**WHO Technical Guidance Notes on Sendai Framework reporting for Ministries of Health**

**Target G: Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030**

A people-centred early warning system necessarily comprises four key elements: knowledge of the risks (disaster risk information and assessments); monitoring, analysis and forecasting of the hazards; communication or dissemination of alerts and warnings; and local capabilities to respond to the warnings received (UNISDR Terminology 2009)[[1]](#footnote-1). Target G seeks to measure a) levels in country of Multi-Hazard Early Warning Systems (MHEWS) and b) the access to risk information and assessment at both the national and local level. Health systems will have risk information from multi-hazard risk assessments and inputs to Multi-hazard Early Warning Systems (EWS) in place that need to be included in this target.

1. **Indicator**

The following indicators are recommended by the OIEWG for the measurement of global Target G of the Sendai Framework, and which were endorsed by the UN General Assembly in its Resolution A/RES/71/276,

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| No. | Indicators for measurement at the global level | Health data required | Link to SDG indicators |
| **G-1** | Number of countries that have multi-hazard early warning systems (compound G-2 to G-5) | Yes | 13.3, 3.D |
| **G-2** | Number of countries that have multi-hazard monitoring and forecasting systems | Yes | 13.1 |
| **G-3** | Number of people per 100,000 that are covered by early warning information through local governments or through national dissemination mechanisms | Yes |  |
| **G-4** | Percentage of local governments having a plan to act on early warnings | Yes | 11.B, 13.1, |
| **G-5** | Number of countries that have accessible, understandable, usable and relevant disaster risk information and assessment available to the people at the national and local levels | Yes | 3.D, 13.2, 13.3 |
| **G-6** | Percentage of the population exposed to or at risk from disasters protected through pre-emptive evacuation following early warning  *Member States in a position to do so are encouraged to provide information on the number of evacuated people.* | Yes |  |

1. **Policy context**

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| Why is this important? | ***Multihazard context*** 1. Multihazard early warning systems, risk assessments and risk information should include risks to public health from hazards within the scope of the Sendai Framework, including natural and biological hazards.  ***Health sector policy context*** 2. Health sector early warning systems, risk assessment and risk information for all hazards should be monitored and reported.  The inclusion of a dedicated target to substantially increase the availability of and access to multi-hazard early warning systems in the Sendai Framework for Disaster Risk Reduction 2015-2030 is a strong endorsement of the value of early warning systems to achieving reductions in loss of life, the numbers of people affected by disasters, economic losses and damage to critical infrastructure.  EWS are an integral part of risk management which includes identifying risks, and developing multi-hazard plans and plans for specific hazards, e.g. outbreaks, floods, extreme weather. Ministries of Health need to ensure that risks to health and early warning for infectious disease are considered in the tracking of EWS and reporting against this Target . For example, disease surveillance and response (IDSR) work to monitor, relay and respond early to any potential outbreaks.  Risk assessments are fundamental to understanding risk and developing and implementing risk-informed Health EDRM strategies and measures across the spectrum of prevention, preparedness, response and recovery. Ministries of Health will have developed systems to identify health risks for different types of hazards (including biological hazards) and communicate them locally, regionally, nationally or across boundaries. Access to risk information and assessment at both national and local levels forms part of indicator G-5 and can be achieved separately or as part of EWS. |
| Baseline data and variation | Based on the WHO global survey of country capacities for Health EDRM (2015 – unpublished):   * 34 out of 62 countries (55%) conducted a national multi-sectoral, multi-hazard disaster risk assessment in the last 2 years, 13 (21%) in the last 2-5 years, and 3 (5%) over 5 years ago * Countries have included hazards in national multi-sectoral risk assessment in the following proportions: * geological, 44 out of 47 (94%);hydro-meteorological, 48 out of 49 (98%);biological, 40 out of 48 (83%); technological, 30 out of 43 (70%); and societal, 33 out of 45 (73%). * Globally, countries last conducted a national multi-hazard health disaster risk assessment in the last 2 years 51%; 2-5 years, 12%; and more than 5 years, 5%. * Globally, the health sector of countries receive early warning for specific hazards in the following proportions: floods/storms/cyclones, 84%; tsunamis, 61%; drought/food insecurity, 74%; biological, 96%; and chemical, 70%. * Globally, country health sectors distributed early warnings on biological hazards including epidemics within the health sector, 97%; to other sectors, 83%; and to the NDMO, 87% |
| Issues/ challenges   * Role of health * Policy * Governance * Adoption and implementation * Temporal aspect – data collection | MHEWS will vary considerably from country to country, instead of counting the number of the systems, UNISDR suggested a focus on functionality (e.g. the degree of achievement) to measure progress in each of the four interrelated key element of EWS. The Target is written with a clear focus on natural hazards, but Ministries of Health needs to ensure that multi-hazard risk assessments and early warning systems including risk to health, including biological hazards, are included in Member State reporting on this Target.  The selection of major hazards to be included in MHEWS remains a national determination, recognising that hazardous events differ significantly among countries in terms of both frequency and intensity.  MHEWS have a defined scope and coverage that is a specific to a particular geography or population. When exploring measuring coverage of early warning information, Member States may wish to examine proxies for the level of “redundancy”, that is, the number and kind of different warning dissemination channels providing the same authoritative warning information (e.g. mass media: radio access rate, television penetration rate, internet access rate for e-mail and warning website, population coverage of mobile phone networks for SMS; and local communication system (e.g. existence of community centres with access to these services such as siren, public board, and communication by telephone – land line or mobile)). Consider also coverage of disease surveillance and early warning systems.  As more than one MHEWS could cover the same geography or population Members should consider double counting and the consistency of information.  *Refer to WHO IHR reporting, guidance on strategic health emergency risk assessments, disease surveillance, early warning systems and risk communication*. |

