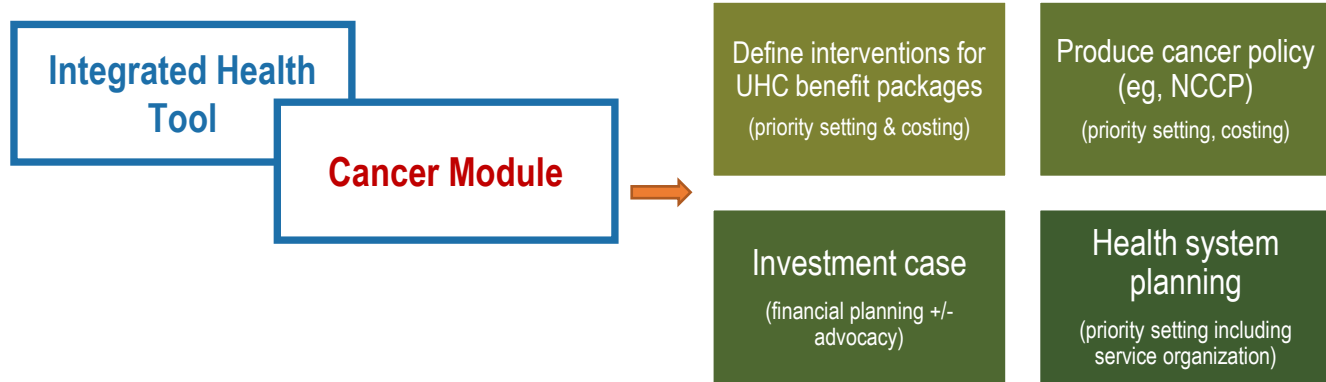
WHO GRC-approved guideline

World Health Organization (2014) Comprehensive cervical cancer control: a guide to essential practice. <https://apps.who.int/iris/handle/10665/144785>

Other WHO reference documents

N/A

The WHO/IARC Priority Setting and Costing Tool (Cancer Module)



Developed with ESMO support

Development

From Old Excel Sheets



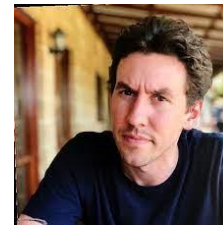
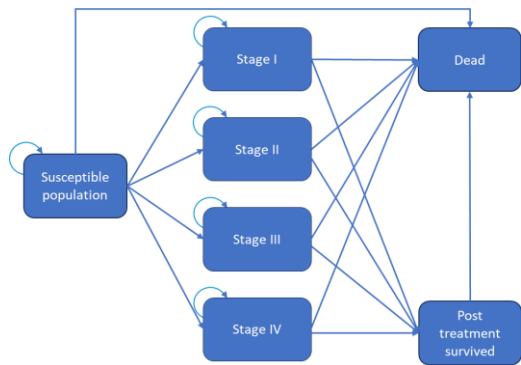
To New Universal Sheets

Thousands of data points for 24 tumour types

B	C	D	E	F	G	H	I
INTERVENTION DETAILS	TIER	ACTIVITY	INGREDIENTS/CONSUMABLES	TYPE	RECEIVING	% DOSE VIAL	# OF UNITS / # of (HRU) / # of visits / # of days / # of procedure/ CYCLE
Tier 2: according to risk pathway (if postlaminar, diffuse channel)	3 drugs: Vincristine, etoposide, carboplatin x 6 cycles, pharmacy tech, prescription and counselling, IV placement, hydration, antimetics, lab monitoring	Outpatient	Oncologist (option #1) or Palliativian (option#2)	V	100	1	20
		HR	100	120	18		
		HR	100	120	18		
		HR	100	120	18		
		HR	100	120	18		
		HR	100	60	18		
		HR	100	60	18		
		HR	100	60	18		
		HR	100	60	18		
		HR	100	60	18		
		D	100	1	6		
		D	100	2	6		
		D	100	1	6		
		D	100	1	6		
		D	100	2	6		
D	100	66	6				
S	100	30	101				
S	100	24	20				
D	10	3	6				
D	25	3	6				
D	100	3	6				
D	100	3	6				
V	15	1	1				
V	100	1	20				
HR	100	120	18				
HR	100	120	18				
HR	100	120	18				
HR	100	120	18				
HR	100	60	18				
HR	100	60	18				
HR	100	60	18				
HR	100	60	18				
D	100	1	6				
D	100	6	6				
D	100	2	6				
D	100	66	6				
S	100	30	101				
E	100	24	20				
E	100	3	6				

