

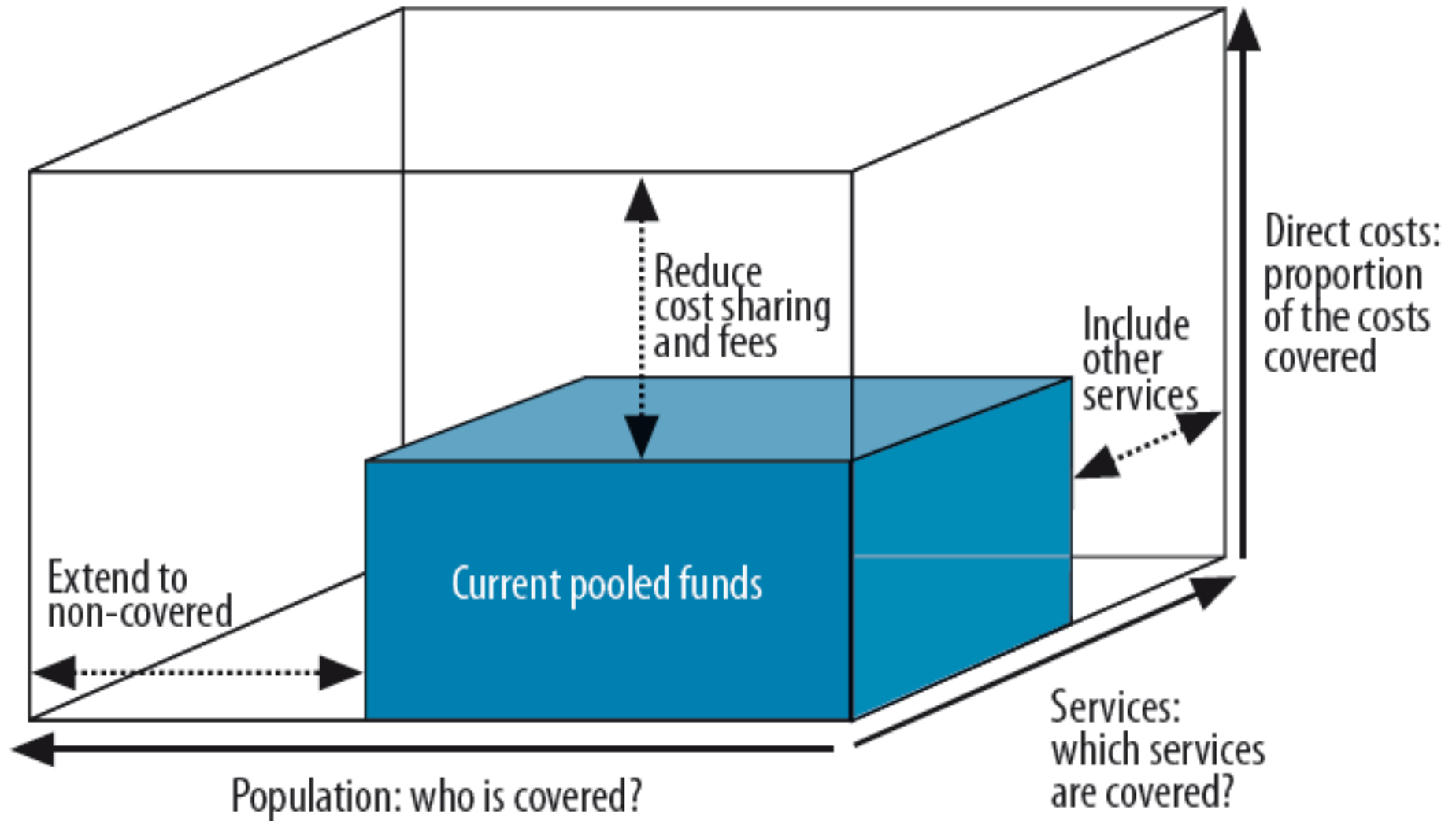
Measuring UHC Index

August 2018

Health Planning, System Strengthening and
Information Analysis Unit (HPSIU)



Universal Health Coverage Framework



Measuring UHC

4 Tracer Areas and 16 Tracer Indicators

a: RMNCH

- Family Planning;
- Antenatal and Delivery care;
- Full Child Immunization;
- Health Seeking behaviours for child Illness (Pneumonia)

b: Communicable diseases

- Tuberculosis Effective Treatment;
- HIV Retroviral Treatment;
- Insecticide Treated Nets Coverage for Malaria;
- Adequate Water & Sanitation

