Patient Centred Framework for TB programming for the development of optimized National Strategic Plans (PCF4NSP)

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Why do we need a new approach?

The current one is clearly not working …

- The notification gap is not closing fast enough
- Country strategies are often donor and or theme driven - not evidence
- Available data is not utilised (systematically and correctly)
- Strategies largely concentrate on accelerated case finding & notification - limited consideration of patients' & systems' needs (full package of care)
- Funding allocation is compartmentalised & often inefficient
- Planning ignores stakeholder comparative advantages & complementarity
- Ambitions do not match available resources
- Prioritization overrides optimization
- Patient needs are largely ignored

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Strategic Focus

Close the gaps along the care continuum to find and cure ALL people with TB

Differentiated response by counties to address TB in local contexts

Optimise the implementation of TB services within UHC

Prevent infection, active disease, morbidity and mortality due to TB

Patient-centred approach that promotes quality of care

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The Philosophy

New data acquired over the past 2-5 years will drive a **targeted and prioritised approach**.

NSP reflects a **patient-centred approach** to planning and **evidence-based prioritisation** of resource allocation to close the gaps along the patient pathway to quality care.

The NSP is operationalised through a **partnership framework** aligned to each **stakeholder's comparative advantage**.

Activities **address systemic and root causes** of the gaps **along the patient pathway**, suggesting the **complementary roles** of sub-national and central governments, departments across the Ministry of Health, partners and other sectors.

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Additional benefits:

- Countries gain strategic advantage, capacity and a set of tailor-made (country specific) monitoring & planning tools
- Solid framework for evidence based progress monitoring
- Improved stakeholder buy-in, co-ownership and commitment
- Enhanced partner engagement and service delivery/ care network

Goosby, E., Jamison, D., Swaminathan, S., et al. (2018) The Lancet Commission on Tuberculosis: Building a Tuberculosis-Free World. The Lancet 391, no. 10126: 1132-33

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Data consolidation along the patient pathway

People not accessing the health system			People with TB seeking care but either not diagnosed or not notified			People notified as a TB case but not successfully treated		
People with TB infection, high-risk for disease	Asymptomatic disease, not seeking care	Symptomatic disease, not seeking care	Presenting to health facilities, not diagnosed	Diagnosed by non-NTP, not notified	Diagnosed by NTP, not notified	Diagnosed, not started on treatment	Notified, not successfully treated	Successfully treated (not relapse free)
Evidence on Epidemiology	Data	Data	Data	Data	Data	Data	Data	Data	Data
Evidence on People	Data	Data	Data	Data	Data		Data	Data	
Evidence on Systems			Data	Data	Data	Data	Data	Data	Data

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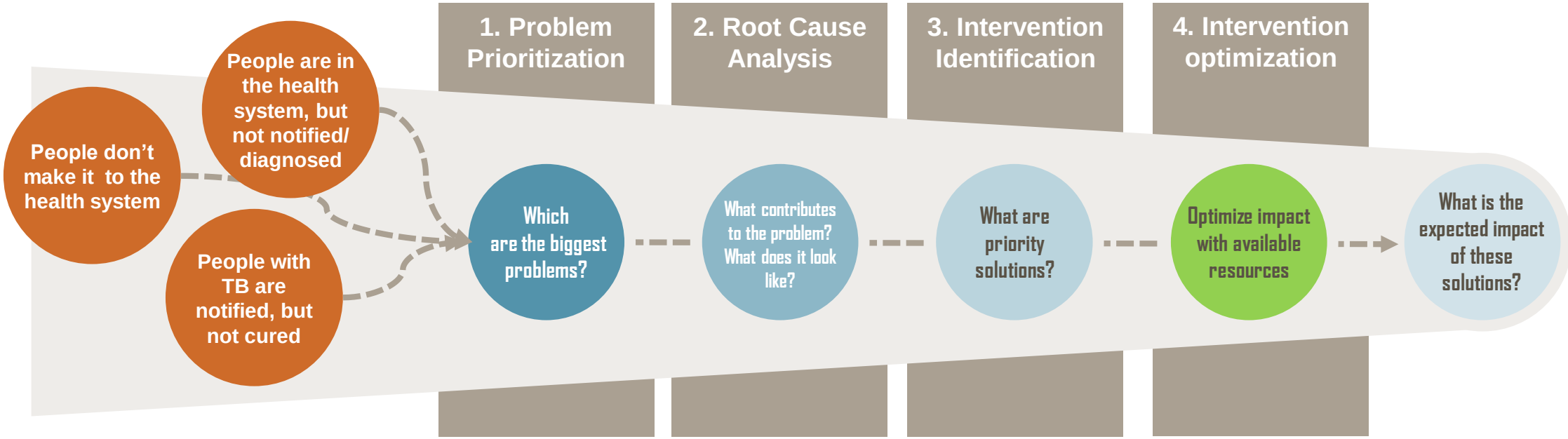
Framework for prioritization and planning

Reviewing the evidence about the biggest **epidemiological challenges** and the biggest **challenges on a patient's pathway to care** can help to identify which sets of problems should be priorities for the national TB programme.



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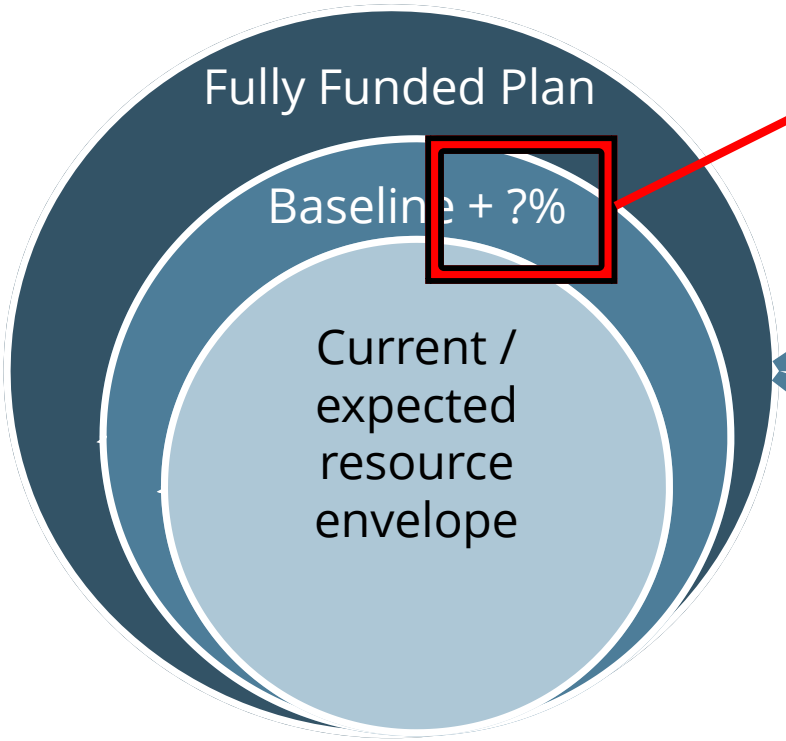
Aim: *To create a national plan that is prioritized to reflect optimal allocative efficiency given at least 3 funding scenarios: 1) current / expected resource envelope, 2) +?% increase; and 3) fully funded*