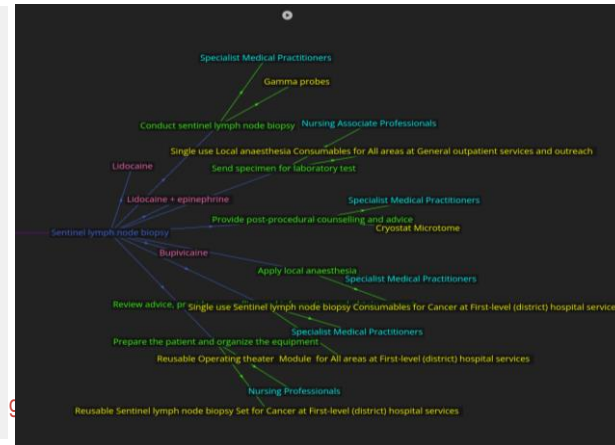
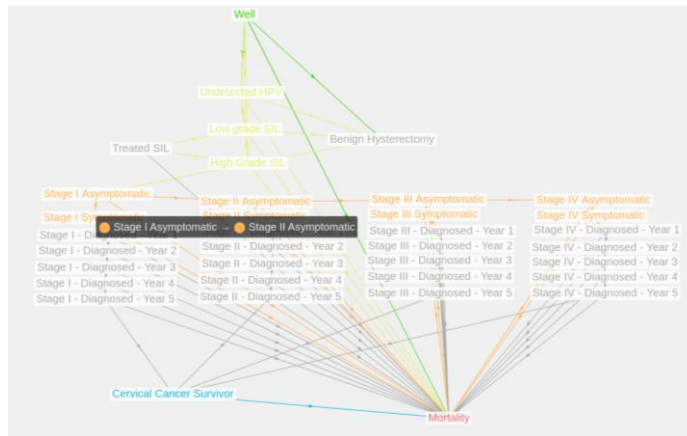
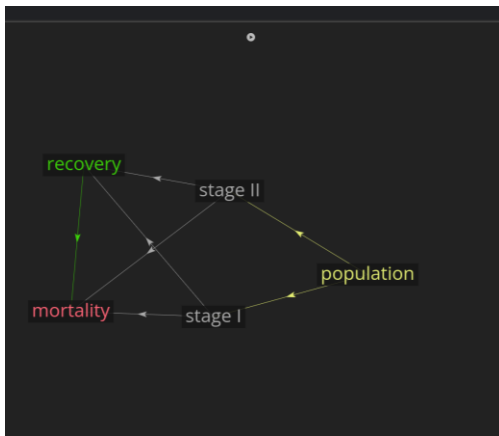
Name of intervention										HEALTH PRODUCT										
Step 1A: Within a chosen intervention, criteria, determine the		Step 2A: Define the type of visit for each bundle				Step 2B: Assign population to each		Step 3a: Assign actions needed for each visit		Step 3b: Define/confirm the		HEALTH PRODUCT								
Bundle ID	Bundle name	Target population	Type of visit (standardised classification - select from dropdown)	Visit description	Step after # visits /	Pop-in need (Visit level) - visit description	% of visits with	Actions	Tasks	Healthcare Setting	% share for HP	Name of Medicine + to Health Product	Included in EMU?	Active/Incription	ATC Code	Route of administration	Strength	Units per day	Units per day	
1	[Diagnosis of lung cancer and ...]	[Diagnosis of lung cancer and ...]	Home visit	Home visit	1	25% of visits with		Open laboratory		Open laboratory										
2	[Diagnosis of lung cancer and ...]	[Diagnosis of lung cancer and ...]	Inpatient stay for	Inpatient stay for	1	25% of visits with		Open laboratory		Open laboratory										
3	[Diagnosis of lung cancer and ...]	[Diagnosis of lung cancer and ...]	Home visit	Home visit	1	25% of visits with		Open laboratory		Open laboratory										
4	[Diagnosis of lung cancer and ...]	[Diagnosis of lung cancer and ...]	Home visit	Home visit	1	25% of visits with		Open laboratory		Open laboratory										
5	[Diagnosis of lung cancer and ...]	[Diagnosis of lung cancer and ...]	Home visit	Home visit	1	25% of visits with		Open laboratory		Open laboratory										
6	[Diagnosis of lung cancer and ...]	[Diagnosis of lung cancer and ...]	Home visit	Home visit	1	25% of visits with		Open laboratory		Open laboratory										
7	[Diagnosis of lung cancer and ...]	[Diagnosis of lung cancer and ...]	Home visit	Home visit	1	25% of visits with		Open laboratory		Open laboratory										
8	[Diagnosis of lung cancer and ...]	[Diagnosis of lung cancer and ...]	Home visit	Home visit	1	25% of visits with		Open laboratory		Open laboratory										
9	[Diagnosis of lung cancer and ...]	[Diagnosis of lung cancer and ...]	Home visit	Home visit	1	25% of visits with		Open laboratory		Open laboratory										
10	[Diagnosis of lung cancer and ...]	[Diagnosis of lung cancer and ...]	Home visit	Home visit	1	25% of visits with		Open laboratory		Open laboratory										
11	[Diagnosis of lung cancer and ...]	[Diagnosis of lung cancer and ...]	Home visit	Home visit	1	25% of visits with		Open laboratory		Open laboratory										
12	[Diagnosis of lung cancer and ...]	[Diagnosis of lung cancer and ...]	Home visit	Home visit	1	25% of visits with		Open laboratory		Open laboratory										
13	[Diagnosis of lung cancer and ...]	[Diagnosis of lung cancer and ...]	Home visit	Home visit	1	25% of visits with		Open laboratory		Open laboratory										
14	[Diagnosis of lung cancer and ...]	[Diagnosis of lung cancer and ...]	Home visit	Home visit	1	25% of visits with		Open laboratory		Open laboratory										
15	[Diagnosis of lung cancer and ...]	[Diagnosis of lung cancer and ...]	Home visit	Home visit	1	25% of visits with		Open laboratory		Open laboratory										

