United Nations Expert Group Meeting
On
Innovative methods to measure the impact of COVID-19 on mortality through surveys and censuses

23 – 25 August 2022, Abu Dhabi, United Arab Emirates

Final Report

Prepared by

United Nations Statistics Division
Contents

Introduction/objectives .......................................................... 2
Preparation for the meeting ...................................................... 3
Participation .............................................................................. 3
Meeting sessions ........................................................................ 3

ANNEX 3. Annotated work programme (final) ................................ 18
ANNEX 4. Session 1b – questions for round table discussion on data gaps .................................................. 23
ANNEX 6. Session 6 – Outcome of the group discussion: Draft proposal to improve availability of timely and high-quality adult mortality data ................................. 28
ANNEX 7. Session 8 – Questions for round table discussion: Integrating the proposed innovative methods into national statistical systems ......................................................... 41
ANNEX 8. Conclusions of the Expert Group Meeting (final) ................. 42

Introduction/objectives

The United Nations Statistics Division, in collaboration with the United Nations Population Division and New York University (NYU) Abu Dhabi, organised an Expert Group Meeting on Innovative Methods to Measure the Impact of COVID-19 on Mortality through Surveys and Censuses, at the NYU Abu Dhabi, from 23-25 August 2022. The meeting was organised under the guidance of the WHO-DESA Technical Advisory Group on COVID-19 Mortality Assessment (TAG). Work conducted by the Expert Group Meeting was directly guided by Working Group 2 of the TAG, chaired by Mr. Stephane Helleringer.

The meeting covered challenges in the production of timely and reliable data on adult mortality during the COVID-19 pandemic in countries that do not have a well-functioning civil registration system and discussed ways to (a) improve adult mortality data collection in terms of quality, availability and timeliness; and (b) generate data from surveys, censuses and an integration of data sources that could be used to measure the impact of epidemics, pandemics and other disasters on adult mortality. Actions and roadmaps to support countries in implementing new solutions and in adopting innovative approaches were also covered in the discussions. The meeting also noted that in supporting the adoption of innovative approaches to collect adult mortality data through surveys, censuses or an integration of multiple data sources in countries, monitoring and review of ongoing literatures, experimentation and national experiences are necessary; followed by testing to ensure national applicability and sustainability. Methodological guidance should be prepared based on the literature review, and country practices and experiences gathered from the piloting whenever necessary.

The meeting highlighted that population censuses and surveys cannot be a substitute for a fully functioning civil registration (CRVS) system. It is essential to continue all efforts and investments in establishing and enhancing such a system, in line with the decision of the United Nations Statistical Commission for all countries to fully implement the UN Legal Identity Agenda for all
In the immediate term, however, where CRVS systems are limited, innovative solutions and approaches provided an opportunity to make the best use of data from surveys, censuses and other new data sources to estimate mortality among both children and adults in countries where CRVS are still incomplete or unreliable.

**Preparation for the meeting**

Two background papers were made available to inform the discussion during the meeting:
- Improving adult mortality data collection through household surveys and population censuses: a set of recommendations, made available before the Expert Group Meeting

A questionnaire (Annex 1) was sent to all participating countries prior to the meeting to gather information on: (i) how censuses and surveys are used to collect adult mortality data, (ii) the availability of data that are disaggregated by basic characteristics such as age and sex, (iii) quality assessment of death registration; (iv), data collection activities during COVID, and plans for data collection post-COVID. Questions were also raised on the challenges countries face in measuring adult mortality and the support needed from the international community to improve the availability, quality and timeliness of adult mortality measurement through censuses and surveys. A summary of the support needed from all participating countries was presented under Session 1b on Overview of availability of adult mortality data and data needs, for regular monitoring of mortality trends and for measuring the impact of COVID-19 on mortality. A compilation of all national responses to the questionnaire is available online.

The meeting was also supported by the following three webinars with in-depth discussion around relevant topics. Recording and powerpoint presentations for these webinars are available online.
- Measuring the impact of COVID-19 on Mortality: how can surveys and censuses help, 7 February 2022
- Measuring the Impact of COVID-19 on Mortality: the potential of high frequency surveys, 13 April 2022

**Participation**

The meeting was joined by 53 in-person participants and around 10 remote participants (varied by sessions), from national statistical offices, research institutions, humanitarian agencies, private sector, regional and international organisations and donors. The list of participants is included in Annex 2.

**Meeting sessions**

The meeting included 9 sessions. A brief description of each session is covered below while more information about the speakers and their presentations, as well as activities undertaken for the two

---

1 The United Nations Statistical Commission urged all countries in its 51st session to fully implement the UN Legal Identity Agenda – the holistic approach to civil registration, vital statistics and identity management that is the only mechanism to ensure universal registration of all vital events, translated in comprehensive fertility and mortality statistics and conferring legal identity to all from birth to death.
round-table discussions and a group discussion session is available in Annex 3 – annotated work programme. All documents of the Expert Group Meeting are available online.

Session 0 – Opening session

- Dr. Paula England, Dean of Social Science, NYU Abu Dhabi
- Mr. Kevin McCormack, co-Chair, UNDESA-WHO Technical Advisory Group on COVID Mortality Assessment; Head of Division, Sustainable Development Goals Indicators & Reports, Central Statistics Office, Ireland
- Dr. Dena Assaf, United Nations Resident Coordinator, United Arab Emirates
- Ms. Francesca Perucci, Assistant Director, United Nations Statistics Division

Session 1 - What do we need to measure in terms of adult mortality and where are the gaps?

The session covered current status in measuring adult mortality through censuses and surveys, emerging data needs and areas for data improvements. Presentations included those from national statistical offices about their adult mortality data collection systems and challenges faced; a brief overview of methods to collect and estimate adult mortality in censuses and surveys; availability of national data for the WHO-UNDESA estimates on COVID-19 excess mortality; and the work of the Inter-Secretariat Working Group on Household Surveys and its linkage to the work being covered by the Expert Group Meeting.

The session also covered a summary of challenges and emerging data needs in measuring adult mortality under various global mandates and at the national level, based on the background paper prepared for the meeting and the input from the participating countries through the questionnaire shared prior to the meeting.

The last part of the session included a round-table discussion focusing on data needs around three areas: (a) data disaggregation; (b) short-term fluctuations and (c) measurement of old-age mortality. The list of questions for the panelists is included in Annex 4.

Session 2 – Changes and innovations in better asking questions to capture adult mortality in censuses and surveys

The session provided an overview of recent changes in data collecting on adult mortality and innovative approaches to better meet data needs, such as including new questions or revising existing ones in surveys and censuses. Following the presentations on how censuses and surveys have been asking questions on adult mortality, experiences and lessons learnt were presented by countries and the research community on question variations and additions.

