WHO Reference Group on Global Health Statistics (RGHS)

Report of the first meeting of the RGHS

9-10 December 2019
Geneva, Switzerland

Summary Report prepared by RGHS co-Chairs (Prof AD Lopez; Dr E Varavikova) on behalf of RGHS

BACKGROUND

The World Health Organization (WHO) Reference Group on Health Statistics (RGHS) provides advice on population-health related statistics of relevance to WHO. Given recent developments in global health, with an increased focus on monitoring and accountability, as well as advances in population health measurement, WHO has reviewed the role, responsibilities, scope and membership of the Reference Group to ensure that WHO and its Member States continue to benefit from the best possible scientific and strategic advice in the generation, use, interpretation, and dissemination of health statistics. WHO is looking to accelerate efforts among global partners, including academic and research groups, to improve analytical capacity and data collection systems in countries.

The first meeting of the RGHS with renewed membership took place in Geneva from 9-10 December 2019, attended by global experts in health statistics, including experts from national statistical offices and ministries of health, observers, and the WHO Secretariat. The agenda and list of participants are attached (Annexes A, B).

Each selected member of the RGHS has been appointed by WHO for a term of three years (December 2019 – December 2022).

Purpose

The primary role of the RGHS is to advise and support WHO's efforts to assist Member States to ensure maximal gains in population health through policies correctly informed by data, analytics, and evidence. The RGHS serves as a broad scientific and strategic platform to facilitate the exchange of knowledge and application of health statistics, beyond mortality and cause of death, and to accelerate efforts to improve data collection practices and analytical capacity in countries. The membership profile of the RGHS accordingly covers a wide range of expertise and skills.

Overall Objectives of the RGHS

- Provide technical and strategic advice to WHO to ensure that the Organisation's practices and advice to Member States regarding data collection, processing and synthesis are informed by the best available science
- Promote GATHER compliance across the Organisation in reporting population-health related statistics
- Provide guidance to WHO about best practices and optimal strategies for strengthening data and information systems for health
- Promote stronger collaboration between WHO and external research groups in improving and adopting methods and analyses to increase the policy utility of population-health estimates

Objectives of the First Meeting of the RGHS

- Review the key challenges and opportunities for population health statistics in the light of information provided about the goals and functions of WHO's Division of Data, Analytics and Delivery for Impact (DDI)
- Finalise the terms of Reference for the Reference Group

- Provide guidance on the content and format of the World Health Statistics Annual 2020
- Define and outline working methods, including how Task Forces reporting to the RGHS might be used to undertake more detailed technical reviews in priority areas (to be defined)
- Discuss priority work streams to be addressed by the RGHS and its Task Forces over the next 24 months

Welcome and Introduction

Dr. Samira Asma, Assistant Director-General of the Division of Data, Analytics, and Delivery for Impact (DDI) opened the meeting with welcoming remarks followed by a self-introduction of the members of the RGHS. Dr. Asma described the data principles that should be followed in WHO. She described the new DDI division, its role and responsibilities to support Member States in data collection, analytical and health information systems capacity, and in measuring progress towards the health-related SDGs and the WHO's strategy- 13th General Programme of Work—called the GPW13 targets.

Two co-chairs for the RGHS were appointed: Prof Alan Lopez and Dr Elena Varavikova.

Topics for Discussion: Initial Consideration by the RGHS

An indicative list of substantive topics to be addressed by the RGHS was presented by WHO for consideration and potential inclusion as areas of focus for future Task Forces to be established by the RGHS. Each topic was introduced with a summary of key issues, challenges and questions to the group for discussion and advice.

A summary of the presentations, discussion and RGHS recommendations to WHO is given below according to broad thematic areas.

DATA PRINCIPLES

Dr. Asma proposed the following list of data principles to guide WHO's work in data and analytics:

1. WHO should be a leader in making data a public good.
2. WHO, and all producers of health data working with WHO, should adhere to the GATHER guidelines.
3. WHO should consult with countries prior to releasing health data.
4. WHO should support Member States' to develop data and health information systems capacity.
5. WHO should report data for a consistent reference year.
6. WHO should only promote the use of methods to fill data gaps that have demonstrated predictive validity.

Recommendations for WHO

The RGHS strongly endorsed these data principles and recommended they should be formally adopted by WHO to govern the relevant work of the Organization.

STATISTICAL METHODS

1. GATHER Compliance and GATHER 2.0

GATHER is a tool for authors and journal editors to use to promote best practices in reporting estimates in a transparent way and prescribes a transparent audit trail of the construction of estimates from input data to outputs. It was noted that while some WHO estimates (e.g. child mortality, maternal mortality) are GATHER-compliant, most WHO estimates are not. Furthermore, WHO's current statistical clearance mechanism does not enforce GATHER compliance.