Evolution: Dynamic State Transition Model



Rory Watts, Forecast Health Australia

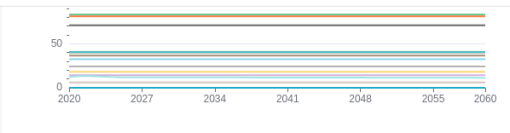
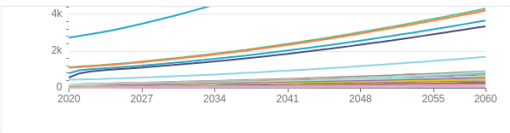
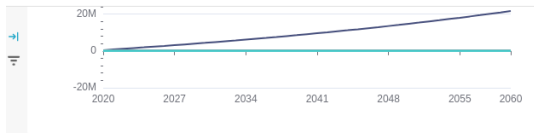
To software development and modeling



Present: Online Interface

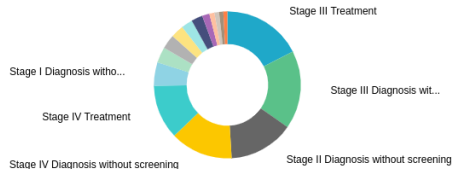
Colorectal Cancer - Business as Usual Draft

EDIT DASHBOARD



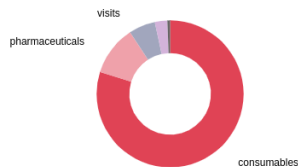
Cost drivers by node

Stage III Treatment Stage III Diagnosis without screening



Cost drivers by category

consumables pharmaceuticals visits equipment



Cost drivers by category, resource

category	resource	SUM(cost)
consumables	Polypectomy snare	3.08M
consumables	Wire oval snare	2.92M
consumables	Baxter elastomeric pump	2.77M
consumables	Endoscopic hemoclip	2.28M
pharmaceuticals	Aprepitant, 125mg - 80mg - 80mg (3 pills) package	1.19M
consumables	Ultrasound probe cover	649k
consumables	Electrolytes	407k
consumables	Peroxidase	383k
visits	Outpatient	377k
consumables	Alkaline phosphatase	365k
visits	Inpatient	349k