Session 3 – Collecting adult mortality data that are more inclusive

The session discussed ways to improve the inclusiveness of adult mortality data collection, focusing on the most vulnerable population groups, including indigenous population in Brazil, people of different castes in India, and individuals in rural areas. A presentation was also made on a project in the Asia Pacific region on the inclusiveness of death registration.

Session 4 - Innovations in measuring adult mortality through surveys – sampling strategies

The session covered presentations on (a) applicability of sampling strategies for populations that are difficult to survey, such as those in modern-day slavery or drug users, to adult mortality; and (b) sample registration systems that were set up to collect information on vital events including causes of deaths in Sierra Leone and Zambia.
Session 5 – Conducting high-frequency mortality surveys

The session reviewed recent progress in the conduct of mobile phone surveys on mortality measurement, discussed remaining challenges in measurement from mobile phone surveys, and identified possible opportunities for further improvement. Presentations were made for surveys conducted in emergency situations to collect mortality data and for rapid phone surveys carried out during COVID.

Session 6 – Group discussion: improving census and survey design to better measure adult mortality

During the session, in-person participants were divided into 4 groups and discussed the priority to be assigned to a list of recommendations included in the background paper on Improving adult mortality data collection through household surveys and population censuses: a set of recommendations, based on their experiences and national circumstances. Additional recommendations were also proposed. Countries were invited to express their interest in joining piloting for further developing the recommendations. Instructions for the group discussion are included in Annex 5. The groups reconvened and reported the outcomes of their discussions, summarized in Annex 6.

Session 7 – Integrating survey and census data on adult mortality with other data sources

The session focused on methods that integrate survey with other data sources such as censuses, administrative data (CRVS), and nontraditional data such as geospatial information and crowdsourcing. Methods presented include record-linkage of the census and demographic and health surveillance system; collecting data on household deaths in HIV-focused surveys; integration of census, survey and geospatial information to understand the barriers against death registration; seroprevalence surveys that can be an integrated part of disease surveillance systems to support detection of and response to the next pandemic; and obtaining timely COVID-19 excess mortality data through crowdsourcing (publicly available sources) for countries with complete death registration. A presentation was also made on how the UN Population Division produced adult mortality estimates based on an integration of data from CRVS, censuses and surveys.

Session 8 - Integrating the proposed innovative methods into national statistical systems

The session was a round-table discussion. Panelists discussed resource constraints in national statistical offices and how they would impact introduction of new data collection methods in the existing systems. Discussion also covered how the proposed innovative methods can be integrated into national statistical systems, serving different levels of data demand, under different national statistical/survey system settings and with different statistical capacities, and further work needed including new guidance and resources required for adopting the new methods. Lastly, the discussion addressed how different communities can work together to help further the agenda. Panelists included experts from national statistical offices (Ghana and Ireland), research institute (Stéphane Helleringer, NYU Abu Dhabi), donors (Gates Foundation and USAID), and a regional organization (WHO EMRO). Questions for the panelists are included in Annex 7.

Session 9 - Conclusions and recommendations

The session reviewed a set of conclusions that was produced based on the presentations and discussions at the Expert Group Meeting and discussed next steps and road maps to improve availability and timeliness of adult mortality data at the national level. The revised conclusions of the meeting, as well as the outcome of the group discussion in Session 6 were shared with all participants after the meeting, for their final review by 2 September 2022. Final conclusions of the meeting are available in Annex 8 and suggestions made on the worksheet discussed under Session 6
in Annex 9. During the session, Fiji volunteered to be a pilot country to test the innovative methods discussed during the meeting.
ANNEX 1. Questionnaire on national adult mortality measurement

Background
The questionnaire is prepared in the context of the upcoming United Nations Expert Group Meeting Innovative methods to measure the impact of COVID-19 on mortality through surveys and censuses, 23-25 August 2023, with the following objectives:

- Foster a better understanding on how adult mortality is measured in your country
- Support the development of a background paper that will be used to facilitate the discussion during the Expert Group Meeting
- Identify areas for which support is needed from the international community

Your contribution is very important to our work in formulating recommendations for national statistical offices to improve adult mortality measurement.

Note: There is no internationally-agreed definition on adult mortality. But in this specific context, please consider adult mortality as mortality of individuals 5 years and older. Older-age mortality (age 50+) is of particular interest to our work as well because of mortality data for this age group is extremely scarce for countries without a complete civil registration and vital statistics system.

1. Information about you
   a. Name of the organization:
   b. Your name:
   c. Your email:
   d. Your title and responsibility in the organization:

2. Regular adult mortality measurement in your country
   a. What are the data sources that can be used to measure adult mortality in your country? (select all that apply)
      - Death registration
      - Population censuses
      - Household surveys
      - A combination of different data sources
      - Others, please specify:

   b. If death registration is used to measure adult mortality, please indicate the national-level completeness.

   c. What method(s) is used to assess the adult mortality registration completeness?

   d. Do you assess the adult mortality registration completeness by key demographic characteristics to understand inequality in registration? If yes please explain how it is done and provide a brief summary on the inequalities.
e. Please list surveys carried out since 2005 that have been used to collect adult mortality data.

3. Adult mortality data collection during COVID-19
   Please list all new data collection activities on adult mortality during the COVID-19 pandemic, including new surveys, new questions in existing surveys, additional exploration of administrative records, nontraditional data sources such as geospatial or records from burial site?

4. Data collection on adult mortality post-COVID
   a. Is there a plan to incorporate new data collections such as starting a new survey on mortality, or adding additional mortality questions to regular surveys post-pandemic? If yes please describe briefly the activities.

   b. When will the next population census be conducted in your country?

   c. Would you be considering modifying or adding new questions on mortality in the next census? If yes please specify what changes are being introduced.

5. What are the challenges that you have on measuring adult mortality?

6. Please kindly let us know how we can support you in improving the availability, quality and timeliness of adult mortality measurement.
ANNEX 2. List of participants (final)

Tebogo Laletsang  
Senior Statistician, Census and Demographic Analysis  
Statistics Botswana  
Botswana  
Email: tlaletsang@statsbots.org.bw; laletsangT25@gmail.com  
In-person

Christian Marcelo Garces Mayorga  
Analista de Innovación en Métricas y Metodologías  
Instituto Nacional de Estadística y Censos  
Ecuador  
Email: christian_garces@inec.gob.ec  
In-person

Abena Osei-akoto  
Director, Surveys and Censuses  
Ghana Statistical Service  
Ghana  
Email: abena.osei-akoto@statsghana.gov.gh; abenaaani@gmail.com  
In-person

Sri Wahyuni  
Senior Statistician  
BPS - Statistics Indonesia  
Indonesia  
Email: swahyuni@bps.go.id  
In-person

Gerard Doolan  
Statistician  
Vital Statistics  
Central Statistics Office  
Ireland  
Email: Gerard.Doolan@cso.ie  
Remote

