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Global AWaRe targets and national cost savings

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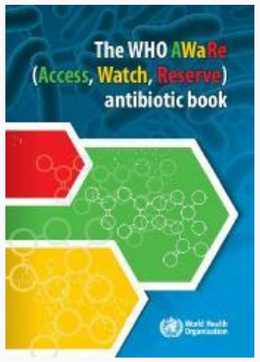
What should countries aim for?

Ensure, by 2030, that the use of WHO Access group antibiotics is expanded from the 2023 global target, and in that regard, taking into account national contexts, aim to achieve at least 70 per cent overall human antibiotic use globally, through investing in and strengthening stewardship programmes,

What should individual countries aim for?

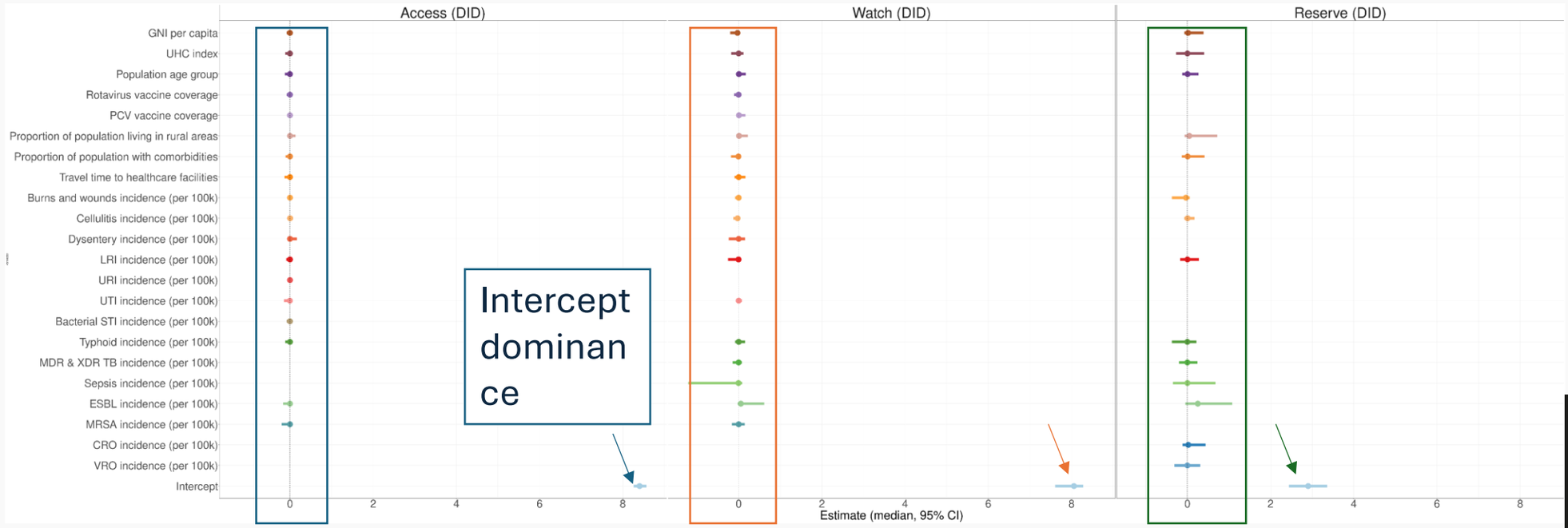
Netherlands likely needs fewer Watch and Reserve antibiotics than countries with much higher severe infection burden, more resistance problems, less healthy population, etc.

How to reach a national target in a way that we can afford?