The group recommended an initial self-audit of GATHER compliance across all WHO programs that produce estimates. The results of the self-audit would be presented to a future meeting of the RGHS. The RGHS should then *provide an independent assessment and validation* of GATHER compliance at WHO. As part of this review, other estimation efforts by other agencies/individuals that are relevant to global health measurement should also undergo review and assessment for GATHER-compliance by the RGHS.

The group agreed upon the need to update the GATHER guidelines in view of the evolving data ecosystem towards open data. Future revisions of the GATHER guidelines should consider requiring that statistical code be posted online. Further, WHO should also carefully consider whether to recommend that the revised GATHER guidelines require all input data used to be made publicly available and how to ensure that this is done as completely as possible.

Recommendations for WHO

1.1 DDI to request all WHO programmes to conduct a self-audit of GATHER compliance.

1.2 WHO/DDI to present the results of the self-audit by programmes to a future meeting of the RGHS, preferably during 2020.

1.3 DDI should promote the rationale and application of the GATHER guidelines across the organization.

1.4 WHO should not clear any estimates that are not GATHER compliant.

1.5 WHO should address the issue of accessibility of input data used to produce estimates. Much greater clarity is needed about the meaning of input data for future revisions of the GATHER guidelines. For example, for a household survey, should this require anonymized individual record data be placed in the public domain? Are tabular data that is itself the product of some derivative calculation sufficient?

1.6 WHO should provide leadership towards an open data policy for all global health estimates, including those produced by other agencies, and encourage the analytical code to be made publicly available in order to ensure a transparent audit trail for all estimates.

2. Age-Specific Mortality Estimation and Life Table Computation

The WHO secretariat described its approach to generating life tables. Various sources were used such as IGME and UNPD and in the absence of data, statistical models were used. It was agreed that work on lifetables and mortality measurement at WHO needs to be more internally consistent, using most appropriate available methods, and generally strengthened.

A number of scientific issues were raised in the meeting that should be carefully investigated through future work of a Task Force on mortality estimation and life table computation. These issues are usefully divided into the following categories, with examples of specific questions under each category (to be further determined):

Data

a) Should sibling history data be used to generate a measure of adult mortality such as 45q15?

b) Should complete birth histories be used to generate a measure of adolescent mortality?

c) Should Demographic Surveillance System (DSS) data on adult mortality be used in mortality estimation?

d) What criteria should be used to outlier empirical data? e.g. Should sex ratios of mortality be used?

Data Processing

a) What method should be used to convert summary birth history data into estimates of 5q0?

b) Which death distribution method or methods should be used to generate a time series of completeness for vital registration data? What other approaches might be used?

c) How should complete birth history survey data be analysed for different time durations and years prior to the survey?

Data Synthesis

a) How should different Complete Birth Histories (CBH), Vital Registration (VR) and Summary Birth History (SBH) estimates of 5q0 be combined to generate the best time series estimate of 5q0? A range of methods have been proposed including B-splines, ST-GPR, MR-BRT, etc. How should method performance be assessed?

b) For countries with complete or near complete VR, how should mortality rates in age groups over 75 be estimated given the combination of small numbers and age-misreporting in these age groups in the numerator and denominator? Should deaths in the terminal age-group be included in the estimation method?

c) How should adult mortality (e.g. 45q15) be estimated in locations without complete or near complete VR given the available data sources: predictions based on child mortality, data synthesis using a statistical model, or other hybrid approaches?

Life Table Estimation

a) Assessments of child mortality and adult mortality in countries without complete or near complete VR can be used to generate a complete life table based on a model life table system. Which model life table system should be used? What is a principled method for choosing between model life table systems for this purpose?
b) How should ax values for life tables be selected?
c) Life tables need to be estimated for each calendar year, but should life tables be estimated for single years of age for abridged age-groups?

Uncertainty Estimation

GATHER guidelines require that mortality rates and life expectancy should be estimated with uncertainty. Standard simulation methods can be used for this purpose but what should be the assumed covariance between age-sex groups? Is the normal approximation of the binomial distribution appropriate for estimating the uncertainty for each age-specific death rate?

Recommendations for WHO

2.1 RGHS should be asked to identify and advise on all scientific issues or questions that need to be addressed to strengthen WHO's work on life tables including data sources and methods, impact of conflicts and epidemics, impact of HIV, data exclusion criteria, modelling choices, uncertainty estimation, etc.

2.2 WHO should provide support to countries in using and improving imperfect existing data on mortality (e.g. India Registrar-General data).

3. Causes of death (CoD)

The WHO secretariat presented the challenges that it is facing with producing its next round of estimates of causes of death for the year 2019.

The Global Burden of Disease 2019 Study to be released in May 2020 will contain comprehensive cause of death estimates. These (WHO and GBD) efforts should be more closely aligned and move towards convergence as quickly as possible, based on a scientific review of available data and measurement methods.