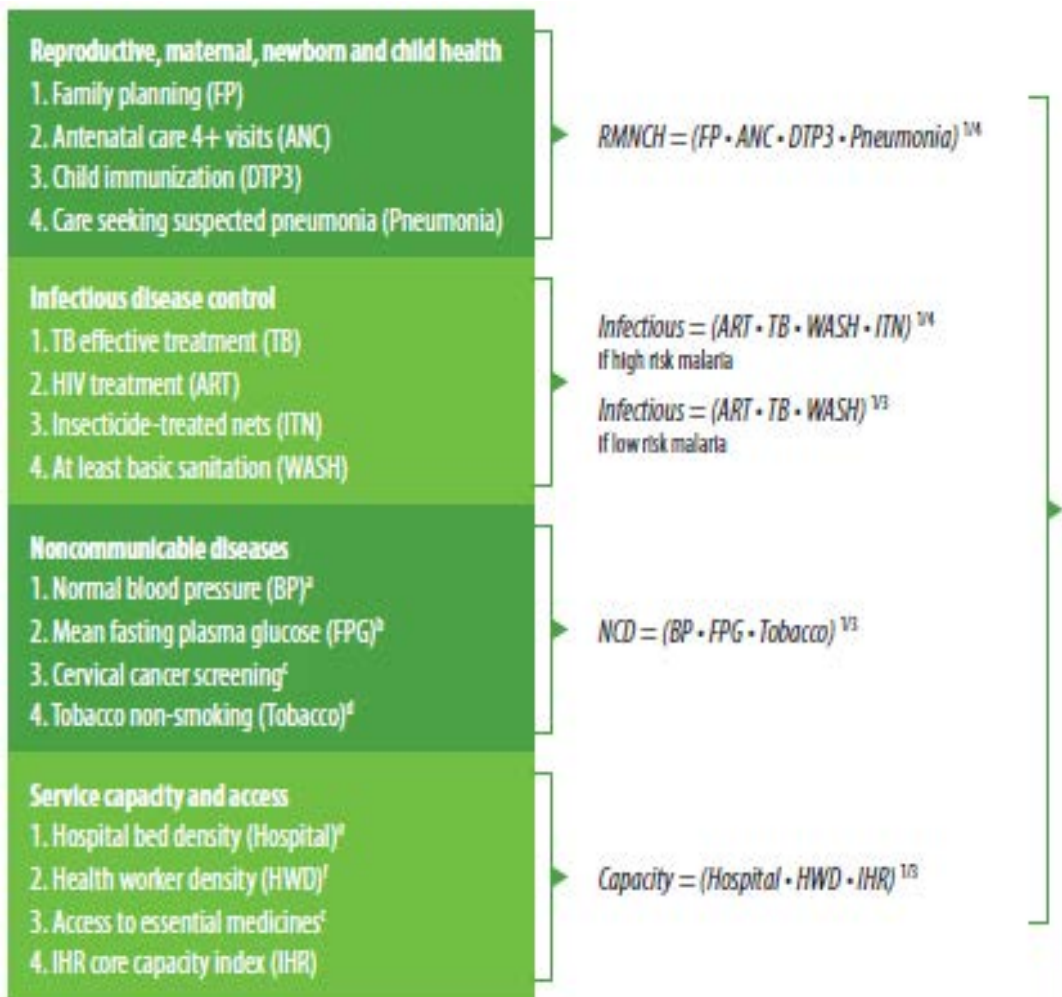
c: Non-communicable diseases

- Blood Pressure;
- Diabetes Mellitus;
- Cervical cancer screening;
- Tobacco Control

d: Service Capacity and Access

- Hospital beds;
- Health Workers' density;
- Access to essential Medicines, Vaccines and Commodities;
- Compliance with IHR

Calculating the UHC service coverage index



IHR: International Health Regulations; NCD: noncommunicable diseases; RMNCH: reproductive, maternal, newborn and child health; UHC: universal health coverage.

^a The percentage of the adult population with normal blood pressure is based on age-standardized estimates. These distributions are rescaled to provide finer resolution for the index, based on the observed minima across countries. The rescaled indicator = $(X-50)/(100-50)*100$, where X is the prevalence of normal blood pressure.

^b Mean fasting plasma glucose (FPG) is not measured on a scale bounded between 0 and 100%. While very high levels are unhealthy, very low levels are not expected to provide additional health benefits or could even be harmful. To account for this range, while also providing a well-distributed range of indicator values across countries, from 0 to 100 after rescaling, estimates of national mean FPG were rescaled using a minimum of 5.1 mmol/L (the midpoint of minimum theoretical risk) and a maximum of 7.1 mmol/L (the maximum across national means). The rescaled indicator for mean FPG = $(7.1-X)/(7.1-5.1)$, where X is mean FPG.