Acceptable additional resource input vs worthwhile enhancement/ improvement of impact

Which will enable:

- Prioritized allocation of domestic budget
- Framework for allocation of sub-national budgets
- Prioritized investment case
- NSP-based funding application to Global Fund
- Expression of priorities for other donor funding and research activities

The Ask

- By 2021, at least 10 high TB burden countries will have prioritized NSPs that optimize impact given known resources.
- 6 countries will have successfully applied through the GF NSP tailored FR mechanism
- 3 of which will have applied NSP optimization using impact modelling and economic evaluation
- By End 2019 a draft NSP optimization guideline, and toolkit will be available

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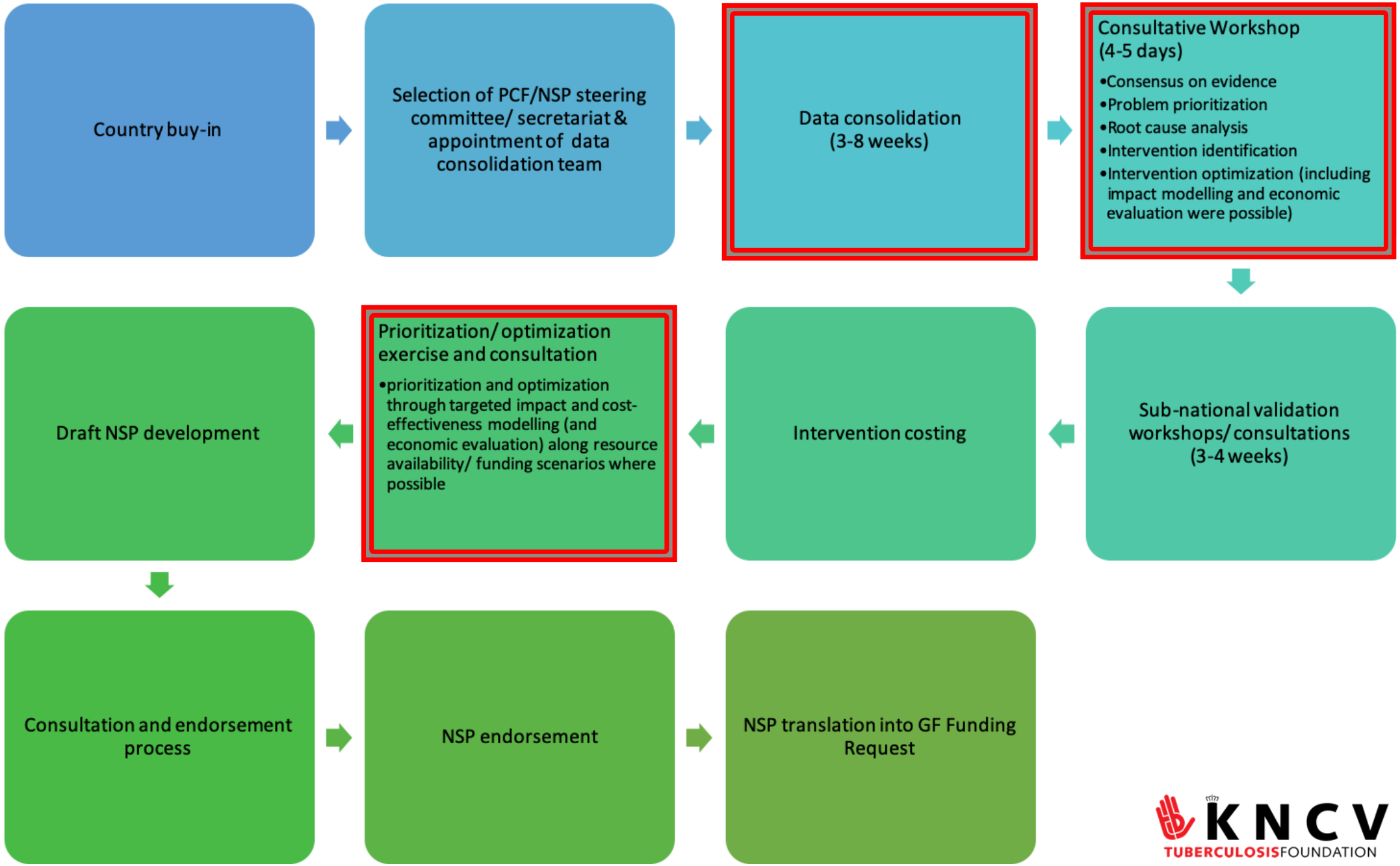
Process



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Data consolidation:
Data and evidence mapped to the care continuum

- Priority setting requires : Know your epidemiology, know your patient, know your system

Patient / System / Epi	People don't make it to the health system				People with TB in the health system, but not notified/diagnosed			People with TB are notified, but not cured		Total
	People with TB infection, high-risk for disease	Asymptomatic disease, not seeking care	Symptomatic disease, not seeking care		Presenting to health facilities, not diagnosed	Diagnosed by non-NTP, not notified	Diagnosed by NTP, not notified	Notified, not durable cure	Durable cure (relapse free)	
		5	6	DS-TB	1	2				
				DR-TB	3	4				
				TB/HIV						
Total										

Important metrics from available evidence resources (see following slides)

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Data sources

Evidence on Epidemiology	Evidence on People	Evidence on Systems
TB Prevalence Survey	Patient Pathway Analysis	Service Availability & Readiness Assessment
Drug Resistance Survey	Relevant Policies and other relevant strategic plans and disease and social programmes	Joint Assessment of National Health Strategies and Plans
Surveillance data	Surveys on health seeking behaviour, patient costs, nutrition etc.	Health Expenditure Utilisation Survey
Epidemiological Review	Respondent driven surveys	Cascade analyses
Mortality studies	Adherence studies	Inventory studies
National Strategic Plan	Joint TB and HIV Program Review	Health Sector Strategic Plan
Global TB Reports	Demographic Health Survey	World Social Protection Report
Literature review of published articles, (TA) reports, grey literature		

Risk of data overload and excessive burden on the system

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PCF4NSP tools

PCF data consolidation & visualisation tool 3

Patient Pathway Analysis

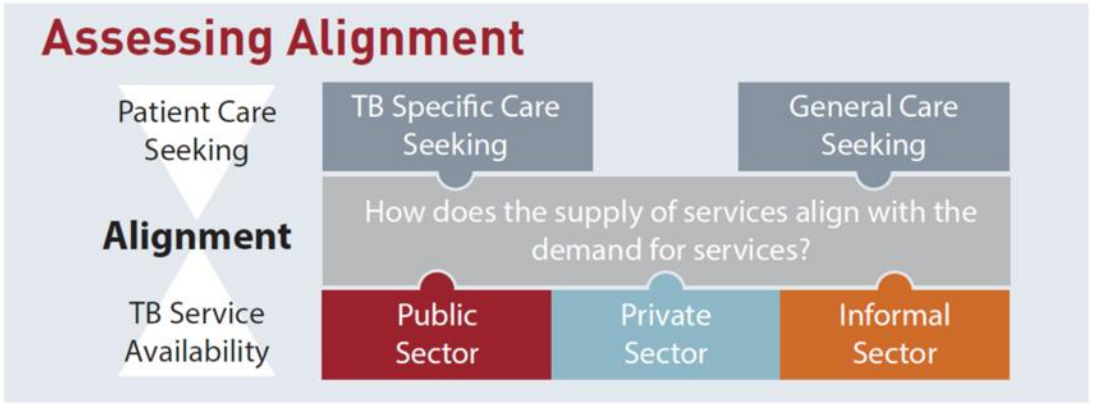
Assessing the Alignment of TB Patient Care Seeking & TB Service Delivery