A preliminary list of topics and questions to be addressed by the RGHS under this general area of work were presented, including the following:

Data

1. Should police data be used to estimate road traffic injuries and homicides?
2. Should media reports be used to estimate deaths due to conflict and natural disasters; how to adjust for reporting bias towards more extreme events?
3. Should proportionate mortality (PMDF) data be used to estimate maternal mortality?
4. Is there a threshold of completeness below which vital registration data should not be used? If so, how should this be determined?
5. Which cause list should be used for cause of death estimation? What should be the process of continuous revision of this cause list?

Data Processing

1. Many deaths are assigned to codes that cannot be an underlying cause of death. CoD estimation requires reassigning these deaths to the likely underlying cause of death. These redistribution methods can be based on expert opinion, multiple cause of death analysis, statistical models of the covariance of the fraction of deaths assigned to underlying causes and to garbage codes, or in some circumstances direct measurement. Which methods are most appropriate for which causes? Should redistribution algorithms vary across locations and time?

2. How should select causes such as dementia, where there is evidence of profound temporal trends in medical certification practice, be analysed and corrected?

Data Synthesis

1. Which statistical modelling methods should be used to synthesis age-sex specific data on death rates or cause fractions? Should death rates, counts or cause fractions be modelled? What methods should be used to choose the preferred method for each cause?
2. Given the importance of choice of covariates, choice of dependent variable and choice of model specification, should ensemble models be used to reduce sensitivity of results to arbitrary modelling framework choices?
3. When should natural history models that largely do not use vital registration or verbal autopsy data, but use data on disease incidence and case-fatality rates, be used?
4. How standardized should modelling approaches be across causes?
5. What are the most appropriate methods for estimating causes of death from in-hospital mortality data?

Combining Estimates of Causes of Death

1. Each cause of death estimate will have an estimated uncertainty interval, and these causes of death must sum to all-cause mortality which itself has an uncertainty interval. How should separate cause of death models be combined to generate one internally consistent set of cause-specific and all-cause mortality estimates, including uncertainty?
2. When adjusting cause-specific estimates to sum to all-cause mortality, should some causes be given special preference and adjusted differently than other causes? If so, on what basis?

Recommendations for WHO

3.1 WHO to request the RGHS to identify and advise on all scientific issues that need to be addressed to improve CoD estimation, including but not limited to the above.

3.2 Sub-national analyses should routinely form part of national cause of death estimation efforts.

3.3 WHO/DDI should intensify efforts to help countries generate the necessary skills to correctly certify causes of death based on the principles and rules of the ICD, including ICD-11.

4. Risk Factors

This session primarily addressed the lack of data on risk factors which are often fragmented and inconsistent, particularly at country level and in low-resource settings where the health impacts of many risks are highest. In addition, availability and quality of data also vary across risk factors for various reasons, including countries' resources and priority setting procedures, level of evidence on causal association with health outcomes, and maturity of epidemics.

A number of scientific issues related to the comparable assessment of risk factor disease burden were raised, including:

- Methods to model the distribution of exposure in populations.
- Methods and approaches for conducting meta-analyses to better estimate relative risks.
- Choice of counterfactual exposure to determine the population distribution of risk that results in theoretically minimal health losses.
- Measurement of interaction of risk factors (e.g. ambient air and household pollution; Fasting plasma glucose and smoking) to avoid double counting.
- Exposures on the causal pathway e.g. salt and blood pressure.

Recommendations for WHO

4.1 Measurement of risk factor exposures within WHO is very heterogeneous. DDI should take a leading role to set standards for good practice regarding risk factor data and the assessment of causal associations.

4.2 What is the appropriate framework for identifying a minimum set of risk factors that should be routinely monitored by countries in the light of evolving burden of disease trends?

4.3 WHO should enhance collaboration with local experts and benefit from local knowledge in some technical areas related to exposure measurement (e.g. intake of alcohol).

4.4 WHO should collaborate with scientific risk factor teams working on the GBD to build on existing efforts and ongoing work around the assessment of health effects of risk factor exposures.

5. Population Estimates

This session considered the need for an accurate and internally consistent set of population estimates and projections for monitoring population health and developing corresponding policy and interventions. The UN Population Division's (UNPD) population estimates have been the most widely used to date. Recently, IHME has also started producing age-sex-specific population estimates for 200 or so countries/territories.

In order to ensure WHO activities that depend on population estimates and projections are informed by the most accurate population data available for generating credible health-related statistics, an abbreviated list of scientific questions that might be addressed by the RGHS was presented and briefly discussed, including the following:

Data

- When should population registries be used in population estimation? What quality criteria should be used to make this choice?
- How should country data on population size and structure (e.g. from a census) be used to develop estimates?
- Should post-enumeration survey (PES) results be used to correct census counts by age and sex? What criteria should be used to determine when they should be used?
- Should expert judgement on census completeness be used?
- Should relative completeness from generalized growth balance estimation be used?
- Should census counts for ages under 5 be used, or used only in locations with an established history of regular census counts?
- Can age distributions from household surveys be used in population estimation?
- What criteria should be used to outlier census counts?
- What sources can be used for annual net migration by age that are likely to provide valid inputs?