^c Cervical cancer screening and access to essential medicines are excluded due to low data availability.

^d As in (a), tobacco non-smoking is also based on age-standardized estimates, and is rescaled to provide finer resolution based on a minimum bound of 50%, so that the rescaled indicator = $(X-50)/(100-50)*100$, where X is prevalence of tobacco non-smoking.

^e Hospital bed density values were rescaled and capped based on a threshold of 18 per 10 000, based on minimum rates observed in high income OECD countries. Values below 18 per 10 000 are rescaled as $X/18*100$, where X is hospital beds per 10 000, and values above 18 per 10 000 are set to 100.

^f As in (e), health worker density (HWD) is rescaled and capped based on threshold values. Physician density has a threshold of 0.9 per 1000, psychiatrists have a threshold of 1 per 100 000, and surgeons have a threshold of 14 per 100 000. After rescaling these values (i.e., minimum $(100, X/threshold*100)$, where X is the cadre-specific density, they are combined into a HWD composite variable for entry into the above index calculations, computed as $(physicians * psychiatrists * surgeons)^{1/3}$.

$$UHC \text{ service coverage index} = (RMNCH \cdot Infectious \cdot NCD \cdot Capacity)^{1/4}$$

Exercise – Calculate UHC Index (PAK 2015)

Based on WB
& WHO UHC
Monitoring
Report 2017

**UHC Index:
39.26**

TRACER AREA	TRACER INDICATOR	Value	Area Score
RMNCH	Family Planning demand satisfied with modern method (%)	49	53.76
	Antenatal Care – 4+ visits (%)	37	
	Child immunization (Penta 3) (%)	72	
	Care-seeking behaviour for child pneumonia (%)	64	
Communicable Diseases	Tuberculosis effective treatment (%)	59	23.92
	HIV treatment (%)	4	
	Insecticide-treated nets for malaria prevention (%)	NA	
	At least basic sanitation (%)	58	
Non-communicable Diseases	Normal blood pressure (%)	$((70-50)/(100-50))*100 = 40$	53.27
	Normal blood sugar (%)	$((7.1-5.84)/(7.1-5.1))*100 = 63$	
	Cervical cancer screening among women 30-49 years (%)	NA	
	Tobacco non-smoking (%)	$((80-50)/(100-50))*100 = 60$	
Services Access & Capacity	Hospital beds per 10,000 population against threshold (%)	$(6/18)*100 = 33.33$	34.7
	(Physicians*Psychiatrist*Surgeon) density against threshold (%) (88.89*30*9.29)	$((0.8/0.9*100)* (0.3/1*100) * (1.3/14*100))^{1/3} = 29.15$	
	Availability of essential medicines in PHC (%)	NA	
	International Health Regulations core capacity index (%)	43	

Exercise – Calculate UHC Index (PAK 2017)

TRACER AREA	TRACER INDICATOR	Value	Area Score
RMNCH	Family Planning demand satisfied with modern method (%)	49	63.17
	Antenatal Care – 4+ visits (%)	51	
	Child immunization (Penta 3) (%)	75.4	
	Care-seeking behaviour for child pneumonia (%)	84.5	
Communicable Diseases	Tuberculosis effective treatment (%)	64.17	35.06
	HIV treatment (%)	9.2	
	Insecticide-treated nets for malaria prevention (%)	NA	
	At least basic sanitation (%)	73	
Non-communicable Diseases	Normal blood pressure (%)	$((70-50)/(100-50))*100 = 40$	53.27
	Normal blood sugar (%)	$((7.1-5.84)/(7.1-5.1))*100 = 63$	
	Cervical cancer screening among women 30-49 years (%)	NA	
	Tobacco non-smoking (%)	$((80-50)/(100-50))*100 = 60$	
Services Access & Capacity	Hospital beds per 10,000 population against threshold (%)	$(9/18)*100 = 50$	43.33
	(Physicians*Psychiatrist*Surgeon) density against threshold (%) (106*24*11.36)	$((0.96/0.9*100)* (0.24/1*100) * (1.59/14*100))^{1/3} = 30.69$	
	Availability of essential medicines in PHC (%)	NA	
	International Health Regulations core capacity index (%)	53	

Considering PDHS 2017-18 Results and latest HRH numbers

**UHC Index:
47.53**