Commentary

# Resource to Support Standardized Monitoring of Adolescent Health: The Maternal, Newborn, Child, and Adolescent Health and Healthy Aging Indicator Metadata Toolkit

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The 2015 launch of the Sustainable Development Goals (SDGs) [1] and the Global Strategy for Women's, Children's, and Adolescents' Health (GS) [2] brought a renewed era marked with bold global commitments to the maternal, newborn, child, and adolescent health (MNCAH). These initiatives provided the impetus for global measurement stakeholders to improve coordination, promote indicator standardization, and reduce duplication. The SDGs and the GS are supported by monitoring frameworks of 231 and 60 indicators, respectively [3,4]. In parallel, the World Health Organization defined a set of 100 core health indicators [5].

Since 2015, to support the World Health Organization measurement and monitoring work across the life course, four World Health Organization measurement advisory groups have been established (Mother and Newborn Information for Tracking Outcomes and Results [MoNITOR] [6], the Child Health Accountability Tracking [CHAT] [7], Global Action for Measurement of Adolescent Health [GAMA] [8], and Measurement, Monitoring, and Evaluation of UN Decade of Healthy Ageing [TAG4MH] [9] Advisory Groups). Each group set out to identify a core set of indicators to measure health at its life stage, including those that have since been recommended by MoNITOR [10] and CHAT [11] and the GAMA-recommended adolescent health indicators presented in this supplement [12].

The SDG indicators and their accompanying metadata are available online through the SDG metadata repository, which includes a text search and basic filtering by SDG goal or target [3]. However, for the GS and 100 core indicators, the metadata that describes how each indicator should be defined and measured are presented in a static document [4,5]. Additionally, the indicators recommended by the measurement advisory groups can be found in various publications, but there is no central interactive online location [10–12]. Because static documents and various peer-reviewed publications have no capacity to quickly reflect updates as recommendations evolve and no features to facilitate user engagement, it was felt that there was a need for a centralized information technology product with details on standardized core indicators in MNCAH and healthy aging so that end users could access these details through the internet. Thus, an MNCAH and healthy aging indicator metadata toolkit similar to that used by SDGs was proposed. This toolkit will be an easily accessible online platform with the latest indicator recommendations and measurement guidance across the life course. This platform will facilitate the visibility, uptake, and use of these indicators among measurement stakeholders and has been designed with their unique needs in mind.

The first phase of the toolkit started with the advice from MoNITOR. As one of its first recommended activities, over 100 maternal and newborn health indicators across the continuum of service provision of pregnancy, childbirth, postnatal, and newborn care were mapped [13]. For each indicator, existing metadata were reviewed and updated to produce standard and harmonized metadata that included a clear and concise evidence-based definition and guidance for measuring the indicator through the most common approaches. Recognizing the value of making this information publicly available in a central location, MoNITOR AG developed the online maternal and newborn health Indicator Metadata Toolkit [14]. The toolkit was piloted and tested in three countries through a quantitative online survey and

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remote in-depth interviews, results of which showed the platform's potential utility to a range of stakeholders and highlighted areas for further development, such as producing an introduction and user guide. In parallel, the Indicator Metadata Toolkit has been expanded to include child health indicators prioritized by the CHAT Advisory Group [15] and will now expand to include the GAMA recommended priority indicators for adolescent health measurement as well as healthy aging indicators.

The toolkit will provide countries with a suite of priority indicators and their metadata to promote standardized health measurement, monitoring, reporting, and data use at different levels and by different stakeholders. It will include a searchable indicator organized according to stages of the life course and quality of care. The areas covered will include: 1) Maternal and newborn; 2) Children (aged 1 month to 9 years); 3) Adolescents (aged 10—19 years); 4) Older people (aged 60 years and over); 5) Quality of care (spanning across the life course stages).

Within each age group, users will be able to search for relevant indicators by a variety of categories, such as indicator type (e.g., input, process, output, outcome), feasible data source, and other domains. Building on lessons from pilot testing, the toolkit will also include supplementary documentation, such as an introduction and user guide, detailed indicator-specific reference sheets, and guidance on the design and implementation of validation studies that include validation case studies from each life course stage represented by the toolkit.

Standard indicators related to adolescent health are critical for accountability and tracking progress in the health of this population; however, the utility of these indicators depends on their being easily accessible to those who would use them. Additionally, constantly evolving indicator recommendations in adolescent health and across the life course require an approach that goes beyond traditional paper-based document approaches. The toolkit provides an opportunity to address these issues. Designed with users' experience in mind, the toolkit should facilitate improvements and standardization in global monitoring of the health of women and children by providing ministries of health with a centralized place to access information on key indicators to measure progress.

## Acknowledgments

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