Data Processing

- Which method or methods should be used to deal with age-heaping and age misreporting?
- When more than one census count is published from the same census, which count should be used? What principles should be used to choose between counts?

Data Synthesis

- Most efforts to assess population counts by age and sex use some form of Bayesian cohort component modelling using estimated age-specific mortality, fertility and migration as inputs. A critical modelling choice is which input source should be modified to ensure that population numbers by age and sex match the observed counts? How should implausible results for mortality, fertility or migration be avoided using these methods?
- Initial population distributions in 1950 make a huge difference to population models especially when a limited number of censuses have been conducted. What method should be used to generate the initial population distribution?

Uncertainty Estimation

- GATHER guidelines require the estimation of uncertainty intervals. What methods should be used to generate uncertainty? Bayesian cohort component models generate uncertainty intervals; are there other sources of uncertainty such as PES uncertainty that should also be included?
- How should uncertainty in the denominator be propagated into uncertainty in estimated rates given that the ratio of two normal distributions is challenging to estimate parametrically?

Recommendations for WHO

5.1 WHO should engage with other institutions (e.g. UN Population Division and others) to discuss how to improve scientific methods and knowledge about how population estimates are being produced.

5.2 The world standard population needs to be updated as the current one was last revised by WHO in 2001, based on the 1998 revision of UNPD's population estimates.

HEALTH INFORMATION SYSTEMS

6. Surveys

Monitoring health-related SDGs requires at least 12 data systems to be functioning in each country. Of the 232 SDG indicators, 77 are derived from household surveys. WHO is planning to conduct the World Health Survey Plus (WHS+) as a standardized suite of data collection modules and protocols on a wide range of topics using a core set of questions and indicators. WHS+ can be implemented as a stand-alone survey or integrated with other survey platforms where feasible.

There was strong endorsement by the RGHS for the WHS+ led by WHO. There was no recommendation to WHO with regard to methodology (to be addressed by a specific RGHS Task Force), but the group was interested to know how many additional modules WHO would add in the next round of surveys.

Recommendation for WHO

6.1 Explore the possibility of using existing data collection platforms to generate data on specific topics with a short set of questions and standard protocols that can be deployed to more effectively and precisely fill data gaps related to the Health Related SDGs (HRSDGs).

6.2 Develop a framework for guiding countries to determine and implement an essential survey platform for monitoring health and health care utilization in their populations.

6.3 Provide countries with recommendations regarding standardized data collection methods for monitoring health-related SDGs via household surveys, including appropriate survey instruments, age ranges, and measurement methods for biomarkers.

7. Civil Registration and Vital Statistics (CRVS), including Verbal Autopsy (VA)

Given the growing demand for countries and WHO to monitor progress towards the HRSDGs, triple billion targets, Universal Health Coverage, and other global health development goals, WHO has prioritized strengthening CRVS systems since good quality vital registration data on births, deaths and causes of death are fundamental for this purpose. There is also growing international momentum towards supporting the development of countries' CRVS systems but implementation needs to be carefully coordinated among partners to ensure competent, strategic and cost-effective technical assistance and provision of training to countries.

The RGHS strongly endorsed the focus within DDI on strengthening country CRVS systems to enable better monitoring of progress with global and national health and development goals, progress with GPW13 goals and targets, assessing trends in leading causes of death and disease burden, etc., and recognized the significant efforts being made by partners such as the World Bank's Global Financing Fund, and Bloomberg Philanthropies Data for Health (D4H) Initiative to improve CRVS systems in many countries. WHO's activities in this area should build on, complement and leverage the experience and lessons learned from such Initiatives focusing on the comparative advantage of the health sector in strengthening specific aspects of CRVS systems such as vital event notifications and cause of death data.

Given the lack of physicians to certify causes of death in many developing countries, reliable and cost-effective alternatives need to be urgently promoted to support countries ability to monitor progress with health development goals and strategies. Verbal autopsy (VA) is a practical method for determining probable causes of death at the population level, where physician certification of causes of death is unavailable. VA should be a critical component of any national effort to strengthen CRVS systems in low- and middle-income countries, driven by the health sector.

Recommendations for WHO

7.1 WHO should prioritise the development and implementation of a global CRVS development strategy that emphasises the particular advantages of the health sector in CRVS, with a specific country-orientated focus.

7.2 Advise on and encourage community-level assessments to better understand barriers to birth and death notification/ registration.

7.3 Automated VA should be widely and actively promoted by WHO in countries with limited medical certification of deaths.

7.4 WHO needs to strengthen coherence and leadership in VA by ensuring that WHO activities are ***inclusive*** of all existing approaches and experiences and are guided by the best available science.

