

Submission to Global Goal on Adaptation UAE-Belem Work programme on Indicators for UAE Framework for Global Climate Resilience

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Drugs for Neglected Diseases initiative (DNDi), Jul 2024

This submission is made by the Drugs for Neglected Diseases initiative (DNDi), a not-for-profit R&D organization that discovers, develops, and delivers new treatments for neglected patients and neglected diseases, many of which are climate-sensitive. DNDi was established in 2003 by public research institutions in Brazil, France, India, Kenya, the Ministry of Health in Malaysia, Médecins Sans Frontières and with the participation of the World Health Organization Special Programme on Research and Training in Tropical Diseases. Using an alternative, collaborative, open science, research and development model, DNDi has developed 13 new and improved treatments for six deadly diseases, that have reached millions of people.

The proportion of annual global deaths due to ‘climate-sensitive diseases’ is estimated to be approximately 70%.¹ Climate change induced mortality and morbidity from infectious diseases are expected to rise globally in the future. The most recent report of the Lancet Countdown on climate change and health states that changing climatic conditions are altering the transmission potential of many vector-borne infectious diseases. Climate change is affecting the spread of infectious diseases in three ways: the changing incidence and geographical spread of vector-borne and water-borne climate-sensitive infectious diseases due to changing temperatures and rainfall patterns, climate-related migration, and the increased risk of new emerging zoonotic diseases.² Climate-sensitive diseases often disproportionately impact vulnerable populations, including children, pregnant women, those with pre-existing health conditions, and communities with limited resources, access to healthcare, proper hygiene and sanitation measures.

Neglected Tropical Diseases (NTDs) affect 1.65 billion people, mostly in the least developed economies and most impoverished communities. Nearly half (11 of 25) of the vector- or waterborne diseases listed by WHO as being potentially impacted by climate change are also classified as NTDs. Increased and more thoroughly integrated efforts must be made to incorporate strategies to manage these impacts in adaptation efforts for the changing burden of climate-sensitive infectious diseases. The Global Goal on Adaptation is an important opportunity for measuring and monitoring progress in this area.

Our first [submission](#) on the Global Goal on Adaptation in Mar 2024 sets out some of the approaches and indicator categories for short-medium and long term adaptation strategies that Parties can consider, on the development and adoption of specific health metrics for climate-sensitive diseases, as part of the UAE – Belém work programme.

¹ IPCC. Climate Change 2022: Impacts, Adaptation, and Vulnerability Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.; 2022; Available from: https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_Chapter07.pdf

² Twin threats: climate change and zoonoses. The Lancet Infectious Diseases. 8 December, 2022

In this submission, we suggest some new indicators on climate-sensitive diseases as part of the Global Goal on Adaptation that Parties, the Secretariat and the Expert Group could consider.

Indicators for consideration

Indicators on progress of action on climate-sensitive infectious diseases are an essential component of measuring adaptation progress. In a national context, the list of climate-sensitive diseases may vary depending on geographical features, climate variability, ecosystems, presence of vectors and other factors. National public health priorities and policies also play a crucial role in determining which diseases are prioritized for surveillance, control, and prevention efforts. Therefore, any indicator developed to measure and track adaptation measures and impacts, needs to be programmatically relevant and agreed upon amongst countries first. Based on national priorities, a list of climate-sensitive, policy-critical diseases can be developed, which would be relevant at the global level. **All the indicators suggested in this submission relate to GGA target on health.**

Suggestions for new indicators using existing data sources:

While there are no specific, universal indicators solely for climate sensitive diseases, there are some existing data sources that could be used to help support the development and adoption of indicators related to climate sensitive diseases.