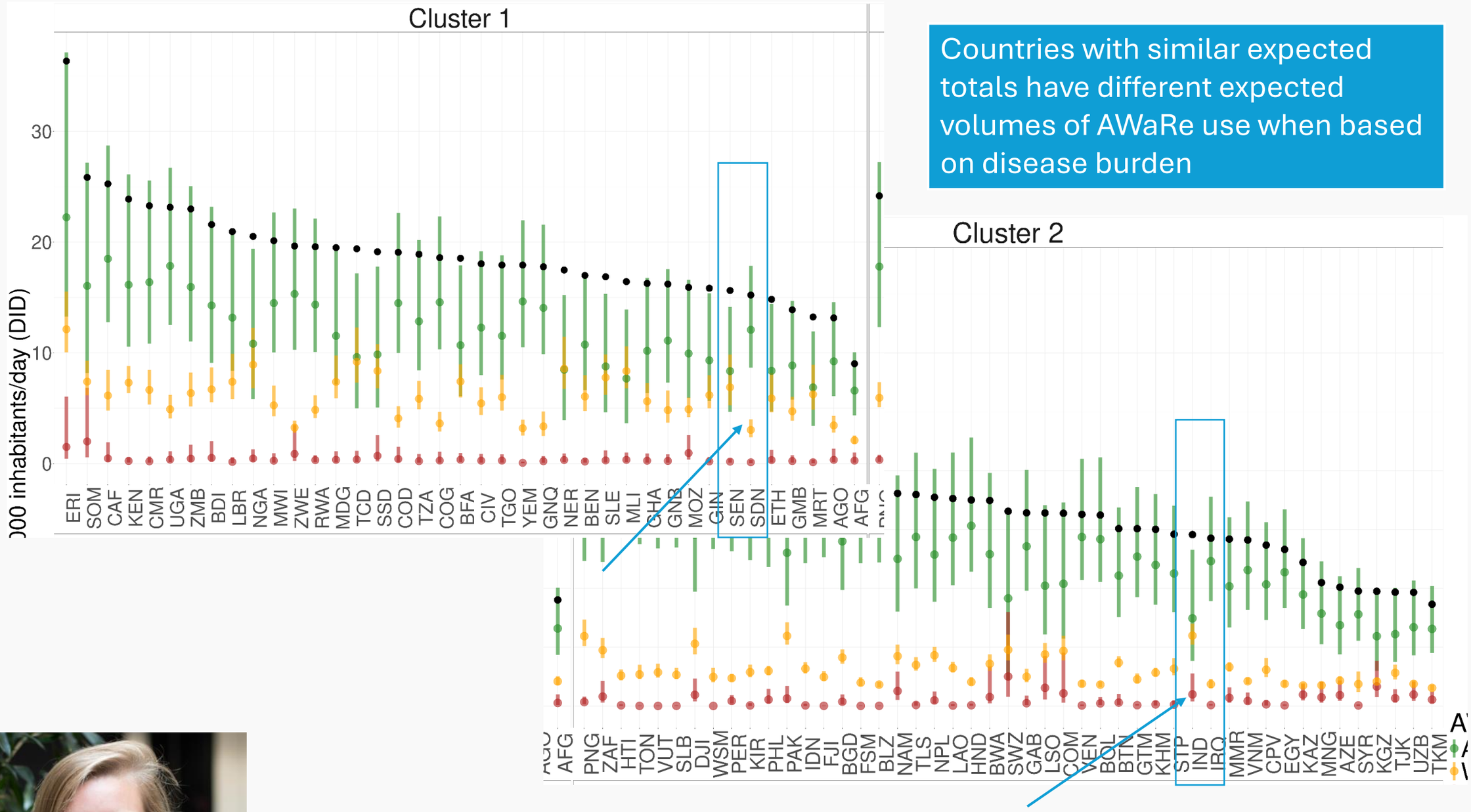


What should countries aim for?

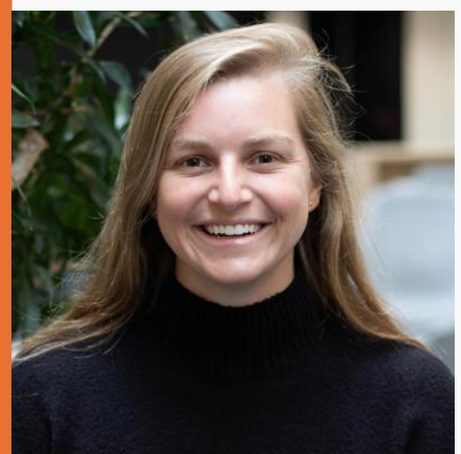
- Lambert et al (2016): number of infections to be expected if, after case-mix adjustment, the infection incidence of ICUs could be reduced to that of the top-tenth-percentile-ranked ICU.
- Ecological regression model of AWaRe antibiotic use in 67 countries using IQVIA MIDAS
- No clinical, resistance or sociodemographic factors (n = 22) were associated with AWaRe antibiotic use