7.5 To this end, WHO should establish a Task Force on VA, building on and integrating the activities of the current WHO Reference Group on Verbal Autopsy into a RGHS Task Force on Verbal Autopsy.

7.6 WHO should provide guidance to countries about how to interpret VA data, including output from multiple diagnostic methods.

7.7 WHO should provide advice to countries based on science and empirical evidence about VA implementation into CRVS systems, currently being trialled in several countries. In particular, how should verbal autopsy data collected and analyzed using automated methods be used and interpreted? What performance requirements should be established before accepting verbal autopsy data analyzed using physician certification or automated methods?

8. Health services

WHO requested the RGHS to provide advice on the challenges, methods and opportunities in using routine health information system (RHIS) data for guiding diseases and injury control strategies. RHIS data provide frequent and up-to-date information on population health and health services at all levels of the health system. Despite huge investments in RHIS and the benefits of RHIS data, countries continue to face issues related to fragmentation or duplication of data systems, often donor-driven, as well as lack of standardization of indicators, data quality problems, and unreliable population estimates for denominators.

The RGHS concluded that RHIS data is an important and undeveloped resource for WHO and Member States and should be reviewed by the RGHS to suggest strategies and approaches for health services data collection, utilization and application.

Recommendations for WHO

8.1 WHO should guide and promote country investments in health systems' technology and health services data based on a critical assessment of the potential uses of such data to support country health development.

8.2 WHO should explore more innovative options for health services data management beyond DHIS2, given its limitations.

8.3 WHO should create a standard set of principles based on scientific evidence rather than individual preference for measuring health intervention coverage.

8.4 WHO should explore the use of electronic health records and other administrative data sources combined with advanced data science techniques to inform global and country health statistics.

8.5 WHO should provide advice to countries on how to determine what are essential data on human resources for health and health expenditure, as well as healthcare quality, adaptable to specific country contexts.

9. Data Disaggregation and Inequality Monitoring

The WHO secretariat summarised the challenges around the availability and quality of disaggregated data when conducting inequality analyses and reviewed the ongoing work on inequality monitoring within WHO. Most of the available data are by age, sex and geographical level.

Priority population groups for which data need to be disaggregated have already been identified for the GPW 13 triple billion targets and the outcome indicators. Countries' routine health information systems can provide data disaggregation for certain indicators.

Recommendations for WHO

9.1 Review the alignment between what WHO GPW13 work has identified as priority groups for data disaggregation and the availability of such data in countries. Where available, WHO should also be better informed as to how other agencies (e.g. UNICEF) approach geographical data disaggregation.

9.2 Strengthen WHO's work on inequality monitoring by supporting countries to generate appropriate data on key indicators that adequately reflect health inequalities.

9.3 Explore the wider application of model-based geo-statistical analyses to support geographic inequality estimation.

10. Forecasting

Forecasting of health outcomes and determinants is not undertaken systematically across WHO. Several questions were raised about how to standardize forecasting across indicators. Lack of information and strategic frameworks about how to define alternative scenarios for the future remain key challenges. However, it was agreed that forecasting is crucial and should be employed more widely across the organization to inform policy choices.

Recommendations for WHO

10.1 Identify challenges to be addressed in forecasting population, population health outcomes and population health determinants using a common and systematic approach.

10.2 Systematically review the approaches and experiences of other groups currently making health forecasts, including the GBD collaboration.

10.3 Define clearly the goals, advantages and uses of health forecasts for public health policy and the most appropriate methods, presentation, communication etc. for facilitating uptake of forecasts.

11. Health Data Collaborative (HDC)

The WHO secretariat is now revitalizing the HDC in response to the need to avoid further fragmentation in countries and be inclusive of partners i.e. SDG Global Action Plan.

Recommendations for WHO

11.1 WHO should draw lessons about health information systems strengthening from the now defunct Health Metrics Network (HMN) that might be relevant to the HDC.

11.2 WHO should carefully review the potential role of the HDC in supporting HIS development in countries, in facilitating data sharing among countries and global partners, and in monitoring progress towards national and global health development goals and decide upon subsequent actions, such as better aligning the efforts of partners.

PRIORITY TOPICS REQUIRNG URGENT REVIEW

12. Setting 2023 Targets for the WHO GPW13 Results Framework Outcome Indicators

The WHO secretariat presented the challenges in setting clear quantitative global baselines to measure the GPW13 outcome indicators since many of the indicators do not specify these in the respective SDG frameworks or WHA resolutions. In addition, SDGs and GPW13 indicators have different baseline years, 2015 and 2018 respectively, and hence an alignment of the two sets of baselines is required. GPW13 baselines would require more recent data which may not yet be available. Alignment of the global targets for 2023 with SDG targets for 2030 presents additional challenges. According to their national priorities, several countries have prioritized some GPW13 indicators and set their own targets based on their national strategies and plans. These need to be reconciled against the 2023 milestones.