Damian Rivadeneira  
National Responsible for the Employment Survey  
Instituto Nacional de Estadística y Censos  
Ecuador  
Email: damian_rivadeneira@inec.gob.ec  
In-person

Meli Leslie Ligalaulau Nadakuca  
Senior Statistician  
Fiji Bureau of Statistics  
Email: mnadakuca@statsfiji.gov.fj; leslie27.m@gmail.com  
In-person

Ari Purbowati  
Statistician  
BPS - Statistics Indonesia  
Indonesia  
Email: purbowati@bps.go.id; purbowati.ari@gmail.com  
In-person

Kevin McCormack  
Head of Division, Sustainable Development Goals Indicators & Reports  
Western European Delegate to UN IAEG-SDG  
Co-Chair UN IAEG-SDG WGGI  
Central Statistics Office  
Ireland  
Email: kevin.mccormack@cso.ie  
In-person

Gerard Doolan  
Statistician  
Vital Statistics  
Central Statistics Office  
Ireland  
Email: Gerard.Doolan@cso.ie  
Remote

Samta Sucktikun  
Technical staff  
Social Statistics Department  
LAO Statistics Bureau  
Lao PDR  
Email: sacktikun@gmail.com  
In-person
Thirakha Chanthalanouvong  
Director General of Social Statistics Department  
LAOS Statistics Bureau  
Lao PDR  
Email: thirakha12@gmail.com  
In-person

Mohammed Fassi Fihri  
Director, HCP  
Morocco  
Email: m.fassifihri@hcp.ma  
In-person

Atoumane Fall  
Directeur, par intérim, des Statistiques démographiques et sociales (DSDS)  
Senegal  
Email: Atoumane.FALL@ansd.sn; athmanfal@gmail.com  
In-person

Nedeye Lala Travare  
Cheffe du Bureau du Recensement et des Statistiques Migratoires (BRSM)  
Email: lala.travare@ansd.sn  
In-person

Kaludeera Saman Ravindra Lal Senadeera  
Deputy Director (Statistics)  
Secretary of the Ministry of Finance  
Sri Lanka  
Email: ksrlsenadeera@yahoo.com; ravindrasenadeera@gmail.com  
In-person

Galande Johnstone  
Senior Statistician  
Uganda Bureau of Statistics  
Uganda  
Email: galandej1@gmail.com  
In-person

Stephen Kwizera Baryahirwa  
Head of Department  
Social Surveys and Censuses  
Uganda Bureau of Statistics  
Uganda  
Email: baryasteve@yahoo.com; stephen.baryahirwa@ubos.org  
In-person

Ebtesam Al Shehhi  
Expert  
Statistics Centre - Abu Dhabi  
United Arab Emirates  
Email: emalshehhi@scad.gov.ae  
In-person

Thumna Alrashdi  
Senior Population & Demography Statistician  
Statistics Centre - Abu Dhabi  
United Arab Emirates  
Email: tsalrashdi@scad.gov.ae  
In-person

Adil Aljasmi  
Population & Demographic Statistician  
Statistics Centre - Abu Dhabi  
United Arab Emirates  
Email: asaljasmi@scad.gov.ae  
In-person
<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Position</th>
<th>Organization</th>
<th>Email</th>
<th>Contact Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Mariam Abdallah Al-Mulla</td>
<td>Director, Communicable Diseases</td>
<td>Abu Dhabi Department of Health</td>
<td><a href="mailto:malmulla@adphc.gov.ae">malmulla@adphc.gov.ae</a></td>
<td>In-person</td>
</tr>
<tr>
<td>Ms Abeer Abdulla</td>
<td>Head, Statistics and Data Management</td>
<td>Abu Dhabi Department of Health</td>
<td><a href="mailto:asabdulla@doh.gov.ae">asabdulla@doh.gov.ae</a></td>
<td>In-person</td>
</tr>
<tr>
<td>Ms Aliaa Al-Kharji</td>
<td>Focal Person, Health Data</td>
<td>Abu Dhabi Department of Health</td>
<td><a href="mailto:aalkharji@doh.gov.ae">aalkharji@doh.gov.ae</a></td>
<td>In-person</td>
</tr>
<tr>
<td>Ms Noora Darwish Al-Khoori</td>
<td>Specialist, Rapid Pandemic Response</td>
<td>Abu Dhabi Public Health Centre</td>
<td><a href="mailto:nalkhoori@adphc.gov.ae">nalkhoori@adphc.gov.ae</a></td>
<td>In-person</td>
</tr>
<tr>
<td>Ms Fedaa Nazmi El-Saleh</td>
<td>Focal Person, Rapid Response</td>
<td>Abu Dhabi Public Health Centre</td>
<td><a href="mailto:felsaleh@adphc.gov.ae">felsaleh@adphc.gov.ae</a></td>
<td>In-person</td>
</tr>
<tr>
<td>Ms Rayan El-Sayed</td>
<td>Statistician</td>
<td>Ministry of Health and Prevention</td>
<td><a href="mailto:Rayan.ElSayed@mohap.gov.ae">Rayan.ElSayed@mohap.gov.ae</a></td>
<td>In-person</td>
</tr>
<tr>
<td>Dr Sumaya Al-Zarouni</td>
<td>Assistant Director General, Medical Affairs</td>
<td>Emirates Health Services</td>
<td><a href="mailto:Sumaya.Abdalateef@ehs.gov.ae">Sumaya.Abdalateef@ehs.gov.ae</a></td>
<td>In-person</td>
</tr>
<tr>
<td>Mr Khaled Al-Jallaf</td>
<td>Director, Research and Data Analysis</td>
<td>Dubai Health Authority</td>
<td><a href="mailto:Kajallaf@dha.gov.ae">Kajallaf@dha.gov.ae</a></td>
<td>In-person</td>
</tr>
<tr>
<td>Ms Asmaa El-Mekki Ahmed</td>
<td>Epidemiologist</td>
<td>Dubai Health Authority</td>
<td><a href="mailto:AEAhmed@dha.gov.ae">AEAhmed@dha.gov.ae</a></td>
<td>In-person</td>
</tr>
<tr>
<td>Mrs Hosn Abdi</td>
<td>Epidemiologist</td>
<td>Dubai Health Authority</td>
<td><a href="mailto:Reach_habdi@dha.gov.ae">Reach_habdi@dha.gov.ae</a></td>
<td>In-person</td>
</tr>
</tbody>
</table>
Ha Nham Thi Thu
Statistician, Department of Population and Labour Statistics
VietNam Statistics Office
Viet Nam
Email: nhanthuha73@gmail.com; ntthuha@gso.gov.vn
In-person