Using a latent class modelling approach



Countries with similar expected totals have different expected volumes of AWaRe use when based on disease burden



~ 76% (95%CI: 70% - 82%) should be **Access** antibiotics

18 April 08:30-10:30 in Hall A1-4 Session: Driving global AMR action through data, economics and policy

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Given reductions in global health funding: what are the national pharmaceutical expenditure implications of the UNGA-AMR 70% Access target

In many LMICs, antibiotics are among the **top 1-3 drug classes by expenditure**

Table 1. Retail price (I$) per DDD across AWaRe categories, by WHO-region and income group (n=73 countries)

Groups/ AWaRe category	A. Access antibiotics				B. Watch antibiotics				C. Reserve antibiotics			
	Median	p25th	p75th	IQR	Median	p25th	p75th	IQR	Median	p25th	p75th	IQR
All	1·27	1·03	1·69	0·65	2·76	1·97	4·05	2·09	94·02	61·07	147·56	86·49
WHO Region												
AFR	1·23	1·02	1·39	0·37	2·94	2·89	3·11	0·22	135·44	90·65	180·22	89·57
AMR	1·26	1·14	2·10	0·97	2·27	1·26	4·78	3·53	117·82	65·12	156·82	91·70
EMR	1·84	1·43	2·17	0·75	3·48	3·17	4·10	0·92	61·32	26·48	274·22	247·74
EUR	1·28	1·03	1·54	0·50	2·71	2·11	3·70	1·59	93·83	62·45	119·40	56·96
SEAR	1·15	0·97	1·25	0·28	1·42	1·11	4·95	3·84	21·59	7·50	91·11	83·61
WPR	1·28	0·78	1·71	0·94	3·04	2·35	4·51	2·17	97·21	81·16	148·24	67·08
Income group												
HIC	1·19	0·97	1·41	0·45	2·71	2·10	4·42	2·32	97·21	70·68	156·39	85·71
LMC	1·54	1·24	1·62	0·39	2·88	1·53	3·43	1·90	96·21	7·50	133·52	126·01
UMC	1·43	1·21	1·99	0·77	2·69	1·82	4·10	2·27	87·15	48·84	139·41	90·57

Notes: WHO= World Health Organization. AFRO= African region, AMRO= Americas region, EMRO= East Mediterranean region, EURO= Europe, SEARO= Southeast Asia region, WPRO= Western-pacific region. HIC= High-income country, UMC= Upper middle-income country. LMC= Lower middle-income country. p25th= percentile 25th , p75th= percentile 75th. I$ International dollars, 2019.