Recommendations for WHO

12.1 Using global targets, WHO should calculate what each country's contribution needs to be to achieve those global targets collectively, and then work with countries to establish national targets based on previously identified trends or available baseline data.

12.2 WHO should include global targets only for those outcome indicators where a quantitative target for SDGs is specified, or agreed by the global health community, so that it will be possible to use 2023 as a milestone.

13. Measuring the WHO GPW13 Triple Billion Targets

The WHO secretariat described the various challenges in measuring the WHO GPW13 triple billion targets from the data collected and reported by different sectors with varying availability, quality and timelines.

Recommendations for WHO

13.1 WHO should review the methods that were already suggested by the WHO Expert Reference Group (ERG) on the GPW13 constituted by the Director General and consult the ERG taskforce members to complete the methods report for the triple billions.

13.2 WHO should include methodological guidance to countries about issues to consider when measuring key health parameters such as mortality, causes of death, risk factors, health services coverage, etc. among minorities.

14. World Health Statistics

The WHO secretariat suggested the theme of infectious disease for the *World Health Statistics (WHS) 2020* based on data availability and time constraints. The group raised concerns about the suggested theme. Since there has been remarkable progress in reducing premature mortality from leading infectious diseases, it would be better to focus on NCDs interventions, the rise in metabolic risks everywhere, population health effects of alcohol and drug consumption, and related topics. Not to do so would be a huge missed opportunity for WHO to convey important and timely messages to the world about these often largely under-appreciated health priorities. An important consequence of these emerging issues was the reversal of the long- term declines in CVD mortality in many high-income countries over the past 6-8 years, leading to a stagnation, or decline in life expectancy. The group strongly recommended that, if feasible, the WHS 2020 edition should convey these key health messages to the global health community in a timely manner to stimulate policy action in countries.

The WHO secretariat also proposed to publish 3 columns of estimates in the WHS appendix to show a) country reported, b) WHO and c) Global Burden of Disease (GBD) estimates. This had been suggested to WHO by several Member States. Member States also requested deliberative consultations prior to the launch of the report so that country delegations to the World Health Assembly are briefed in advance. In addition, this exercise would help strengthen country analytical capacity and critical data quality assessment skills.

Recommendations for WHO

14.1 The RGHS endorsed the inclusion of 3 columns of estimates per country, as proposed by WHO. The three columns would be: Member State reported estimates, WHO estimates and the GBD estimates. A brief explanation about different estimation methods should also be included.

14.2 WHO should consider focusing the messages of the WHS 2020 on the impact of NCD risk factors and interventions on population health, in addition to summarising and celebrating the huge gains in controlling infectious diseases and improving child survival over the past 50 years.

14.3 Specifically, the RGHS recommended that the content focus explicitly on the reversal of the long-term decline in CVD mortality and its impact on life expectancy trends, and the rise in metabolic risk factors, in addition to highlighting the recent large gains in reducing child mortality.

14.4 The WHS2020 should include a section to explain differences between WHO and GBD estimates.

Establishment of Priority Workstreams and Technical Task Forces for the Next 24 Months

Following the review of the various topics presented to the RGHS, the co-chairs requested WHO to identify the priority workstreams for DDI over the next 18- 24 months in order for the group to be able to better support the work of WHO. A series of priority topic areas were identified, each of which will be addressed by a scientific taskforce reporting to the RGHS, considering the implications separately for high and low-resource settings, as appropriate.

The following is the agreed list of priority topics, each to be addressed by a specific RGHS Task Force (TF):

- **TF1:** GATHER 2.0
- **TF2:** Age-specific mortality estimation and computation of life tables

- **TF3:** Cause-specific mortality estimation, reporting list for causes of death and redistribution algorithms to re-assign deaths certified to ill-defined, impossible or unspecified codes, and combining estimates of cause-of-death
- **TF4:** Risk factors
- **TF5:** Population data and estimates
- **TF6:** Surveys
- **TF7:** Verbal autopsy methods and applications in CRVS systems
- **TF8:** Health services data

Each of the eight topic-specific taskforces would be comprised of members of the RGHS as well as external experts, as required, recommended by the RGHS members, in consultation with the Secretariat. This might also include suggestions for consideration of technical experts from UN agencies and other organisations working in cognate areas.

Immediate Next Steps for RGHS Members

1. Members were requested to ***self-nominate*** for one or more Task Forces depending on their expertise, interests and availability. The membership and chair/co-chairs of each TaskForce would be finalised by the co-chairs of the RGHS, in consultation with the Secretariat.
2. RGHS members were also asked to ***submit their detailed list of scientific and/or strategic questions*** for each Task Force topic to WHO.
3. The WHO secretariat would compile these questions, in additions to its own priorities, and provide this information to the RGHS co-chairs who would then provide specific instructions to each Task Force about the scope, reporting schedule, mechanisms and expectations for their specific area of work.