Bernardo Queiroz
Associate Professor of Demography
Universidade Federal de Minas Gerais
Brazil
Email: blanza@gmail.com; lanza@cedeplar.ufmg.br
In-person

Yempabou Bruno Lankoande
Lecturer and researcher
Université Joseph Ki-Zerbo
Burkina Faso
Email: BLANKOANDE@issp.bf;lankyem@yahoo.fr
In-person

Prabhat Jha
University Professor and Professor of Global Health
University of Toronto
Email: prabhat.jha@utoronto.ca
In-person

Aashish Gupta
David E.Bell Fellow
Harvard University
Email: aashishgupta@hsph.harvard.edu; aashishgupta@outlook.in
In-person

Nandita Saikia
Professor
International Institute for Population Sciences
India
Email: nanditasaikia@iipsindia.ac.in
In-person

Emelda Aluoch Okiro
Head, Population Health Unit
KEMRI/Wellcome Trust collaborative programme
Kenya
Email: EOkiro@kemri-wellcome.org
In-person

Tom Moultrie
Professor of Demography
University of Cape Town
South Africa
Email: tom.moultrie@uct.ac.za
Remote

Jenny Alejandra Garcia Arias
Postdoc
Institut National d’Études Démographiques
INED
Venezuela
Email: jenny.garcia@ined.fr
In-person

Vesper Chisumpa
Senior lecturer
University of Zambia
Zambia
Email: vchisumpa@gmail.com
In-person
<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Role</th>
<th>Organization/Institution</th>
<th>Email</th>
<th>Contact Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trevor Croft</td>
<td>Senior Technical Director</td>
<td>International Survey Research ICF</td>
<td><a href="mailto:Trevor.Croft@icf.com">Trevor.Croft@icf.com</a></td>
<td>In-person</td>
</tr>
<tr>
<td>Jessica Justman</td>
<td>Senior Technical Director</td>
<td>Principal Investigator, PHIA Project ICAP at Columbia, Mailman School of Public Health; Associate Professor of Medicine in Epidemiology Division of Infectious Diseases, Vagelos College of Physicians and Surgeons Columbia University</td>
<td><a href="mailto:jj2158@cumc.columbia.edu">jj2158@cumc.columbia.edu</a></td>
<td>In-person</td>
</tr>
<tr>
<td>Ariel Karlinsky</td>
<td>PhD student</td>
<td>Hebrew University</td>
<td><a href="mailto:karlinsky@gmail.com">karlinsky@gmail.com</a></td>
<td>Remote</td>
</tr>
<tr>
<td>Eric Simons</td>
<td>Epidemiologist, Epicenter</td>
<td>Principal Investigator, COVID seroprevalence and retrospective mortality survey in Abidjan Médecins Sans Frontières</td>
<td><a href="mailto:Erica.SIMONS@epicentre.msf.org">Erica.SIMONS@epicentre.msf.org</a></td>
<td>Remote</td>
</tr>
<tr>
<td>Toshiko Kaneda</td>
<td>Technical Director</td>
<td>Demographic Research Population Reference Bureau Population Reference Bureau</td>
<td><a href="mailto:tkaneda@prb.org">tkaneda@prb.org</a></td>
<td>Remote</td>
</tr>
<tr>
<td>Samantha Dolan</td>
<td>Program Officer</td>
<td>Bill &amp; Melinda Gates Foundation</td>
<td><a href="mailto:Samantha.Dolan@gatesfoundation.org">Samantha.Dolan@gatesfoundation.org</a></td>
<td>In-person</td>
</tr>
<tr>
<td>Apoorva Jadhav</td>
<td>Senior Technical Advisor for Demography and Health Policy USAID</td>
<td></td>
<td><a href="mailto:ajadhav@usaid.gov">ajadhav@usaid.gov</a></td>
<td>In-person</td>
</tr>
<tr>
<td>Manuel Alebela</td>
<td>Epidemiology Adviser</td>
<td>Medical Department MSF Operational Center Geneva</td>
<td><a href="mailto:Manuel.ALBELA@geneva.msf.org">Manuel.ALBELA@geneva.msf.org</a></td>
<td>Remote</td>
</tr>
<tr>
<td>Ashira Menashe-Oren</td>
<td>Post-doctoral researcher</td>
<td>Université catholique de Louvain Université catholique de Louvain</td>
<td><a href="mailto:ashira.menashe-oren@uclouvain.be">ashira.menashe-oren@uclouvain.be</a></td>
<td>In-person</td>
</tr>
<tr>
<td>Scott Dowell</td>
<td>Deputy Director for Surveillance and Epidemiology</td>
<td>Bill &amp; Melinda Gates Foundation</td>
<td><a href="mailto:Scott.Dowell@gatesfoundation.org">Scott.Dowell@gatesfoundation.org</a></td>
<td>Remote</td>
</tr>
</tbody>
</table>
Rajesh Srinivasan  
Global Director of Research  
Gallup  
Email: Rajesh_Srinivasan@gallup.com  
Remote

Kieran Walsch  
Senior Statistician  
Department of Statistics  
International Labour Organization  
Email: walshk@ilo.org  
Remote

Danzhen You  
Senior Adviser  
Statistics and Monitoring  
United Nations Children's Fund  
Email: dyou@unicef.org  
Remote

Romesh Silva  
Senior Technical Specialist  
Email: rosilva@unfpa.org  
Remote

Tapiwa Jhamba  
Technical Advisor  
United Nations Population Fund  
Email: jhamba@unfpa.org  
Remote

Nirmala Naidoo  
Statistician  
World Health Organization  
Email: naidoon@who.int  
In-person

William Msemburi  
Technical Officer  
World Health Organization  
Email: msemburiw@who.int  
In-person

Henry Doctor  
Coordinator, Information Systems for Health  
Division of Science, Information and Dissemination  
WHO Regional Office for the Eastern Mediterranean  
Email: doctorh@who.int  
In-person

Eman Abdelkreem Aly  
Technical officer  
Information Systems for Health  
Department of Science, Information and Dissemination  
WHO Regional Office for the Eastern Mediterranean  
Email: alye@who.int  
In-person

Gero Carletto  
Manager  
Data Production and Methods  
Development Data Group  
World Bank  
Email: gcarletto@worldbank.org  
Remote
Petra Nahmias
Chief of Section
Statistics Division
Economic and Social Commission for Asia and the Pacific
Email: nahmiasp@un.org
Remote

Gloria Mathenge
Statistician
Statistics Division
Economic Commission for Africa
Email: gloria.mathenge@un.org
Remote

Guiomar Bay
Population Affairs Officer
Economic Commission for Latin America and the Caribbean
Email: guiomar.bay@un.org
Remote

Helena Cruz Castanheira
Population Affairs Officer
Economic Commission for Africa
Email: helena.cruz@cepal.org
Remote