Suggested indicator(s)	<ol style="list-style-type: none"> 1. Indicator on disease prevalence or incidence 2. Indicator on Disability Adjusted Life Years (DALYs) related to diseases
Specify the relevance to GGA target(s)	Health
Relevance to adaptation, including enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change	Reducing vulnerability to transmission of diseases that are climate-sensitive
Information on associated methodologies (if available) including clarity of methodologies associated with the indicator	For the purpose of developing indicators for the target on health, data for those diseases which may be climate-sensitive, could be selected and reported.
Information on data readiness (if available)	Disease-specific data are available, and many of the vector-borne and water-borne diseases (as per national context) are likely to be climate sensitive.
Whether quantitative and/or qualitative information applies to the indicators;	Quantitative
Level (local, national, regional and global)	Global (for this suggested source). Some countries may also collect and report this data at national (and/or subnational) levels

The ability of the indicators to reflect regional, national and local circumstances	Not for this data source. However, the indicator can reflect regional and national circumstances if collected and reported at regional and national levels
Information on whether the indicator is already being reported on and how (and if so, can this info be accessed)	Global burden of disease https://www.healthdata.org/research-analysis/gbd Methodology (for e.g. for dengue, which is climate-sensitive): https://www.healthdata.org/gbd/methods-appendices-2021/dengue-0
The ability of the indicators to be aggregated across levels	Unknown
The ability of the indicators to be disaggregated by demographic and socioeconomic characteristics, such as vulnerability, gender, age, disability, race, socioeconomic status, and status as Indigenous Peoples, as appropriate	The Global Burden of disease data is disaggregated by sex.
Is based on the best available science?	Yes
Is based on Indigenous Peoples' knowledge and local knowledge systems?	No

Suggested indicator(s)	3. Percentage reduction in number of deaths from vector-borne neglected tropical diseases (relative to 2016) – to achieve WHO's global vector control response goal
Specify the relevance to GGA target(s)	Health
Relevance to adaptation, including enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change	Reducing vulnerability to transmission of diseases that are climate-sensitive
Information on associated methodologies (if available) including clarity of methodologies associated with the indicator	Countries can use this existing indicator to determine the reduction in mortality from vector-borne climate sensitive diseases, as it estimated that transmission dynamics of vector-borne diseases, many of which are also classified as NTDs, will be impacted by change in climatic conditions

Information on data readiness (if available)	Not available yet
Whether quantitative and/or qualitative information applies to the indicators;	Quantitative
Level (local, national, regional and global)	Global and national
The ability of the indicators to reflect regional, national and local circumstances	Yes
Information on whether the indicator is already being reported on and how (and if so, can this info be accessed)	This indicator is a part of the WHO NTD roadmap tracker https://www.who.int/teams/control-of-neglected-tropical-diseases/data-platforms-and-tools/road-map-tracker
The ability of the indicators to be aggregated across levels	Unknown
The ability of the indicators to be disaggregated by demographic and socioeconomic characteristics, such as vulnerability, gender, age, disability, race, socioeconomic status, and status as Indigenous Peoples, as appropriate	Not yet
Is based on the best available science?	Yes
Is based on Indigenous Peoples' knowledge and local knowledge systems?	No

Suggested indicator(s)	4. Funding for global health biomedical R&D
Specify the relevance to GGA target(s)	Health
Relevance to adaptation, including enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change	For many climate-sensitive infectious diseases, lack of health tools threatens the world's ability to adapt to the effects of climate change on these diseases. Therefore, R&D for health tools must be a key adaptation strategy.
Information on associated methodologies (if available) including clarity of methodologies associated with the indicator	For the purpose of developing indicators for the target on health, data for those diseases which may be climate-sensitive, could be selected and reported.

Information on data readiness (if available)	Data is collected and reported every year
Whether quantitative and/or qualitative information applies to the indicators;	Quantitative
Level (local, national, regional and global)	Global
The ability of the indicators to reflect regional, national and local circumstances	Not applicable
Information on whether the indicator is already being reported on and how (and if so, can this info be accessed)	G-FINDER data portal has R&D funding data for neglected diseases and emerging infectious diseases, some of which are climate-sensitive. The data can also be categorised by funder type which includes government, philanthropic, industry and others
The ability of the indicators to be aggregated across levels	No
The ability of the indicators to be disaggregated by demographic and socioeconomic characteristics, such as vulnerability, gender, age, disability, race, socioeconomic status, and status as Indigenous Peoples, as appropriate	Not applicable
Is based on the best available science?	Yes
Is based on Indigenous Peoples' knowledge and local knowledge systems?	No

Please also refer to the submission made by Global Climate and Health Alliance (along with other organisations) for additional indicators on climate sensitive infectious diseases, using existing data sources.