1. **Methods**

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| What is measured | Sendai Framework: The number of countries that have a) multi-hazard early warning systems and b) conducted multi-hazard risk assessments and risk information for hazards within the scope for the Sendai Framework.  Customisable indicators: The number of countries in which the health sector a) participates in multi-hazard early warning systems and b) has conducted multi-hazard risk assessments and communicated risk information (covering all hazards) |
| Key terms | **Early Warning System (EWS)** - An integrated system of hazard monitoring, forecasting and prediction, disaster risk assessment, communication and preparedness activities systems and processes that enables individuals, communities, governments, businesses and others to take timely action to reduce disaster risks in advance of hazardous events  **Multi Hazard** - The selection of multiple major hazards that the country faces, and the specific contexts where hazardous events may occur simultaneously, cascadingly or cumulatively over time, and taking into account the potential interrelated effects.  **Evacuation** – moving people and assets temporarily to safer places before, during or after the occurrence of a hazardous event in order to protect them. Evacuated people are categorised here as directly affected.  **Monitoring** – data available through established networked observed by well-trained staff  **Forecasting** – through data analysis and processing, modelling, and prediction based on accepted scientific and technical methodologies and disseminated within international standards and protocols  **Warning messages** – this includes risk/impact information with clear emergency preparedness to trigger response reactions generated and disseminated in a timely and consistent manner.  **Risk assessment** - a qualitative or quantitative approach to determine the nature and extent of disaster risk by analysing potential hazards and evaluating existing conditions of exposure and vulnerability [and capacity] that together could harm people, property, services, livelihoods and the environment on which they depend. |
| Health input | * Hazard weighting may be linked to health data (e.g. mortality) * Inclusion of health risks (exposure, vulnerabilities and capacities) in multihazard risk assessments * Inclusion of biological hazards in multi-hazard risk assessments and multi-hazard early warning systems * Sub-indicators should be coordinated across sectors and multiple levels of governments. * Each country can specific the major hazards to be included in a multi-hazard EWS, and health needs to be included in decision making on which hazards are included |
| Who to engage with | National Focal Point for reporting on the Sendai Framework through the Sendai Monitor |
| Indicator formula | G-1 Number of countries that have multi-hazard early warning systems. This entails computing the arithmetic average of the scores of the four indicators, where each Member will report scores taking from ) to 1 for each of the four indicators G-2 through G-5:   * + Number of countries that have multi-hazard monitoring and forecasting systems   + Number of people per 100,000 that are covered by early warning information through local governments or through national dissemination mechanisms   + Percentage of local governments having a plan to act on early warnings   + Number of countries that have accessible, understandable, usable and relevant disaster risk information and assessment available to the people at the national and local levels * % population exposed to/at risk from disasters protected through pre-emptive evacuation following early warning (member states in a position to do so are encouraged to provide information on the number of evacuated people) |