Dena Assaf
UN Resident Coordinator
UNCT
Email: dena.assaf@un.org
In-person

Saif Awad
UN Data Officer
UNCT
Email: saif.awadh1@un.org
In-person

Stéphane Helleringer
Professor
Social Science Division
Social Research and Public Policy Program
Chair, TAG-Working Group 2
Email: sh199@nyu.edu

Soumaila Ouedraogo
Postdoctoral associate in Demography
Email: so2276@nyu.edu

Cheryl Sawyer
Senior Population Affairs Officer
United Nations Population Division
Email: sawyerc@un.org
In-person

Vladimira Kantorova
Population Affairs Officer
United Nations Population Division
Email: Kantorova@un.org
Remote
<table>
<thead>
<tr>
<th>Name</th>
<th>Position/Title</th>
<th>Department/Division</th>
<th>Email Address</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Francesca Perucci</td>
<td>Assistant Director</td>
<td>United Nations Statistics Division</td>
<td><a href="mailto:perucci@un.org">perucci@un.org</a></td>
<td>In-person</td>
</tr>
<tr>
<td>Francesca Grum</td>
<td>Chief</td>
<td>Demographic and Social Statistics Branch</td>
<td><a href="mailto:grum@un.org">grum@un.org</a></td>
<td>Remote</td>
</tr>
<tr>
<td>Srdjan Mrkic</td>
<td>Chief</td>
<td>Demographic Statistics Section</td>
<td><a href="mailto:mrkic@un.org">mrkic@un.org</a></td>
<td>Remote</td>
</tr>
<tr>
<td>Margaret Mbogoni</td>
<td>Senior Statistician</td>
<td>United Nations Statistics Division</td>
<td><a href="mailto:mbogoni@un.org">mbogoni@un.org</a></td>
<td>Remote</td>
</tr>
<tr>
<td>Meryem Demirci</td>
<td>Inter-regional advisor</td>
<td>United Nations Statistics Division</td>
<td><a href="mailto:demircim@un.org">demircim@un.org</a></td>
<td>In-person</td>
</tr>
<tr>
<td>Haoyi Chen</td>
<td>Coordinator, Inter-Secretariat Working Group on Household Surveys</td>
<td>United Nations Statistics Division</td>
<td><a href="mailto:chen9@un.org">chen9@un.org</a></td>
<td>In-person</td>
</tr>
<tr>
<td>Seiffe Tadesse</td>
<td>Statistician</td>
<td>United Nations Statistics Division</td>
<td><a href="mailto:tadesse5@un.org">tadesse5@un.org</a></td>
<td>Remote</td>
</tr>
<tr>
<td>Adriana Skenderi</td>
<td>Statistician</td>
<td>United Nations Statistics Division</td>
<td><a href="mailto:skenderi@un.org">skenderi@un.org</a></td>
<td>Remote</td>
</tr>
<tr>
<td>Maria Isabel Cobos H.</td>
<td>Statistician</td>
<td>United Nations Statistics Division</td>
<td><a href="mailto:cobos@un.org">cobos@un.org</a></td>
<td>Remote</td>
</tr>
<tr>
<td>Andrew Smith</td>
<td>Statistician</td>
<td>United Nations Statistics Division</td>
<td><a href="mailto:smith61@un.org">smith61@un.org</a></td>
<td>Remote</td>
</tr>
</tbody>
</table>
ANNEX 3. Annotated work programme (final)

Tuesday, 23 August 2022
Registration: 8:30-8:45am
Session 0. Welcome (8:45-9:15am)
Moderator: Mr. Stéphane Hellingringer, NYU Abu Dhabi
- Dr. Paula England, Dean of Social Science, NYU Abu Dhabi
- Mr. Kevin McCormack, co-Chair, UNDESA-WHO Technical Advisory Group on COVID Mortality Assessment; Head of Division, Sustainable Development Goals Indicators & Reports, Central Statistics Office, Ireland
- Dr. Dena Assaf, United Nations Resident Coordinator, United Arab Emirates
- Ms. Francesca Perucci, Assistant Director, United Nations Statistics Division

Session 1. What do we need to measure in terms of adult mortality and where are the gaps? (9:15 – 12:15am)
The session covers:
- The current status in measuring adult mortality through censuses and surveys, for monitoring adult mortality regularly and assessing the impact of the pandemic (or other types of disasters).
- Data needs, for countries that do not have a reliable civil registration and vital statistics system to produce statistics on adult mortality. These could include: data coverage in terms of the level of geographic areas, age groups and/or other key disaggregation dimensions; frequency of data (annually or other frequency) and reliability requirement (coefficient of variation?). The discussion will also cover the data needs for monitoring adult mortality both regularly and during a crisis such as COVID-19. Data needs will also be classified under a tier system, with the tier-1 as the core requirement and tier-2 as additional data needs.
- Following the discussions above, areas for data improvement will be highlighted to inform discussions in the remaining sessions of the meeting. Criteria for which support would be needed to use censuses and surveys for adult mortality estimates will also be covered.

Session 1a. Current status of adult mortality data collection (9:15-10:30am)
Moderator: Francesca Perucci, UNSD
- Presentations:
  - National presentations about current data sources and identify data needs and gaps (5 mins each, 35m in total)
    - Botswana
    - Ecuador
    - Fiji
    - Ghana
    - Lao PDR
    - Morocco
    - Sri Lanka
  - Availability of national data for COVID-19 excess mortality estimates (10m): William Msemburi, WHO
- Q&A (15m)

Coffee and tea break (10:30-10:45am)
Session 1b. Data needs and gaps (10:45am – 12:15pm)
Moderator: Stephane Helleringer, NYU Abu Dhabi

- Presentations:
  o The work of the Inter-Secretariat Working Group on Household Surveys (10m), Francesca Perucci, UNSD and Gero Carletto, World Bank; co-Chair of the Inter-Secretariat Working Group on Household Surveys
  o A summary of questions and estimation methods to obtain mortality measures from censuses (10m): Bernardo Queiroz, Universidade Federal de Minas Gerais, Brazil
  o Overview of availability of adult mortality data and data needs, for regular monitoring of mortality trends and for measuring the impact of COVID-19 on mortality (10m). Haoyi Chen, UN Statistics Division and Stephane Helleringer, NYU Abu Dhabi and Chair, UNDESA-WHO Technical Advisory Group on COVID Mortality Assessment, Working Group 2
- Round-table discussion (50m):
  o Emelda Okiro, KEMRI/Wellcome Trust collaborative programme, Kenya
  o Jenny Garcia, Institut National d’Études Démographiques INED, France
  o Nandita Saikia, International Institute for Population Sciences, India
  o Ari Purbowati and Sri Wahyuni, Indonesia BPS
- Discussion (20m)

LUNCH AT NYUAD (12:15-1:45pm)