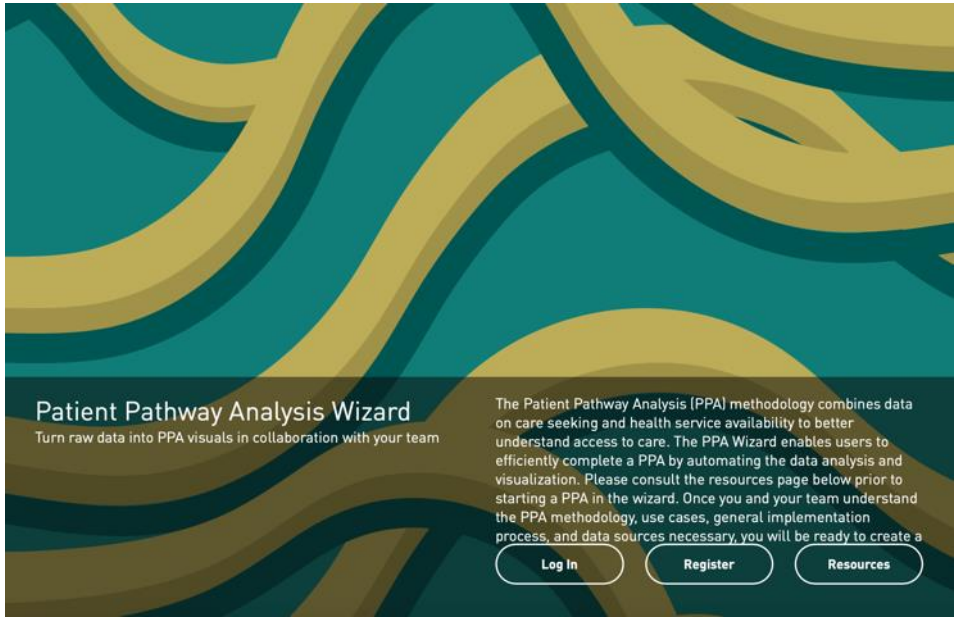
PPA WIZARD

How Do You Plan for Patient-centred Care?

If services do not meet patients where they are, care may be delayed or patients may be missed

- The PPA was designed to help public health programmes align with patient care seeking preferences





https://ppa.linksbridge.com/home

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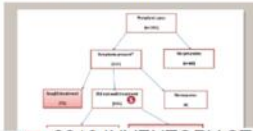
Country Profile data summary sheets

2017 EPI REVIEW

- Between 2012 and 2016 TB notifications decreased on average by 6% per year from 98,400 to 73,066. The biggest decrease of 10.4% was in 2016; 8,509 cases less than in 2015 (n= 81,575). Since the introduction of GeneXpert there has been a slight increase in the number of bacteriologically confirmed cases but the overall impact on case notifications

2016 PREVALENCE SURVEY



- 65% of people with TB symptoms had not sought health care for their symptoms prior to the survey; the majority of them were men. Among the prevalent cases who had sought prior care for their respiratory symptoms, 80% of them had not been diagnosed with TB before the survey.
- Of those who provided a reason for not seeking

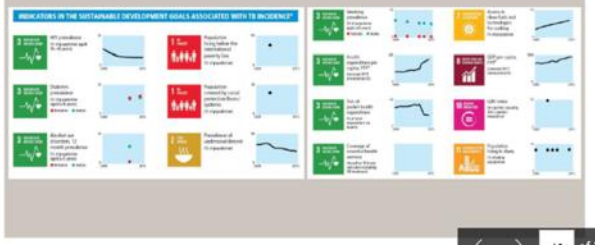
2017 PATIENT PATHWAY ANALYSIS

- Only 43% of people who seek care are likely to visit a health facility with capacity for DS-TB diagnosis on their first visit to

2016 INVENTORY STUDY (1/2)

- In the subcounties sampled, 715 of 3409 smear-positive TB cases in laboratory registers were not found in TIBU. The estimated level of under-reporting of smear-positive TB cases in Kenya was

2017 WHO GLOBAL TB REPORT



2013 HEALTH EXPENDITURE UTILIZATION SURVEY

- 12.7% of patients reported some sickness bu did not seek care, down from 22.8% in 2003.
- Nearly 40% of these people reported that the did not consider their illness serious enough to seek care

PEOPLE WITH TB IN THE SYSTEM, NOT NOTIFIED OR DX

Presenting to health facilities, not diagnosed

1. Only 43% of people who seek care are likely to visit a health facility with capacity for DS-TB diagnosis on their first visit to the health care system. Even fewer are likely to receive a DR diagnosis on their first visit
7. Among bacteriologically confirmed cases, 5% were on current TB treatment, 24% had a past history of TB treatment, and 71% had no history of TB treatment. Among the prevalent cases who had sought prior care for their respiratory symptoms, 80% of them had not been diagnosed with TB before the survey.

Diagnosed, not notified

1. The estimated level of under-reporting of smear-positive TB cases in Kenya was 20.7% (95%CI 18.4–23.0). In the subcounties sampled, 715 of 3409 smear-positive TB cases in laboratory registers were not found in TIBU.
2. Under-reporting was greatest in high TB burden subcounties (23%) and lowest in low TB burden subcounties (13%). The highest level of under-reporting occurred in the Nairobi region (33%), while the lowest occurred in the North Eastern region (12%)
9. The gap between prevalence and notification rates is higher among males, age groups 25-34, and the older age group of 65 years and above.
4. In 2016 the ratio of children under 5 to children aged 5-14 years was 1.0:1.0 which is lower than the expected range of 1.5-3:1 indicating that there is under-diagnosis and/or under-reporting in this age group.