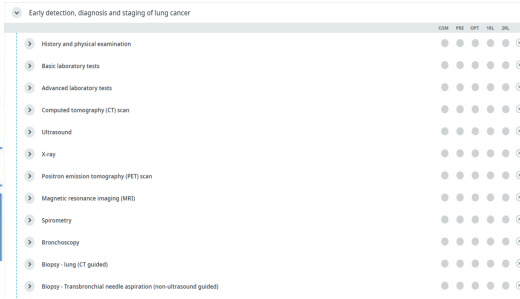
Resources consumed over time

node	category	resource	metric	SUM(qty)																											
			timestamp	2020-01-01	2021-01-01	2022-01-01	2023-01-01	2024-01-01	2025-01-01	2026-01-01	2027-01-01	2028-01-01	2029-01-01	2030-01-01	2031-01-01	2032-01-01	2033-01-01	2034-01-01	2035-01-01	2036-01-01	2037-01-01	2038-01-01	2039-01-01	2040-01-01	2041-01-01	2042-01-01	2043-01-01	2044-01-01	2045-01-01	2046-01-01	2047-01-01
Stage I Diagnosis without screening	UNKNOWN	unknown	9.81	18.76	26.94	34.48	41.49	48.07	54.31	60.26	65.99	71.53	76.92	82.2	87.4	92.54	97.65	102.74	107.86	113	118.19	123.44	128.76	134.15	139.63	145.19	150.86	156.64	162.52	168.51	174.62
		consumables	9.81	18.76	26.94	34.48	41.49	48.07	54.31	60.26	65.99	71.53	76.92	82.2	87.4	92.54	97.65	102.74	107.86	113	118.19	123.44	128.76	134.15	139.63	145.19	150.86	156.64	162.52	168.51	174.62
		Endoscopic hemoclip	9.81	18.76	26.94	34.48	41.49	48.07	54.31	60.26	65.99	71.53	76.92	82.2	87.4	92.54	97.65	102.74	107.86	113	118.19	123.44	128.76	134.15	139.63	145.19	150.86	156.64	162.52	168.51	174.62
		Formalin	9.81	18.76	26.94	34.48	41.49	48.07	54.31	60.26	65.99	71.53	76.92	82.2	87.4	92.54	97.65	102.74	107.86	113	118.19	123.44	128.76	134.15	139.63	145.19	150.86	156.64	162.52	168.51	174.62
		H&E staining	9.81	18.76	26.94	34.48	41.49	48.07	54.31	60.26	65.99	71.53	76.92	82.2	87.4	92.54	97.65	102.74	107.86	113	118.19	123.44	128.76	134.15	139.63	145.19	150.86	156.64	162.52	168.51	174.62
		Microplate, ELISA, 96 U-well	9.81	18.76	26.94	34.48	41.49	48.07	54.31	60.26	65.99	71.53	76.92	82.2	87.4	92.54	97.65	102.74	107.86	113	118.19	123.44	128.76	134.15	139.63	145.19	150.86	156.64	162.52	168.51	174.62