Session 2. Changes and innovations in better asking questions to capture adult mortality in censuses and surveys (1:45-3:30pm)
This session aims to give an overview of recent changes in data collecting on adult mortality and innovative approaches to better meet with data needs, such as including new questions in surveys and censuses.
Moderator: Tebogo Laletsang, Botswana

- Presentations (5m each)
  o Availability of adult mortality data from population censuses. Meryem Demirci, UNSD
  o Questions used in surveys to estimate adult mortality, Trevor Croft, Demographic and Health Survey
  o Country presentations (experiences, quality of data and lessons learnt)
    ▪ Collecting mortality in the 2019 Viet Nam population and housing census, Ha Nham Thi Thu, VietNam Statistics Office
    ▪ Experiences and quality of mortality data from population censuses/surveys in Indonesia: Ari Purbowati/Sri Wahyuni, BPS Indonesia
    ▪ Asking causes of death in censuses and surveys: Galande Johnstone/Stephen Baryahirwa, Uganda Bureau of Statistics
    ▪ Asking about death registration during census: experiences and lessons learned from the 2013 Senegal Census. Atoumane Fall and Lala Travare, National Agency of Statistics and Demography of Senegal
  o Extending the reference period for data collection for COVID impact assessment: Evidence from India. Nandita Saikia, International Institute for Population Sciences, India
  o Experiences in asking the place of death. Vesper Chisumpa, University of Zambia
- Q&A (30m)

Coffee and tea break (3:30-3:45pm)

Session 3. Collecting adult mortality data that are more inclusive (3:45pm-4:45pm)
The session discusses ways to improve the inclusiveness of adult mortality data collection, focusing on measuring old-age mortality (60 and older) and those living in institutions and difficult to survey areas that are usually poorly covered by surveys and censuses.

**Moderator:** Meryem Demirci, UNSD
- Presentations (8m each)
  - Mortality of indigenous populations in Latin America. Bernardo Queiroz, Universidade Federal de Minas Gerais, Brazil
  - Social disadvantage and life expectancy in India, Aashish Gupta, Harvard University
  - Adult mortality: Measuring rural-urban gaps, Ashira Menashe-Oren, Université Catholique de Louvain
  - Implementing inequality assessments of death registration in CRVS systems. Petra Nahmias, UN ESCAP Statistics Division
- Q&A (20m)

**Wednesday, 24 August 2022**

**Session 4. Innovations in measuring adult mortality through surveys – sampling strategies (8:45am – 10:15am)**

The session covers various sampling strategies to collect data on rare events; and sample registration systems in countries without complete death registration system.

**Moderator:** Cheryl Sawyer, UN Population Division
- Presentations (10-15m each)
  - Application of principles of network sampling to estimating prevalence of modern-day slavery/mortality, Rajesh Srinivasan, Gallup Poll
  - Innovative sampling strategies for difficult to survey population, Haoyi Chen, UNSD
  - Sample registration systems:
    - Healthy Sierra Leone (HEAL+SL) national mortality study, Prabhat Jha, University of Toronto
    - Sample registration system with Verbal Autopsy (SAVVY). Vesper Chisumpa, University of Zambia
- Q&A (20m)

**Coffee and tea break (10:15-10:30am)**

**Session 5. Conducting high-frequency mortality surveys (10:30am – 12:15pm)**

The session reviews recent progress in the conduct of mobile phone surveys on mortality measurement, discusses remaining challenges in measurement from mobile phone surveys, and identifies possible opportunities for further improvement.

**Moderator:** Meryem Demirci, UNSD
- Presentations (8-10 mins each):
  - Mobile phone surveys to measure mortality – the experience of MSF and Epicentre from the field. Manuel Albela Miranda, Médecins Sans Frontières
  - Rapid mortality mobile phone surveys (RaMMPS) during COVID-19: Insights from Burkina Faso. Bruno Lamkoande, Université Joseph Ki-Zerbo, Burkina Faso
  - Using phone surveys to assess mortality: evidence from Bihar, India. Aashish Gupta, Harvard University
  - Excess and cause-specific mortality from SARS-COV-2 in India. Prabhat Jha, university of Toronto (moved from session 7)
- Q&A

**LUNCH AT NYUAD (12:15-1:45pm)**
Session 6. Group discussion: Improving census and survey design to better measure adult mortality (1:45-4:45pm, with coffee break 3:30-3:45pm)
Moderator: Haoyi Chen, UNSD

- **Group work:** Participants are split into small groups of 7-8 mixing NSOs, academics and UN/other organization, preferably by geographic region to allow identifying specific needs
- **Expected output:** a ranked list of design elements to be included in upcoming surveys/censuses or to be tested in additional studies. Each group reports to plenary.

**************************************************************************
Hospi*ality dinner from NYU Abu Dhabi, 7pm
**************************************************************************

Thursday, 25 August 2022

Session 7. Integrating survey and census data on adult mortality with other data sources (8:45am-10:30am)
The session focuses on methods that **integrate survey** with other data sources such as censuses, administrative data (CRVS), and nontraditional data such as geospatial information. An overview of using **follow-up surveys for verbal autopsy** will also be covered in the session, although not in great details as there is a WHO group already leading the work on this topic.
Moderator: Meli Leslie Ligalaulau Nadakuca, Fiji

- **Presentations:**
  - *Estimating mortality from census data: a record linkage study in the Nouna Demographic and Health Surveillance System in Burkina Faso.* Bruno Lankoande, Université Joseph Ki-Zerbo, Burkina Faso
  - *Integrating CRVS, surveys and census data on adult mortality.* Cheryl Sawyer, UN Population Division
  - *Measuring mortality in HIV-focused surveys: experiences from the PHIA Project.* Jessica Justman, ICAP Global Health
  - *Integrated disease serosurveys.* Samantha Dolan, Bill & Melinda Gates Foundation
  - *Integration of census, survey and geospatial data.* Atoumane Fall, Senegal National Agency of Statistics and Demography

- **Q&A**

Coffee and tea break (10:30 -10:45am)

Session 8. Integrating the proposed innovative methods into national statistical systems (10:45am – 12:15pm)
The session discusses the overall resource constraints in national statistical offices; and how that would impact on introducing new data collection in the existing system. Discussions will also cover how the proposed innovative methods can be **integrated into national statistical systems**, serving different levels of data demand, under different national statistical/survey system settings and with different statistical capacities; and **further work** needed including new guidance and resources required for adopting the new methods. The session will also discuss broader **consultations** of the proposed recommendations with national statistical offices, and through the **UN Statistical Commission** in 2023. Lastly how different communities can work together to help further the agenda will also be discussed.
Moderator: Francesca Perucci, UNSD