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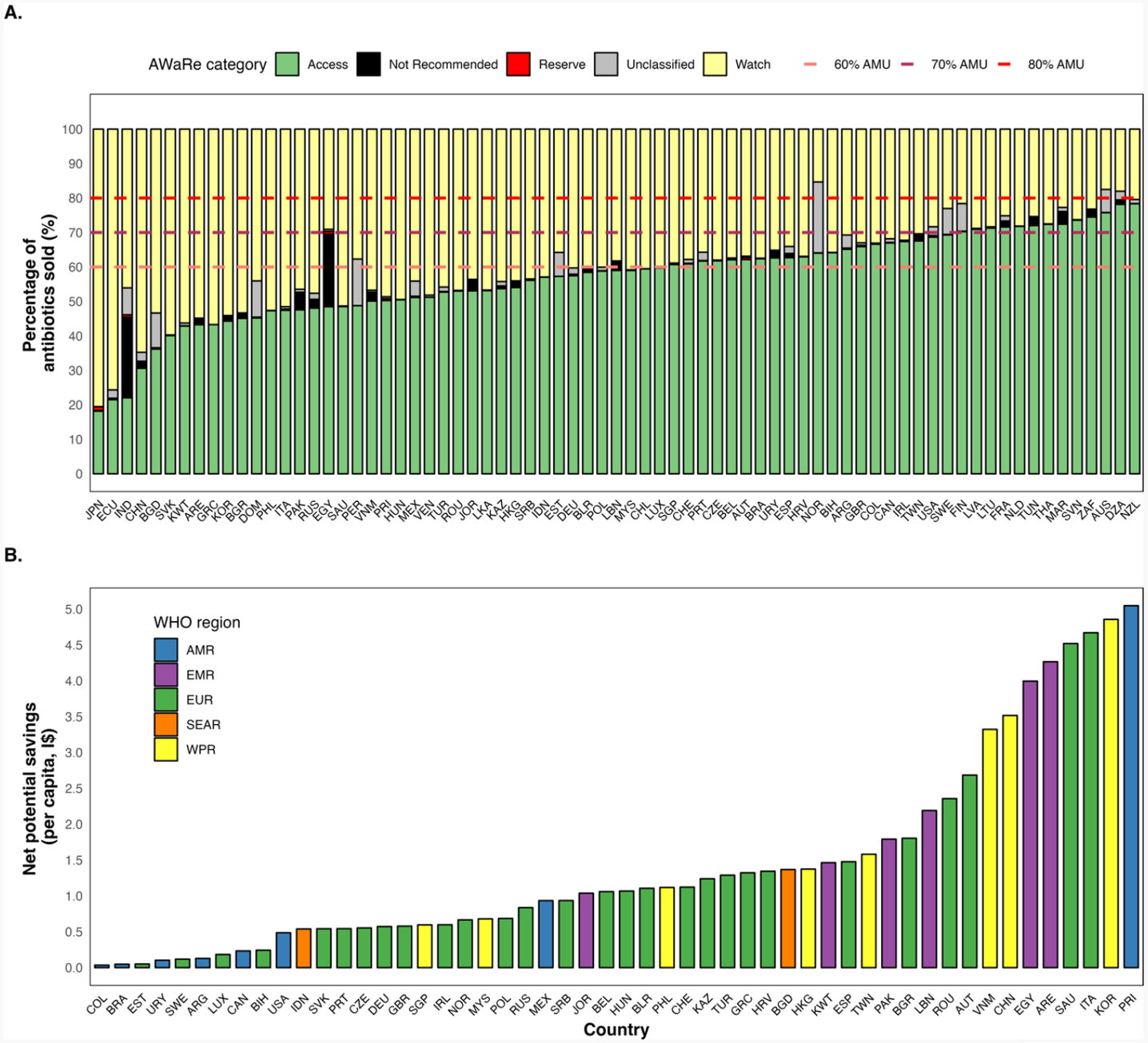
And for individual counties?

•**AMU Access share**: Access antibiotics had a median percentage of total AMU of 50%. Highest in Africa (74%) and lowest in Southeast Asia (36%).

Watch AMU share, median → 46%
Reserve AMU share, median → 0.1%

•**Savings if replacing Watch by Access to comply with 70% Access target:** Countries could save, on average, **I$1·6 per capita** among *eligible* countries.
•Highest savings → Saudi Arabia, Italy, Korea, and Puerto Rico (between **I$4·5 and I$5·1** per capita).
•This is translated into an average of **I$162 millions per country** among *eligible* countries (IQR I$111·5, median I$16·6), with **China** leading at **I$4·96 billions**



Some caveats

- But Access != Watch

- Governmental healthcare spending is not the only implication

What about implications for patients?

Out-of-pocket spending associated with neonatal sepsis in Nigeria

87% of affected households do not have any form of healthcare insurance

Antibiotics have to be paid out of pocket and costs influence treatment given

Thomson et al. 2021

18 April 12:00-13:30 in Poster Area Hall B3; Session: 11h

What we should be (and are) doing

- Work out what optimal levels of antibiotic are considering all relevant effects
- Model what trajectories are without intervention – demographics etc
- Base targets on what we can realistically safely achieve with interventions
  - Modelling informed by RCTs such as REVERSE, CABU-EICO, AWaRe1
- Evaluate which interventions should be implemented given impact, cost-effectiveness, and affordability