LANCET-SIGHT COMMISSION

PEACEFUL SOCIETIES through HEALTH and GENDER EQUALITY

SIGHT.
SWEDISH INSTITUTE FOR GLOBAL HEALTH TRANSFORMATION

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INDICATOR ANALYSIS

PROPORTION OF HEALTH FACILITIES THAT HAVE A CORE SET OF ESSENTIAL MEDICINES AVAILABLE AND AFFORDABLE ON A SUSTAINABLE BASIS

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FOR THE LANCET-SIGHT COMMISSION ON PEACEFUL SOCITIES THROUGH HEALTH AND GENDER EQUALITY

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How is this indicator calculated?	The Proportion of Health Facilities that Have a Core Set of Essential Medicines Available and Affordable on a Sustainable Basis indicator (SDG indicator 3.b.3) was adopted to monitor progress towards Sustainable Development Goal (SDG) target 3.B to "support the research and development of vaccines and medicines for the communicable and noncommunicable disease that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha declaration on the TRIPS agreement and public health which affirms the right of developing countries to use to the full the provisions in the agreement on trade-related aspects of intellectual property rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all" (1). Ideally, the indicator would cover the availability, affordability, and basket of core drugs, adjusted for disease prevalence and unmet needs to assess responsiveness of coverage and price changes. The indicator index is calculated as a ratio of the health facilities with available and affordable medicines for primary care over the total number of surveyed health facilities (1): $$SDG_{3.b.3} = \frac{Facilities\ with\ available\ and\ affordable\ basket\ of\ medicines\ (n)}{Surveyed\ Facilities\ (n)}$$ To assess the level of a drug's availability, one may use the WHO/HAI approach to calculate proportion of facilities with a specific drug available: $$Availability = \frac{Facilities\ with\ available\ drug\ (n)}{Total\ surveyed\ facilities\ (n)}$$ One of two WHO/HAI approaches to calculate a specific drug's affordability is by comparing the number of daily wages (LPGW) that are required to buy a one-month course of treatment: $$Affordability = \frac{Median\ cost\ per\ 1\ month\ course\ treatment\ (\$)}{Daily\ wage\ of\ the\ LPGW\ (\$)}$$ The second WHO/HAI approach to calculate a specific drug's affordability is by comparing the price per drug relative to the International Reference Price: $$Affordability = \frac{Median\ drug\ price\ (\$)}{International\ reference\ price\ (\$)}$$ The L. Niens approach to calculate the unaffordability of medicine is by calculating the proportion of individuals who drop below the poverty line (PL) after paying for medicines from out-of-pocket (OOP):

	$$Affordability = \frac{Persons\ with\ daily\ budget\ (after\ buying\ drug)\ lower\ than\ the\ PL\ (n)}{Total\ population\ (n)}$$ Other calculation methods have been proposed, yet no indicator can perfectly represent both responsiveness to a change in price and to a change in coverage (1). See Annex 1 the SDG indicator's metadata documentation for a list of the core set of relevant essential medicines for primary health care (2).

GLOBAL TRENDS	
What are the global patterns for this indicator? Trends, geographic patterns etc.	Since this is a Tier III indicator, meaning that it is still undergoing methodological development and that no unified international dataset exists, global trends for this indicator have yet to be confirmed (2).

UTILITY	
What does the indicator measure?	The indicator's precise units of measure have yet to be determined. However, the indicator is intended to cover the availability, affordability and basket of core drugs, adjusted for disease prevalence and unmet needs to assess responsiveness of coverage and price changes (1).
What does it NOT measure - what does it miss?	This indicator does not measure drug quality as there is currently no systematic and publicly available data collection on quality of a given drug or in a given country (2).
If and how does the indicator relate to interface/relationship among health, gender and fragility/stability?	Relationships among health, gender and fragility/stability based on this indicator have yet to be made explicit.

AVAILABILITY

Sources for indicator (CRVS, DHS etc. – include links);	This indicator has been classified as a Tier III indicator, meaning there is no unified international dataset from the Sustainable Development Goals website given that the indicator is still under methodological development (2). Traditional data collection sources include disease tracking registries, national health accounts, global health statistics, and OECD data / Euro Stat (1).
Dates available;	Depending on country, data as early as 2000 and as recent as 2017 is available (2).
Availability across geographic areas;	Data are available in at least 97 countries (1).
Availability in conflict affected settings;	Reliable data are likely not available in conflict-affected settings.

GRANULARITY	
Disaggregation at national level	
Data disaggregated by sex;	No.
Data disaggregated by identity group (race, ethnicity);	No.
Data disaggregated by income	No.
Data disaggregated by citizenship;	No.
Data disaggregated by migration background;	No.
Disaggregation at sub-national level	
Data disaggregated by geographic region;	No.

Data disaggregated by identity group (race, ethnicity);	No.
Data disaggregated by income.	No.

SOURCES OF BIAS	
What bias can exist with these data?	*Omission bias*: Certain groups of people can be omitted from the assessed population, either unintentionally (in cases where civil registration data are inaccessible or incomplete) or intentionally. Moreover, a government can alter or censor datum to achieve an ulterior goal, such as covering up flaws in their country's health infrastructure. This may also be linked to Publication bias, as governments of countries with a low proportion of health facilities that have a core set of essential medicines available and affordable on a sustainable basis may give preference to certain datasets over others. *Reporting bias*: Errors can be made and recorded in datum used in the indicator calculation. Selection bias can occur when determining which calculation method to employ depending on available data.

VALIDITY	
Clear and accepted international standards for indicator;	This indicator has been classified as a Tier III indicator, meaning there is no established methodology or standards available for the indicator as relevant data are lacking and calculations differ (1).
Validity of measurement of indicator generally accepted;	Regarding the availability measurement, the WHO/HAI approach's validity suffers from the fact that it does not consider temporary drug stock-outs, it lacks a minimal set of drugs as the core standard, and there is no minimum accepted standard (1). Regarding the affordability measurement, the WHO/HAI approach's validity suffers from the fact that it does not consider the total population of a given region and that there is no minimum accepted standard (1). On the other hand, the L. Niens approach's validity suffers from the fact that it makes strong assumptions. For example, it assumes that everyone in a given population takes medicine, potentially leading to an overestimation of unaffordability in poor countries and an underestimation in wealthier countries. Its use of the international poverty line for calculation can present unreliable results because world development indicator data overestimates total consumption and presents gaps in data. Finally, it linearly distributes per capita income per income group in a given population (1).

RELIABILITY	
Reliability of indicator generally accepted;	Since an international standard calculation method has yet to be determined, the reliability of the indicator has yet to be accepted.

COMPLEXITY	
Enables analysis across time and location.	This indicator has been classified as a Tier III indicator, meaning it cannot currently be used to reliably conduct analyses across time and location using different data sets (2).

OTHER REFLECTIONS	
Is the Indicator modelled? Other reflections on debate, accuracy, etc.	The Index's calculation requires some inputs which are modelled. For example, quantifying the burden of disease in the form of Disability Adjusted Life Years requires the use of models (2). The indicator's ongoing methodological development focuses on finding estimation methods that are both encompassing of the indicator's objectives and applicable with readily available data (2)

References

1. WHO. SDG: Access to Medicine Indicator [Internet]. World Health Organization; 2017. Available from: www.who.int/medicines/areas/policy/SDG_Options_IPCjune23.pdf?ua=1

2. United Nations Statistics Division. Indicator 3.b.3: Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a sustainable basis [Internet]. 2019. Available from: https://unstats.un.org/sdgs/metadata/files/Metadata-03-0B-03.pdf