- **Round table discussion (reacting to a set of questions to be provided before the meeting):**
  - Abena Osei-akoto, Director, Surveys and Censuses, Ghana Statistical Service
  - Kevin McCormack, Head of Division, Sustainable Development Goals Indicators & Reports, Ireland Central Statistics Office
- Stéphane Hellinger, Professor NYU Abu Dhabi; Chair, TAG COVID Mortality – Working Group 2
- Samantha Dolan, Program Officer, Bill & Melinda Gates Foundation
- Apoorva Jadhav, Senior Technical Advisor for Demography and Health Policy, USAID
- Eman Abdelkreem Aly, Technical officer, Information Systems for Health Division of Science, Information and Dissemination, WHO EMRO
- International agency: Sofiya Yuveshanova (remote), Monitoring and Evaluation Specialist, UNICEF
- Q&A

**LUNCH AT NYUAD (12:15-1:45pm)**

**Session 9. Conclusions and recommendations (1:45 – 3:00pm)**
The session reviews the proposed recommendations and discusses next steps as proposed in the background document; and as further discussed during the meeting.
- Conclusion and recommendations of the Expert Group Meeting, UNSD
- Discussion

**Session 10. Closing (3:00-3:30pm)**
ANNEX 4. Session 1b – questions for round table discussion on data gaps

Introduction: We have 4 great panelists, who have spent considerable amounts of time trying to address some of the emerging data needs and gaps that we just introduced. So, we will hear and learn from their experiences, and we will try to glean some leads, and generate some discussion, about the role that surveys and censuses might play filling those gaps. We will have 3 rounds of questions, focusing on specific area of needs: data disaggregation, as well as short-term fluctuations and the measurement of old-age mortality. Every presenter gets 3-4 minutes to respond to each question.

Round 1: disaggregation

- **Indonesia**: Indonesia is a large and populous country, stretching across many islands. Could you tell us how the BPS generates mortality data that are representative of the different population groups that form the country? Are there groups for which disaggregated data are not available or might be difficult to obtain?

- **Saikia**: Dr. Saikia, recently, you have investigated socioeconomic differentials in mortality in India, for example between regions or by living arrangement and SES status. What were some of the data-related challenges you encountered in studying these issues? Are there particular differentials that you could not investigate due to data limitations?

- **Okiro**: Prof. Okiro, you have spearheaded efforts to generate sub-national estimates of health indicators in Kenya. Could you tell us about these efforts? What is the role that surveys and censuses have played in helping you measure health, and particularly child mortality, at the county level in Kenya?

Round 2: timeliness and short-term fluctuations

- **Okiro**: Prof. Okiro, an immediate follow-up question for you: since the beginning of the COVID-19 pandemic, your work has brought great insights about the true extent of the spread of SARS-CoV-2 in Kenya; you have also documented the impact of the pandemic on healthcare utilization. On the other hand, the true death toll of the pandemic in Kenya, and other countries in Africa, often remains matter of debate. Could you reflect on the data gaps that have led to this uncertainty? In your view, how might they be alleviated in future COVID-19 waves?

- **Indonesia**: Indonesia has been affected by multiple waves of the COVID-19 pandemic. It is also vulnerable to natural disasters. Could you tell us about the systems of data collection that exist in the country to document the mortality fluctuations created by such crises? What role do surveys and censuses play in this data ecosystem?

- **Garcia**: Dr. Garcia, your recent work has focused on assessing the completeness of various data sets on COVID-related mortality, including in Latin American countries with incomplete civil registration and health information systems. Could you tell us about the gaps and uncertainty you encountered in these data? How, in your view, might surveys and censuses be used to fill some of those gaps?
Round 3: old-age mortality

- **Garcia:** Dr. Garcia, a follow-up question for you, as we shift our focus to the measurement of old-age mortality. Throughout the world, the burden of COVID-related mortality has particularly affected the older segments of the population. In measuring excess mortality related to the pandemic, what are some of the estimation challenges that have been created by this steep age gradient in COVID mortality?

- **Indonesia:** In Indonesia, the % of the population in the older age groups has been increasing steadily, and the UN projects that this increase will accelerate in the coming decades. Currently, how does the BPS generate data about old-age mortality? What are some of the difficulties you encounter in collecting and analyzing such data?

- **Saikia:** Dr. Saikia, you have investigated a broad array of the determinants and risk factors of ill-health at older ages in India, including education, disability, or smoking. In doing so, have you encountered specific challenges in linking these determinants and risk factors to mortality outcomes? Are there data innovations that might help improve our understanding of the determinants of old-age mortality?

- **Okiro:** Prof Okiro, much of your work has focused on child health and mortality in Kenya. Are there data-related lessons from this work that might help guide the study of old-age mortality in Kenya? Are there particular challenges that you foresee for investigating health and mortality in old-age?
ANNEX 5. Session 6 – Group discussion: improving census and survey design to better measure adult mortality

- Each group will nominate a chair to lead the discussion; and a rapporteur to report back to plenary
- Within each group, the following are the suggested guiding questions:
  - Please review the list of recommendations on next page and for each one, discuss:
    - Urgency in filling a crucial data gap for policymaking such as the older age mortality level, for countries without a good death registration system
    - Relevance to your national circumstances in filling data gaps for adult mortality. If not relevant, please explain.
    - Feasibility in testing or adopting each of the recommendations in your national context. If not feasible, please explain why the proposed recommendations cannot be adopted in your country
    - How would the recommendation be integrated into the existing data collection system, or the national statistical system in your country?
  - Additional recommendations that you would like to propose for censuses and/or surveys?
  - Based on the above considerations: agree on and assign priorities in implementing each of the recommendations in your countries, into 3 broad categories (high, medium, low)
  - What guidance and support are needed in adoption of the recommendations?
  - Is any country in the Group interested in joining the piloting and contributing to further development?