Outline

1. Context for the tool
2. Priority Setting
3. Structure of the tool
4. Case study

The Process: 3 D



Inputs

Current service analysis

Select package, scale-up

Outputs

Data

Dialogue

Decision

Assessment tool
IARC, WHO, IAEA database
country situational analysis

Country Snapshot
Service provision,
Unmet need
Quality, coverage

User select, scale-up
24 cancers
>150 interventions

Impact
System requirement
Scale-up
Total costs

Country Example

1st Feasibility assessment, scenarios and priorities

Management Policies	
Cancer guidelines	yes
Cancer guidelines incl drug-specific protocols	yes
Cancer guidelines (utilized in >50% facilities)	yes
Cancer guideline (last updated)	2019
Cancer guidelines (include referral criteria)	yes
Breast cancer early detection pgm/guidelines	yes
Cervical cancer early detection pgm/guidelines	yes
Colon cancer early detection pgm/guidelines	no
Childhood cancer early detection pgm/guidelines	no
Breast cancer defined referral	
Cervical cancer defined referral	
Colon cancer defined referral	
Childhood cancer defined referral	no
Breast cancer screening pgm	yes
Breast cancer screening pgm (type)	opportunistic
Breast cancer screening pgm (method)	clinical breast exam
Breast cancer screening pgm (coverage)	>50% and <70%
Breast cancer screening pgm (target age start)	15
Breast cancer screening pgm (target age end)	60
Breast screening test performance (sens)	
Breast screening test performance (sens)	
Cervical cancer screening pgm	yes
Cervical cancer screening pgm (type)	opportunistic
Cervical cancer screening pgm (method)	visual inspection
Cervical cancer screening pgm (coverage)	>50% and <70%
Cervical cancer screening (STEPS)	
Cervical cancer screening pgm (target age start)	15
Cervical cancer screening pgm (target age end)	60

Goal: ↑coverage by 1% per yr, focusing on women + children

2nd Health system planning & capacity



EQUIPMENT

Pathology
Radiology
Cancer Diagnosis
Prostate Cancer
Diagnosis
Palliative care



CONSUMABLES

Records
Endoscopy
Radiology and Nuclear
Medicine Treatment
Palliative care.



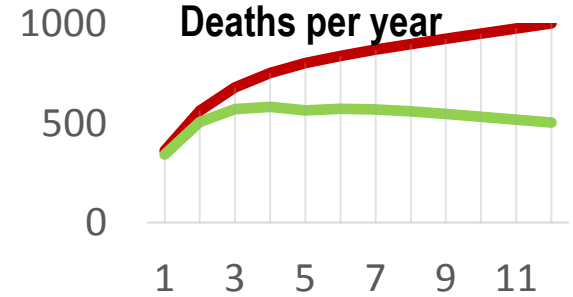
TRAINING

In service training
Quality control programs
Early Diagnosis Policies
Service Organization Others

Capacity: workforce as bottleneck to reach goal

3rd

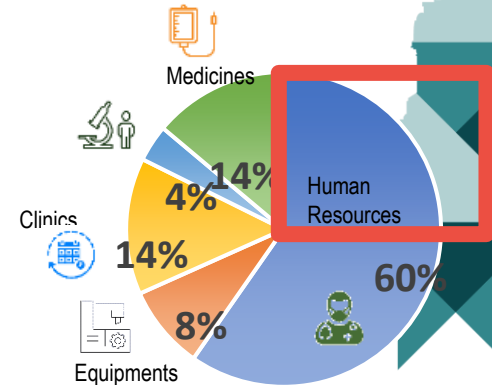
Generate business model



— Baseline (no further investment)

— Scale-up (1% ↑ coverage / year)

Investment: ↑\$US 0.30 to save 100 lives per year (50% <60yo)



Conclusions

- Cancer is emerging public health priority, improving access is achievable, WHO ready to support
- Costing cancer control plan is critical step to effective implementation and improving access to cancer care
- Cancer control doesn't need to be expensive, but it does need to be prioritized
- Priority-setting, stakeholder-led “dialogues” foundational to success, founded on “data”
- Investment cases must show the full social and economic impact of cancer
- Align with broader policy discussions (eg, national health plans)
- WHO – working with IARC, IAEA, ICCP and others – have tools to support

Thank you

WHO



Further information on cancer is available at: <https://www.who.int/health-topics/cancer>.

Dr Bente Mikkelsen, Director, Department of NCDs (mikkelsenb@who.int);

Dr Slim Slama, MND Unit Head, Department of NCDs (slamas@who.int);

Dr André Ilbawi, Technical lead, cancer control, Department of NCDs (ilbawia@who.int)

Dr. Roberta Ortiz, Medical Officer, cancer control, Department of NCDs (ortizr@who.int)

Dr. Filip Meheus, Health Economist, Health Economics Unit (meheusf@who.int)

casolinor@who.int

Partners