While metrics on prevalence, incidence, morbidity and mortality for diseases which are likely to be impacted by climate change (although not classified as such) are globally tracked and measured, countries may not measure the implementation and impacts of adaptation responses that are put in place to prevent or respond to climate-sensitive diseases. However, putting in place indicators and measurement mechanisms on progress of action on climate-sensitive infectious diseases is critical to improving health and wellbeing of populations and building resilient communities and health systems. Therefore, we suggest that new indicators, which may not be reported yet, which gather data from existing guidelines/trackers/budgets, are also developed.

Suggestions for new indicators:

Proposed new indicators	Relevance to adaptation	Level of indicator	Type of indicator	Possible sources
Countries that have outlined strategies to prevent and respond to climate-sensitive diseases	Tracking if countries have adaptation measures in place for climate resilient health systems	National	Quantitative	National Adaptation Plans that countries submit to UNFCCC/ national health strategy documents
Proportion of national immunization programmes that include vaccines for country-relevant climate-sensitive diseases	Availability of and access to vaccines to prevent climate-sensitive diseases will be important, to minimize the impact of climate change, particularly on vulnerable communities.	National	Quantitative	National immunization plans/guidelines
Proportion of national essential medicines and diagnostics lists that include first-line treatments and diagnostics for country-relevant climate-sensitive diseases	In addition to vaccines, availability of diagnostics and treatments to test and treat climate sensitive diseases are also key.	National	Quantitative	National testing and treatment guidelines
Investment in disease surveillance systems for climate-sensitive diseases and infections	Integrating real time disease surveillance into broader health adaptation planning would allow for outbreak identification, detection of emerging threats, enabling timely response and adapting adaptation measures.	National	Quantitative	National health budgets

Coverage data: Proportion of patients tested and treated for climate sensitive diseases Proportion of people covered by vaccines against climate sensitive diseases, if an effective vaccine exists	Measuring impacts of climate adaptation initiatives	National	Quantitative	National Health Information Systems
% of ODA dedicated to medical research, including biomedical research, for health adaptation to climate-sensitive diseases	Investments in addressing climate-sensitive diseases are critical for enhancing resilience of affected communities	Global	Quantitative	Donor trackers
% of domestic financing on health dedicated to tackling country-relevant climate-sensitive diseases, including financing for biomedical research	Investments in addressing climate-sensitive diseases are critical for enhancing resilience of affected communities	National	Quantitative	National health budgets/ Science and technology or innovation budgets
Percentage reduction in estimated number of people requiring drugs to treat country-relevant climate-sensitive diseases	Measuring impacts of climate adaptation initiatives	National	Quantitative	National Health Information Systems
% of country's population to benefit from introduced health measures, to respond to malaria and other climate-sensitive	Measuring impacts of climate adaptation initiatives	National	Quantitative (can be supplemented by qualitative case studies)	Countries can adapt and define this indicator for the specific diseases most locally relevant, including the

diseases (From Papua New Guinea's NDC)				method of measurement
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As part of the process for developing such indicators related to climate sensitive diseases, we request that Parties and the Secretariat note the following:

- A recent [scoping review](#) highlights that while NTDs are sensitive to climate change, further research is needed to understand and establish the link between climate change and infectious diseases, including NTDs. This is crucial for countries to be able to track the prevalence and transmission of diseases impacted by climate, over time.
- Despite the increasing recognition of the impact of climate change on health outcomes, for many countries, there may be a time lag in providing adequate and timely information on the prevalence, distribution, and trends of diseases influenced by climatic factors. This may be due to limited disease surveillance infrastructure, data fragmentation, lack of trained personnel to collect and report data. Countries should therefore be encouraged to put in place measures for comprehensive surveillance and reporting on climate-sensitive diseases.
- Climate-sensitive diseases, many of which are also NTDs, affect vulnerable and marginalised populations. Countries could benefit from allocating resources to strengthen surveillance of diseases that disproportionately affect these populations.
- There is a lack of standardized reporting protocols for climate-sensitive diseases, making it difficult to compare data across regions and countries. Inconsistencies in reporting methods and case definitions can lead to challenges in aggregating and comparing data at a global scale. Opportunities should be created to allow countries to discuss and develop standardised templates and systems, either regionally or globally, as relevant, to capture data on climate-sensitive diseases.