| Indicator Components | For indicators G-2 through G-4 and G-6, it is recommended that progress in each indicator is benchmarked according to the following weighting[[2]](#footnote-2):   * + Comprehensive achievement (full score): 1.0,   + Substantial achievement, additional progress required: 0.75,   + Moderate achievement, neither comprehensive nor substantial: 0.50,   + Limited achievement: 0.25   Indicator G-5 is calculated using an equal weighting (20%) of each of the important criteria. This is not only NHEWS but also risk assessment and information in a broader context. Risk information and assessment should be based on the most scientific approach available; be the product of national consultation that is shared, coordinated and used by national institutions; and have clear responsibilities for decision making, planning and storing data and information. It is recommended that progress in each requirement is measured using the following benchmarks:   * Comprehensive achievement (full score): 1.0, * Substantial achievement, additional progress required: 0.75, * Moderate achievement, neither comprehensive nor substantial: 0.50, * Limited achievement: 0.25 |
| Interpretation considerations | * Focus is on functionality of the early warning systems * Selection of major hazards to be included in MHEWS remains a national determination, recognising that hazardous events differ significantly among countries in terms of both frequency and intensity * Geography definition for risk assessments and early warning systems |
| Customisable indicators | The health sector should consider development and reporting for health specific indicators for early warning systems, risk assessment and risk information for all hazards.   * Number of countries in which the health sector contributes and applies multi-hazard monitoring and forecasting systems * Number of people per 100,000 that are covered by surveillance and early warning systems through local governments or through national dissemination mechanisms for biological hazards * Percentage of local governments having a plans for emergency preparedness and response to act on disease early warnings * Number of countries in which the health sector has accessible, understandable, usable and relevant risk information and assessments available to the people at the national and local levels (including conducting multi-hazard risk assessments) * Number of countries in which the health sector has participated in the evacuation planning: i.e. planning to meet the health needs of people who evacuate following early warning |

1. **Reporting**

This guidance notes has outlined the key role that Ministries of Health have in providing data to support reporting against Sendai Framework Target G.

Each country’s Sendai Framework Monitoring National Focal Point has responsibility for submitting national reports for the Sendai Framework. UNISDR developed a web based tool to support Member States in reporting against the indicators.  The Sendai Framework Monitor - <https://sendaimonitor.unisdr.org/> - not only functions as a reporting tool but also functions as a management tool to help countries develop disaster risk reduction strategies, make risk-informed policy decisions and allocate resources to manage risks.

As of March 1, 2018, Member States have been reporting against the indicators for measuring the global targets of the Sendai Framework, and disaster risk reduction-related indicators of the SDGs, using the online Sendai Framework Monitor.  It is important that the relevant officials in the Ministries of Health are either linked to the National Focal point or is granted access to the Sendai framework Monitor to input health data as outlined in the Guidance Note above

1. <https://www.preventionweb.net/files/45466_indicatorspaperaugust2015final.pdf> [↑](#footnote-ref-1)
2. <https://www.preventionweb.net/files/50683_resultsoftheinformalconsultationsof.pdf> [↑](#footnote-ref-2)