Diagnosed by private sector, not notified

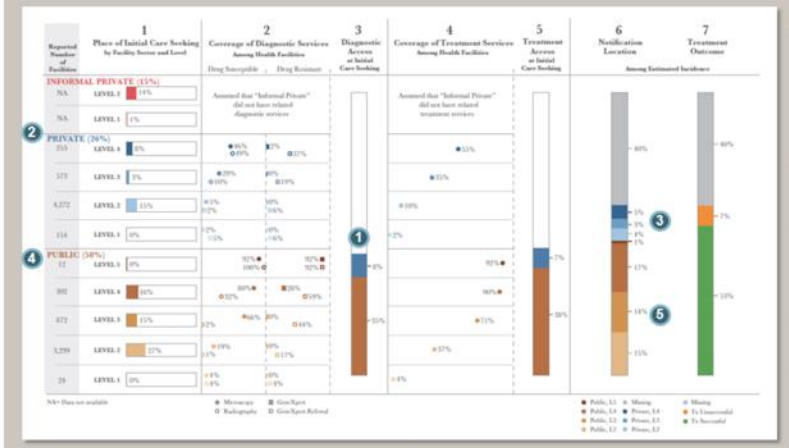
2. 41% of people initiate their care seeking journey in private (formal or informal) facilities.
3. Diagnostic capacity exists in the private sector, however notifications from the private sector only account for 12% of the estimated burden
3. In multivariable analysis, unreported cases were significantly more likely to have been diagnosed at a private facility (aOR 2.6, 95%CI 1.8–3.9)

Diagnosed by public sector, not notified

4. 58% of people initiate their care seeking journey in public facilities.
5. Diagnostic capacity exists in Levels 2-5 of the health care system, and notifications from the public sector accounted for approximately 47% of the estimated burden.
4. 84.5% of total cases found in the study were coming from public health facilities
5. Of those unreported cases, 81% were coming from public health facilities

2016 Prevalence Survey · 2017 WHO TB Report · 2014 DHS · 2016 Inventory Study
2017 Patient Pathway Analysis · 2017 Epi Review · 2013 HEUS

2017 PATIENT PATHWAY ANALYSIS



1. Only 43% of people who seek care are likely to visit a health facility with capacity for DS-TB diagnosis on their first visit to the health care system. Even fewer are likely to receive a DR diagnosis on their first visit
2. 41% of people initiate their care seeking journey in private (formal or informal) facilities.
3. Diagnostic capacity exists in the private sector, however only notifications from the private sector only account for 12% of the estimated burden
4. 58% of people initiate their care seeking journey in public facilities.
6. Diagnostic capacity exists in Levels 2-5 of the health care system, and notifications from the public sector accounted for approximately 47% of the estimated burden.

Note: The PPA was completed based on 2016 data so may differ from data presented in the 2017 WHO report

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[Country] TB Profile

#	Classification	Primary data indicators	Suggested data source	Document name	Page number	Data Type	2014	2015	2016	2017	2018	Numerator	Denominator	Narrative
1a	Epi DS-TB or general	Estimated TB prevalence absolute number (latest estimate and trends)	TB Prevalence survey(s)			#	3000	4500	3670	5119				
1b	Epi DS-TB or general	Estimated TB prevalence rate per 100,000 population (latest estimate and trends)	TB Prevalence survey(s)			#								
2	Epi DS-TB or general	Ratio of TB prevalence in male to female	TB Prevalence survey(s)			ratio								
3	Epi DS-TB or general	Ratio of TB prevalence urban and rural settings	TB Prevalence survey(s)			ratio								
4a	Epi DS-TB or general	Estimated proportion of childhood TB (0-14 years)	TB Prevalence survey(s)			ratio								
4b	Epi DS-TB or general	Estimated proportion of TB among people with productive age (15 to 34 years)	TB Prevalence survey(s)			ratio								
4c	Epi DS-TB or general	Estimated proportion of TB among people above 65 years	TB Prevalence survey(s)			ratio								
5a	Epi DS-TB or general	Estimated TB incidence absolute number (latest estimate and trends)	NSP or global TB database (for trends)			#, rate, trends								
5b	Epi DS-TB or general	Estimated TB incidence rate per 100,000 population (latest estimates)	GTBR or global TB database			#, rate, trends								
6a	Epi RR/MDR-TB	WHO estimate on RR/MDR-TB incident patients (absolute number)	GTBR			#, rate								
6b	Epi RR/MDR-TB	WHO estimate on RR/MDR-TB incident patients (rate per 100,000 population)	GTBR			#, rate								
7a	Epi TB/HIV	WHO estimate on TB/HIV incident patients (absolute number)	GTBR			#, rate								
7b	Epi TB/HIV	WHO estimate on TB/HIV incident patients (rate per 100,000 population)	GTBR			#, rate								
8a	Epi DS-TB or general	WHO estimate on childhood TB incident patients (absolute number)	GTBR			#, %								
8b	Epi DS-TB or general	WHO estimate on childhood TB incident patients (proportion)	GTBR			#, %								
9a	Epi DS-TB or general	Estimated TB mortality absolute number (latest and trends)	GTBR (for trends), Global TB database (for trends)			#, rate, trends								
9b	Epi DS-TB or general	Estimated TB mortality rate per 100,000 population (latest and trends)	GTBR (for trends), Global TB database (for trends)			#, rate, trends								
10	Epi RR/MDR-TB	TB treatment mortality rate in RR/MDR-TB cases (latest and trends)* (add trends in the narrative column)	Surveillance data			%, trends								
11	Epi DS-TB or	TB case fatality ratio	GTBR or Global TB			%								

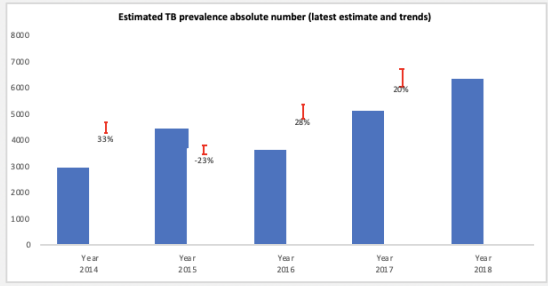
INSTRUCTIONS=> | Sub-National Levels | Country TB Profile Sec1 | Country TB Profile Sec 2,3&4 | Dashboard

[Country Name] TB profile Dashboard

SECTION 1: Select TB indicator from the drop down menu below to view data trends

		Year 2014	Year 2015	Year 2016	Year 2017	Year 2018
1a	Estimated TB prevalence absolute number (latest estimate and trends)	3000	4500	3670	5119	6400
	[Enter Trends as narrative]					

NO DATA ENTRY HERE



SECTION 2: Select TB indicator from the drop down menu below to few ata across health sector and levels

		Public Tertiary	Public Secondary	Public Primary	Public Community	Non-Public Tertiary	Non-Public Secondary	Non-Public Primary	Non-Public Community
34	Place of Initial Care Seeking: Proportion of patients that initiate their care seeking journey in facilities at the different levels and sectors	0.32	0.15	0.18	0.2			0.06	0.08
	No Data Trends or Narrative								

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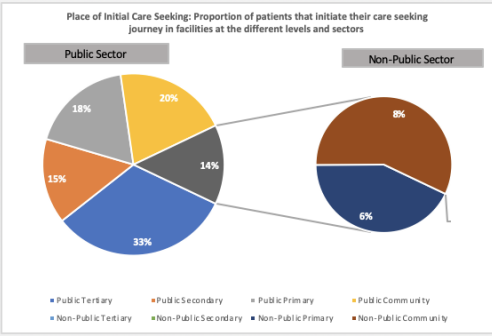

SECTION 3: Only one TB indicator here already displayed (no drop down menu to select from) showing trends across the different subna