It was agreed that the following topics do not need to be specifically addressed by an RGHS Task Force since the group felt it had already given sufficient advice to WHO: Data Principles, World Health Statistics Report 2020.

Workplan and Key Timelines for 2020

Timelines and duration of each Task Force will depend on when the TaskForce is formed and its objectives (short vs. long-term) but is expected to be between 12-18 months.

- Two full RGHS meetings will be convened each year, one virtual and one face to face. For 2020, tentative dates for these are last week of May/first half of June (virtual); and during the World Data Forum to be held in Bern in mid- October. The primary objective of the May/June virtual meeting will be to clarify any issues related to Task Force workplans, working methods, membership, agenda, reporting expectations, etc.
- Once launched, each TaskForce should plan on periodic calls, initially monthly. These will be supported by the WHO Secretariat.
- In-person TaskForce meetings will be supported by the WHO Secretariat where these are deemed to be necessary.

Closure of the Meeting

Dr Tedros, WHO Director-General thanked the RGHS members for their time, commitment, and technical expertise. He emphasized that the RGHS would play a key role in ensuring the credibility and utility of WHO's GPW13 measurement strategy and its support to Member States. He also reminded members that the DDI division led by ADG Dr Asma is a key part of the core business of WHO. Dr Tedros specifically requested the RGHS to help WHO to deliver better results at the country level.

The chairpersons closed the meeting reminding members that better data underpins better health decisions which ought to lead to improved population health outcomes in countries.

ANNEX A

Reference Group on Health Statistics (RGHS)
9-10 December, Salle C, WHO Geneva Headquarters
Agenda

Monday, 9 December
9:00 – 9:45 (45 min)
Welcome and Introduction – Samira Asma

- Welcome
- Message from Dr Tedros, WHO Director General
- Introduction of the RGHS members (2-3 min self-introduction)
- Overview of the Reference Group on Health Statistics

9:45 – 10:15 (30 min)
Setting up of RGHS, mandate, appointment of chairs – Samira Asma

- Principles followed to establish the Reference Group
- Role of the Reference Group – to offer the best scientific advice to WHO
- Proposed method of working including additional topic specific technical subcommittees
- Appointment of chairs

10:15 – 10:45 Coffee Break
10:45 – 11:30 (45 min)
WHO Update and Discussion – Samira Asma

- Update on the WHO transformation (15 min)
    - WHO's strategic direction and its 5-year strategy— WHO's General Programme of Work (GPW13) Results Framework
    - Introduction to the new Division of Data, Analytics and Delivery for Impact- strategy, key functions, data principles, priority actions for the next five years
    - Discussion (30 min)

11:30 – 1:00 (90 min)
GATHER compliance and GATHER 2.0 – Led by co-chairs
(Refer to the reading materials)

1:00 – 2:00 Lunch at WHO Crystal Restaurant

2:00 – 3:30 (90 min)
Topics for discussion: Initial consideration by the Reference Group – Led by co-chairs

List of substantive topics by thematic areas presented for consideration to the Reference Group and its future subcommittees. Each topic will be introduced with a summary of key issues, challenges and questions to the Reference Group for advice. Five min introductory presentation followed by discussion *(Refer to the reading materials)*.

a. Improving statistical methods: Life tables, cause of death, population estimates, risk factors, disaggregation, forecasting.
b. Strengthening health information systems: World Health Survey Plus data collection platform, CRVS, verbal autopsy, health services.
c. Building skills in data analytics and reporting: Systematic approach to enhance country capacity in data, analysis, reporting and use.

d. Collaborative partnerships: Health Data Collaborative review, UN partnerships, interagency working groups

3:30 – 4:00 Coffee Break
4:00 – 5:30 (90 min)
Priority topics requiring urgent review by the Reference Group – Led by co-chairs

a. WHO GPW13 Results Framework outcome indicators and target setting for 2023
b. Measuring the WHO GPW13 Triple billion targets: Key questions on methods
c. World Health Statistics Report 2020 plans and key messages
(Refer to the reading materials)

6:00 – 7:00 Welcome Reception

Tuesday, 10 December
9:00 – 10:30 (90 min)
1. **Establish priority work streams and propose technical subcommittees for next 24 months** – Led by co-chairs
   a) Topics and related subcommittees TBD

10:30 – 11:00 Coffee Break
11:00 – 12:00 (60 min)
2. **Workplan and key timelines to achieve activities by 2020** – Led by co-chairs
   - UN Statistical Commission Meeting, 3-6 March, NYC
   - 73rd World Health Assembly, 17-21 May, Geneva
   - UNESCAP: *Second Ministerial Conference on Civil Registration and Vital Statistics (CRVS) in Asia and the Pacific,* 6-9 October, Bangkok
   - UN World Data Forum, 18-21 October, Bern (*Road to Bern data series by the Swiss Government*)