		Sub-national level1	Sub-national level2	Sub-national level3	Sub-national level4	Sub-national level5	Sub-national level6	Sub-national level7	Sub-national level8
41	Proportion of TB prevalence across subnational geographic areas (Applicable if prevalence survey is designed to have sub national point estimate)	0.32	0.05	0.02	0.15	0.25	0.07	0.05	0.09
	No Data Trends or Narrative								

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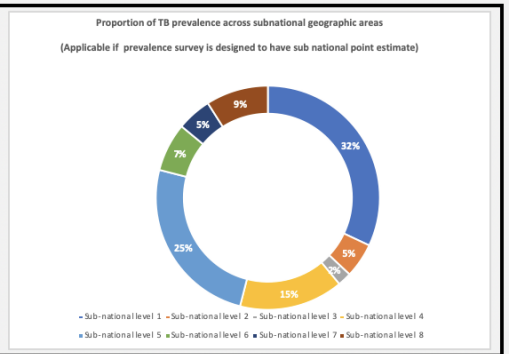

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ID	Primary data indicators	Data Priority	Suggested da
EPI: 1.1.1	What is the available evidence on TB screening including contact investigation among people with a h		
1.1.1.1	Proportion of eligible individuals in at-risk populations (as defined by national guidelines) tested for LTBI infection*	Core	Surveillance c
1.1.1.2	Proportion of individuals in at-risk populations (according to national guidelines) with a positive LTBI test who are eligible for TB preventive treatment and who have started treatment*	Core	Surveillance c
1.1.1.3	Proportion of eligible individuals in at-risk populations (according to national guidelines) with a positive LTBI test who started TB preventive treatment and completed the course*	Core	Surveillance c
1.1.1.4	Proportion of eligible people living with HIV who completed a course of TB preventive treatment*	Core	Surveillance c
1.1.1.5	Proportion of children < 5 years who are household contacts of TB cases (according to national guidelines) who have completed a course of TB preventive treatment*	Core	Surveillance c
1.1.1.6	Proportion of children < 5 years who are household contacts of TB cases (according to national guidelines) who have completed investigations for TB*	Supplementary	Surveillance c
1.1.1.7	Proportion of children < 5 years old who are household contacts of TB cases (according to national guidelines) who are eligible for TB preventive treatment who have started treatment*	Supplementary	Surveillance c

Instructions => | TB Care Continuum 1=> | D

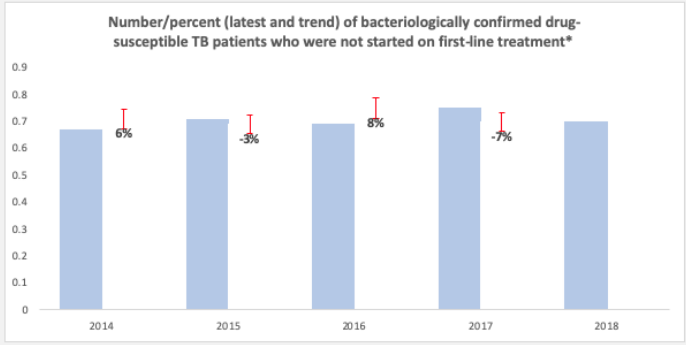
TB Care Continuum: 3. People notified as a TB patient but not successfully treated

Narrative

Select Epidemology Evidence to view data trends

Epidiomology Indicator	2014	2015	2016	2017	2018
3.1.1.1 Number/percent (latest and trend) of bacteriologically confirmed drug-susceptible TB patients who were not started on first-line treatment*	0.67	0.71	0.69	0.75	0.7

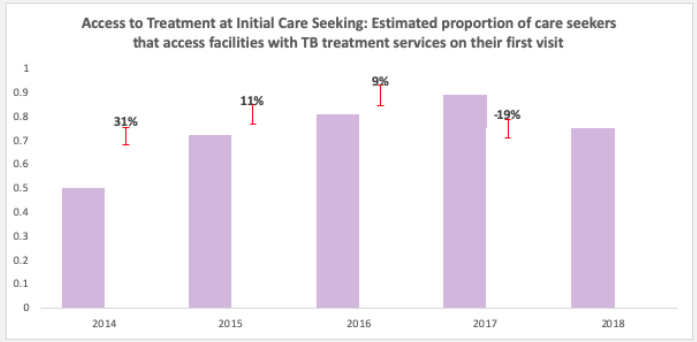
There was nationwide stock out of TB drugs in Q2 and Q3 of 2018, this affected the number of patients put on the first line treatment



Select People Evidence to view data trends

Epidiomology Indicator	2014	2015	2016	2017	2018
3.1.2.1 Access to Treatment at Initial Care Seeking: Estimated proportion of care seekers that access facilities with TB treatment services on their first visit	0.5	0.72	0.81	0.89	0.75

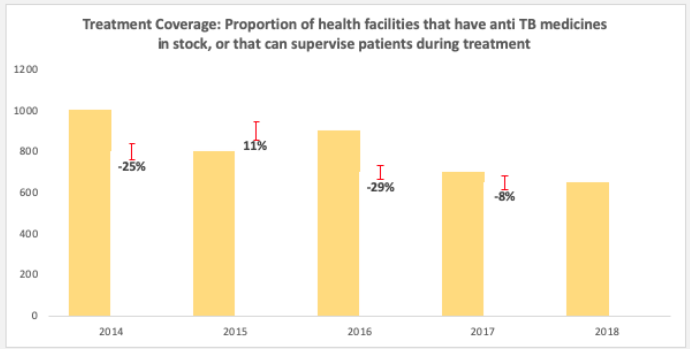
Test working



Select System Evidence to view data trends

Epidiomology Indicator	2014	2015	2016	2017	2018
3.1.3.1 Treatment Coverage: Proportion of health facilities that have anti TB medicines in stock, or that can supervise patients during treatment	1000	800	900	700	650

Absolute numbers



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Workshop aims and steps:

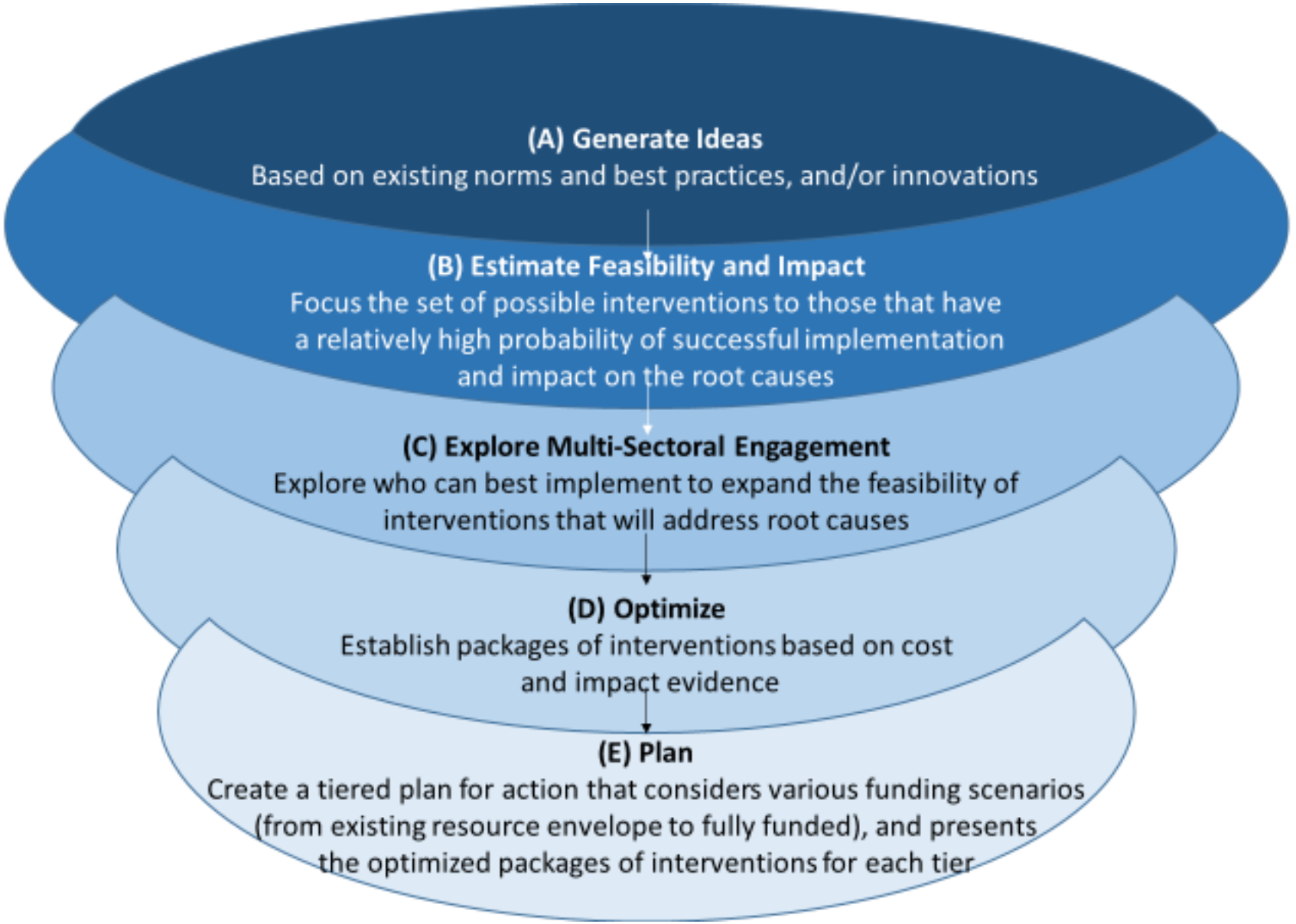
Consensus on evidence [potentially pre CWS?]

Problem Prioritization ("which are the biggest problems?")

Root cause analysis ("what causes/ contributes to these problems?")

Intervention optimization ("what are priority solutions to optimize impact?")

- *Intervention identification ("what needs to be/ can be done?")*
- *Intervention optimization ("what works best vs what can we afford?") - ["best guess", impact modelling, economic evaluation]*
- *Intervention allocation ("who and where?")*



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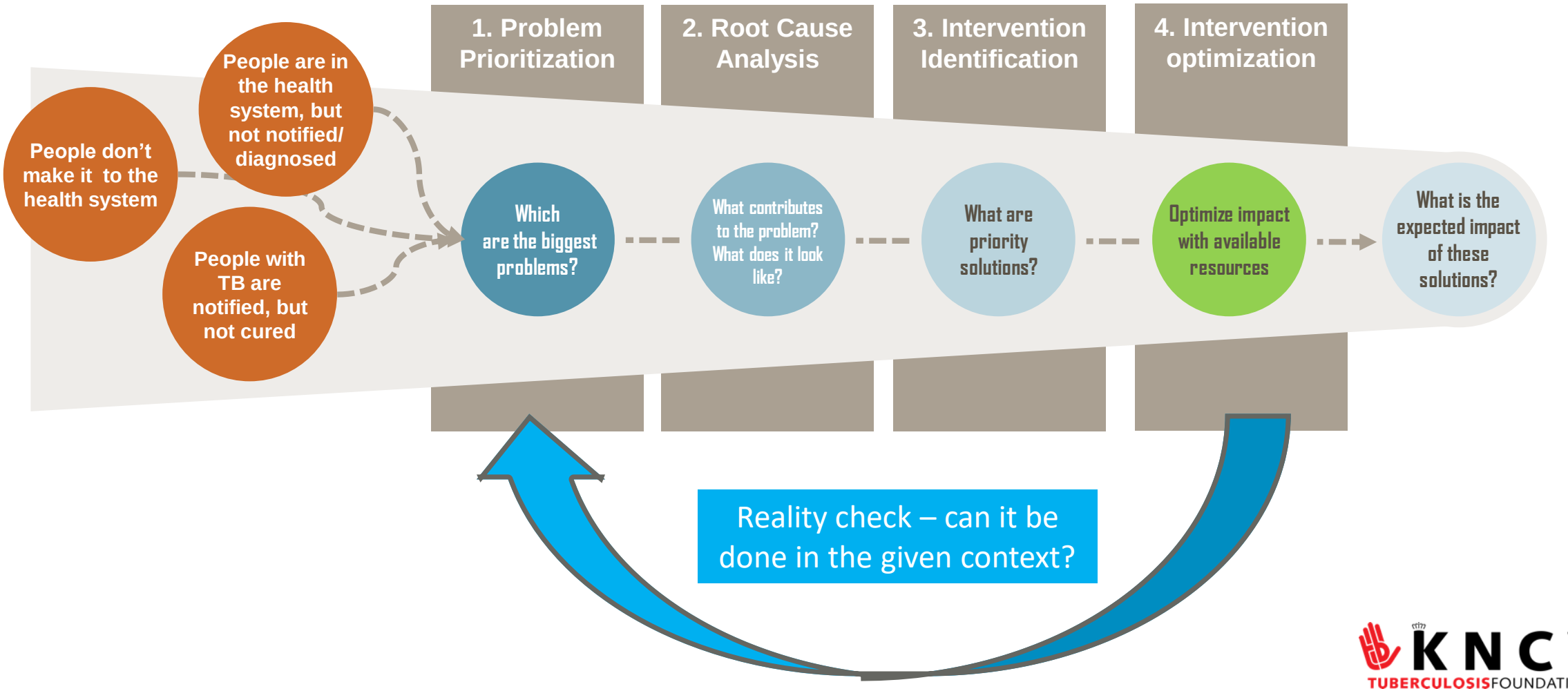
Intervention optimization

"What is feasible?"



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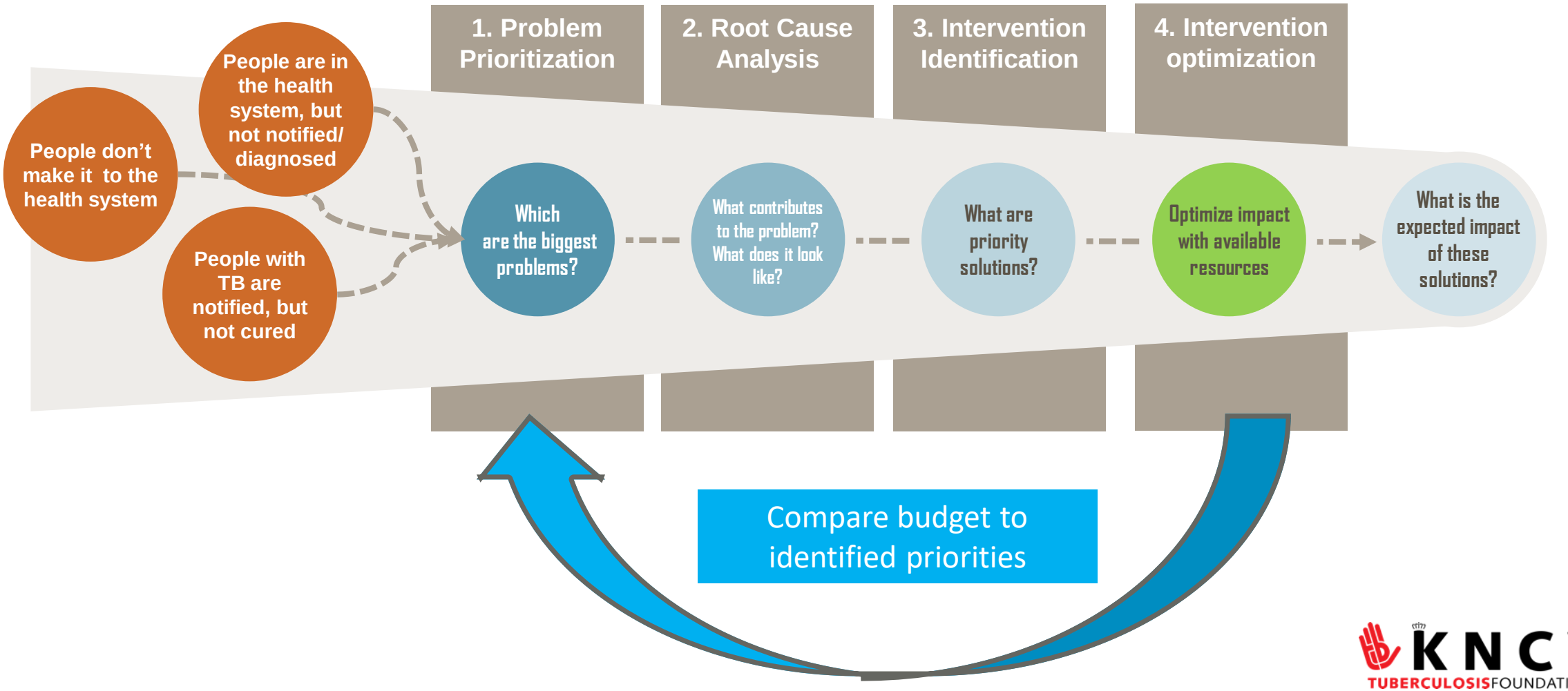
Intervention optimization

"What can we afford?"



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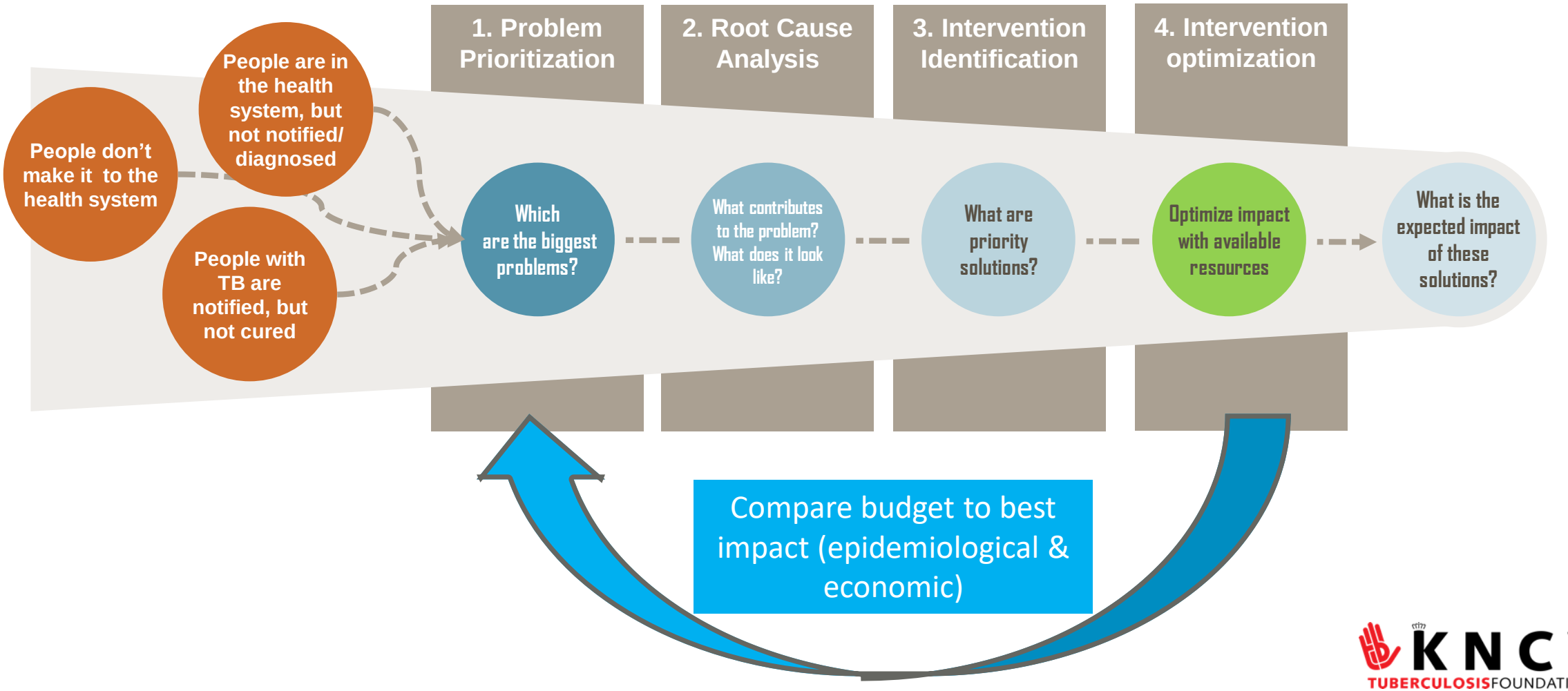
Intervention optimization

"What makes most sense?"