12:00 – 1:15 Working Lunch and way forward

ANNEX B

List of Participants

Reference Group Members

Leontine Alkema
Associate Professor in Biostatistics
School of Public Health and Health Sciences
University of Massachusetts, Amherst
Amherst
United States of America

Amneh Alnatsheh
Director
Satellite Accounts Department
Palestinian Central Bureau of Statistics
Ramallah City
Palestine

Peter Byass
Professor of Global Health
Department of Epidemiology and Global Health
Umeå University
Sweden

Lalit Dandona
ICMR Distinguished Scientist and National Chair of Population Health
Head, Evidence for Policy Cell
Indian Council of Medical Research
India

Emmanuela Gakidou *(unable to attend*)
Professor
Associate Chair for Academic Programs
Senior Director, Organizational Development and Training
Institute for Health Metrics and Evaluation
University of Washington
United States of America

Ihsan ul Haq *(unable to attend)*
Chief Statistical Officer
Pakistan Bureau of Statistics
Pakistan

Nayu Ikeda
Head, Section of Population Health Metrics
International Center for Nutrition and Information
National Institute of Health and Nutrition, National Institutes of Biomedical Innovation
Japan

Ardeshir Khosravi
Director
Health Statistics and Health Economics
Iranian Ministry of Health and Medical Education
Iran

Soewarta Kosen
Reseacher
National Institute of Health Research and Development
Ministry of Health
Indonesia

Vindya Kumarapeli *(unable to attend)*
Director, Non Communicable Diseases
Ministry of Health
Sri Lanka

Sarah Lewington
Professor of Epidemiology and Medical Statistics
Nuffield Department of Population Health
Senior Research Fellow
Green Templeton College
University of Oxford
United Kingdom

Alan Lopez
Laureate Professor at The University of Melbourne
Rowden-White Chair of Global Health and Burden of Disease Measurement
Melbourne School of Population and Global Health
University of Melbourne
Australia

Rafael Lozano
Director of Health Systems
Institute for Health Metrics and Evaluation
University of Washington
United States of America

Isabel De La Mata
Principal Advisor for Health and Crisis Management
European Commission
Directorate General, Health and Food Safety
Belgium

George A Mensah
Director
Center for Translation Research and Implementation Science
Senior Advisor, Office of the Director
National Heart, Lung, and Blood Institute
National Institutes of Health
United States of America

Thet Thet Mu
Deputy Director General
Health Management Information System
Health Information Division
Department of Public Health
Ministry of Health and Sports
Myanmar

Christopher Murray
Director, Institute for Health Metrics and Evaluation
Professor and Chair of Health Metrics Sciences
University of Washington
United States of America

Randa Mohammed Seddiq Nooh
Saudi Board of Preventive Medicine
Ministry of Health
Kingdom of Saudi Arabia

Joshua Salomon
Professor of Medicine
Center for Health Policy and Center for Primary Care and Outcomes Research
Senior Fellow at the Freeman Spogli Institute for International Studies
School of Medicine
Stanford University
United States of America

Benn Sartorius
Assistant Professor
Spatial Epidemiology
London School of Hygiene and Tropical Medicine
London
United Kingdom

Samba Sow *(unable to attend)*
Director General of the Center for Vaccine Development
Ministry of Health
Mali

María Margarita Ronderos Torres
Universidad Javerianan
Insituto de Salud Publica
Bogota, Colombia

Elena Varavikova
Senior Adviser
Ministry of Health of Russia
NCD prevention and evaluation of the effectiveness of the State Public Health expenditures on population health
Federal Research Institute for Health
Russian Federation

Gonghuan Yang *(unable to attend*)
Institute of Basic Medical Sciences
Chinese Academy of Medical Sciences
China

Observers

David Blazes
Global Health Program Manager
Epidemiology and Surveillance
The Bill and Melinda Gates Foundation
Seattle
United States of America

Kenji Shibuya
Senior Advisor to WHO Director General
Director
Institute for Population Health
Kings College London
London
United Kingdom

WHO Secretariat

Samira Asma
Assistant Director General
Division of Data, Analytics and Delivery for Impact

Bochen Cao
Demographer
Division of Data, Analytics and Delivery for Impact

Somnath Chatterji
Coordinator
Division of Data, Analytics and Delivery for Impact

Doris Ma Fat
Statistician
Division of Data, Analytics and Delivery for Impact

Bernardo Mariano Junior
Director
Digital Health and Innovation
Chief Information Officer

David Novillo
Programme Manager
Health Information, Monitoring and Analysis
WHO European Regional Office

Amit Prasad
Economist
Division of Data, Analytics and Delivery for Impact

Arash Rashidian
Director
Information, Evidence and Research
WHO Eastern Mediterranean Regional Office

Alice Robson
Statistician
Division of Data, Analytics and Delivery for Impact

Peter Singer
Special Adviser to the DG
Office of the Director-General

Soumya Swaminathan
Chief Scientist
Science Division