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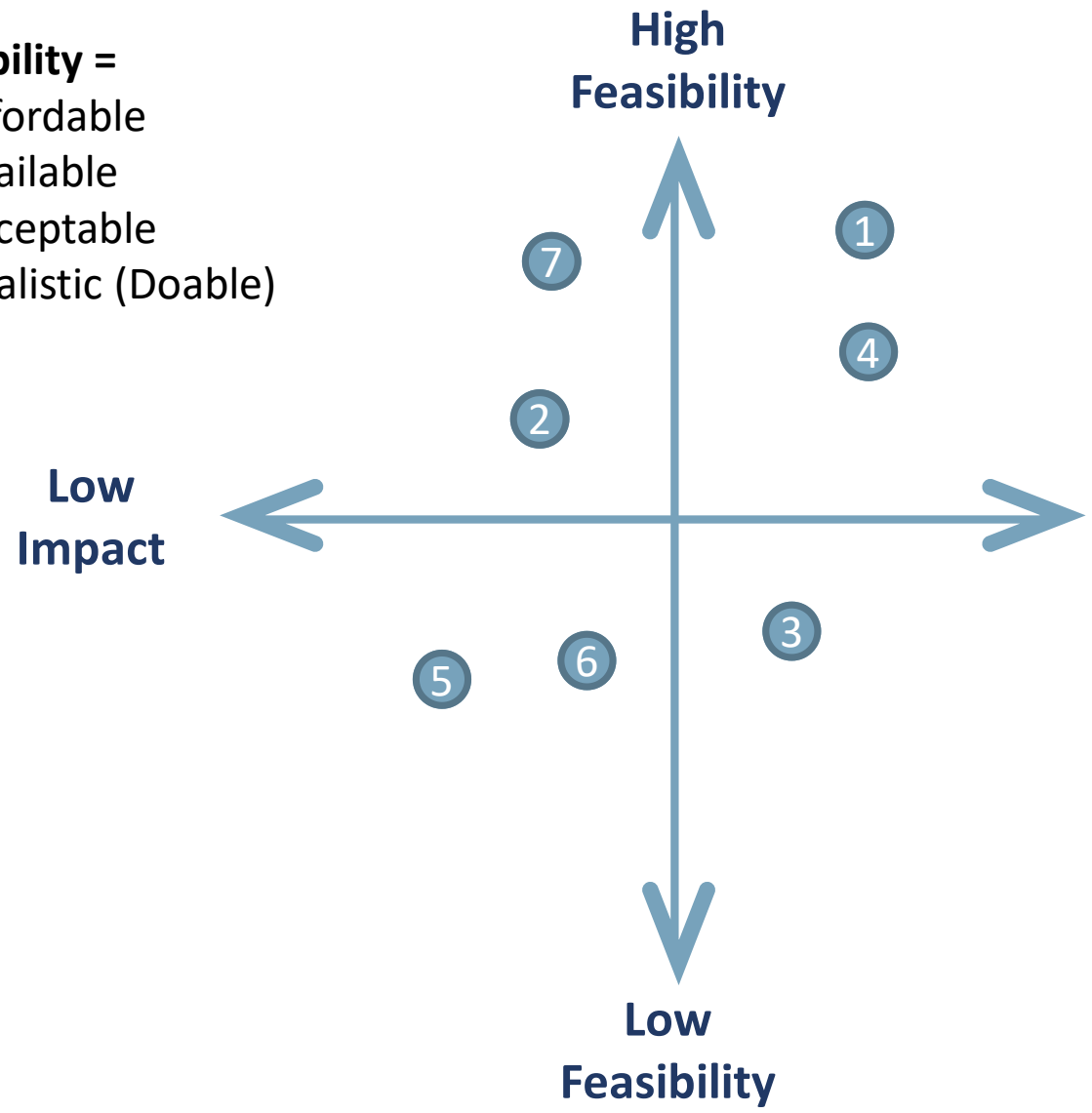
Modelling to support prioritisation/optimisation

Feasibility =

- Affordable
- Available
- Acceptable
- Realistic (Doable)



Considerations for impact modelling:

- Validation/ robustness/ limitations? (avoid crystal Ball effect)
- How to address complexity?
  - Intervention packages vs interventions
  - Strategies depending on available resources
  - Short-term vs long-term vision
  - Intervention interdependency (A before B)

Cost-effectiveness:

- **Is it worth the effort?**
  - Short-term and long-term gains
  - ICERs
  - "Business case"….
- **Costing vs economic evaluation!**

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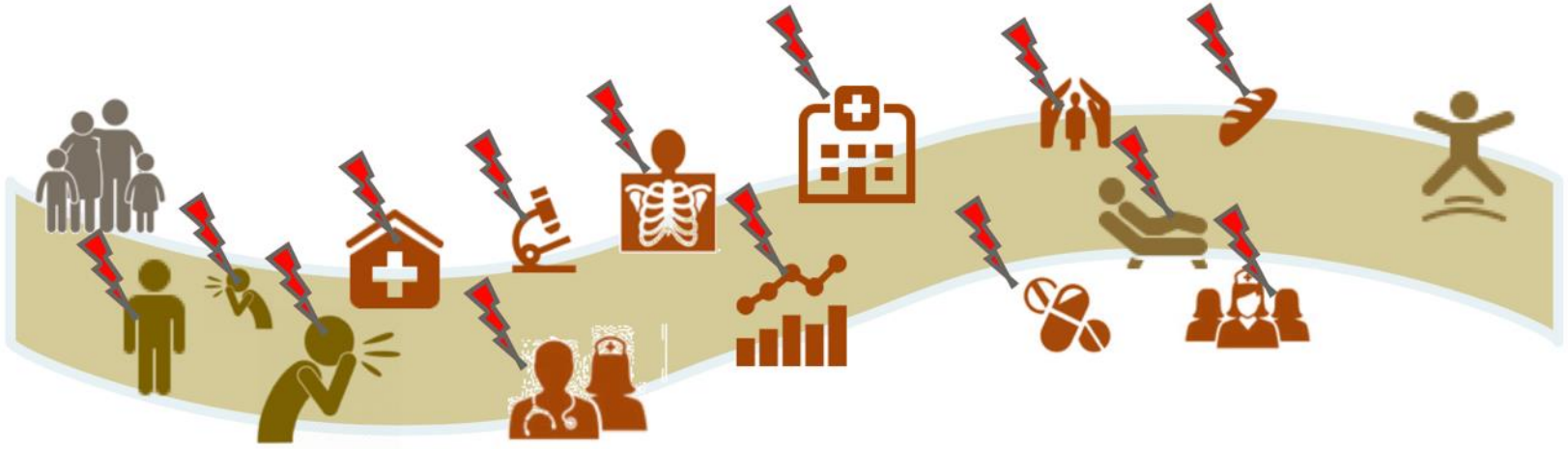
To be discussed:

- Agree on: “Essential”(Core), “Optimal”(Supplementary) and “Additional”(Optional) Data/ Evidence
- “Automation” is preferable to manual extraction and analysis
  - *PPA wizard and KNCV data consolidation and visualization tool*
  - *Integration into routine surveillance systems is preferable => will transform a “one-off” into responsive, continuous monitoring system (and make it easier on repeat)*
- Create data consolidation logic => if there is no obvious issue, do we need the data (dig deeper)?



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Discussion points continued

- Can we model and compare completely different or multiple strategies? – where are the limits?
- How do we account for environmental changes and subnational differences?
- How and when to bring the different elements and partners together (analysis, planning, modelling, economic evaluation?
- When is added value achieved (thresholds) and how do we measure this? (%)
- Expectation management! (NTPs, donors, partners)

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Thank you for your attention!

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