Coffee break: 3:30-3:45pm
Report back: 3:45-4:45pm

<table>
<thead>
<tr>
<th>Group 1 (A6-117)</th>
<th>Group 2 (A6-175)</th>
<th>Group 3 (A6-1149)</th>
<th>Group 4 (A6-010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecuador</td>
<td>Indonesia</td>
<td>Botswana</td>
<td>Ghana</td>
</tr>
<tr>
<td>Fiji</td>
<td>Lao</td>
<td>Uganda</td>
<td>Morocco</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>Viet Nam</td>
<td>Vesper</td>
<td>Senegal</td>
</tr>
<tr>
<td>Bernardo</td>
<td>Prabhat</td>
<td>Emelda</td>
<td>Bruno</td>
</tr>
<tr>
<td>Jenny</td>
<td>Aashish</td>
<td>Jessica</td>
<td>Soumaila</td>
</tr>
<tr>
<td>UAE</td>
<td>Nandita</td>
<td></td>
<td>Ashira</td>
</tr>
<tr>
<td>Proposal</td>
<td>Reference #</td>
<td>Applicable data source (census and/or survey)</td>
<td>Rational</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-------------</td>
<td>-----------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Collect month and year of each deceased persons reported in RHD (Recent Household Deaths)</td>
<td>1</td>
<td>Census</td>
<td>Core topic in the Census P&amp;R Revision 3; Improve accuracy in reporting of household deaths; allows monitoring monthly changes in mortality</td>
</tr>
<tr>
<td>Collect orphanhood data for all household members regardless of age of persons</td>
<td>2</td>
<td>Census</td>
<td>Additional topic in the census P&amp;R</td>
</tr>
<tr>
<td>Expand the reference period for questions on household deaths from one year to two (24 months) or three years (36 months); or a duration that fits the window of crisis, such as pandemics or natural disasters (earthquake/Tsunami)</td>
<td>3</td>
<td>Census</td>
<td>Analysis of changes in the level and pattern of adult mortality during health crises and estimate excess mortality in countries with incomplete civil registration.</td>
</tr>
<tr>
<td>Include questions on year of death and age at death for the deceased parent</td>
<td>4</td>
<td>Census</td>
<td>Important to understand the timing of adult death and produce better estimates of mortality; could also be used to estimate excess mortality due to a crisis</td>
</tr>
<tr>
<td>Add question(s) about registration status of reported household deaths to death registration coverage by geographical areas</td>
<td>5</td>
<td>Census</td>
<td>Support analysis of completeness of death registration by age, sex and geographic areas; facilitates integration with data from death registration</td>
</tr>
<tr>
<td>Collect month and year of each deceased persons reported in RHD</td>
<td>6</td>
<td>Survey</td>
<td>Core topic in the Census Principles and Recommendations &amp;R; (add a reference to the acronym). Improve accuracy in reporting of household deaths; allows monitoring monthly changes in mortality</td>
</tr>
<tr>
<td>Collect orphanhood data for all household members regardless of age of persons</td>
<td>7</td>
<td>Survey</td>
<td>Additional topic in the census P&amp;R rev 3</td>
</tr>
<tr>
<td>Include questions on year of death and age at death for the deceased parent and age of parent alive in the orphanhood question</td>
<td>8</td>
<td>Survey</td>
<td>Important to understand the timing of adult death and produce better estimates of mortality; could also be used to estimate excess mortality.</td>
</tr>
<tr>
<td>Add question(s) about registration status of reported household deaths to death registration coverage by geographical areas and key sociodemographic characteristics</td>
<td>9</td>
<td>Survey</td>
<td>Support analysis of completeness of death registration by age, sex and geographic areas; facilitates integration with data from death registration</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Add questions on basic socioeconomic characteristics (e.g., education) of the deceased</td>
<td>10</td>
<td>Survey</td>
<td>Study educational level and marital status of deceased household members to measure mortality differentials</td>
</tr>
<tr>
<td>Add questions about smoking among surviving and deceased household members</td>
<td>11</td>
<td>Survey</td>
<td>Strengthen measurement of mortality related to CVD and other non-communicable diseases</td>
</tr>
<tr>
<td>Increase survey sample size</td>
<td>12</td>
<td>Survey</td>
<td>Increase the precision of adult mortality estimates; reduce the estimate reference period to 3-4 years (instead of 7-8 years in current status) before the survey collection date for SSH</td>
</tr>
<tr>
<td>Test innovative sampling frames and approaches</td>
<td>13</td>
<td>Survey</td>
<td>Increase the precision of adult mortality estimates; reduce the estimate reference period to 3-4 years</td>
</tr>
<tr>
<td>Initiate pilot programmes of mortality-focused high-frequency mobile phone surveys</td>
<td>14</td>
<td>Survey</td>
<td>Increase timeliness and availability of adult mortality data</td>
</tr>
<tr>
<td>Integrate mortality data collection (RHD and orphanhood) in all representative data collections in the country</td>
<td>15</td>
<td>All sources</td>
<td>Increase the precision by polling samples together; and improve comparability of data across data sources</td>
</tr>
<tr>
<td>Improve integration of census, survey data with other data sources</td>
<td>16</td>
<td>All sources</td>
<td>Improve overall adult mortality estimates availability, quality and timeliness</td>
</tr>
</tbody>
</table>
ANNEX 6. Session 6 – Outcome of the group discussion: Draft proposal to improve availability of timely and high-quality adult mortality data

<table>
<thead>
<tr>
<th>Proposal</th>
<th>Refer ence #</th>
<th>Applicable data source (census and/or census)</th>
<th>Rational</th>
<th>Corresponding emerging data needs</th>
<th>Suggested next steps</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
<th>Lao PDR</th>
<th>Apoorv Jadhav</th>
<th>Bernardo Queiroz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collect month and year of each deceased persons reported in RHD (Recent Household Deaths)</td>
<td>1</td>
<td>Census</td>
<td>Core topic in the Census P&amp;R Revision 3; Improve accuracy in reporting of household deaths; allows monitoring monthly changes in mortality</td>
<td>#1: Achieve better coverage of old-age groups</td>
<td>Implement the existing international recommendations</td>
<td>High: the date most included detailed month and year only (Jenny Garcia)</td>
<td>High: not the date; only month as it is difficult to collect date</td>
<td>High: sex should be asked</td>
<td>High</td>
<td>High: not the date; only month as it is difficult to collect date</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Collect orphanhood data for all household members regardless of age of persons | 2 | Census | Additional topic in the census P&R | #1: Achieve better coverage of old-age groups | Implement the existing international recommendations | High: The period should be extended to three years, or the years in which it is possible to cover the pandemic period. The question wording should include the exact date used as the timeline (e.g. "past three years"): January 2020 to | Low: orphanhood questions too long to include in the census | Low: refer to "Parental survivorship" instead of "orphanhood". My notes indicate 'Medium'. Zambia 2022 Census of Population and Housing is collecting this information. The section is referred to as "Survivors hip of."
<p>| Medium: maybe added in the census long form | Low: orphanhood questions too long to include in the census |</p>
<table>
<thead>
<tr>
<th>#</th>
<th>Reference Period</th>
<th>Question Description</th>
<th>Level</th>
<th>Duration</th>
<th>Additional Questions</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Census</td>
<td>Expand the reference period for questions on household deaths from one year to two (24 months) or three years (36 months); or a duration that fits the window of crisis, such as pandemics or natural disasters (earthquake/Tsunami)</td>
<td>High</td>
<td>3 years</td>
<td>High; also add pregnancy-related questions</td>
<td>Maintain 1 year for census; longer reference period can be included in the census long form. Need to experiment in a survey first to inform incorporation in censuses. Not applicable</td>
</tr>
<tr>
<td>4</td>
<td>Census</td>
<td>Include questions on year of death and age at death for the deceased parent(s) for parental survivorship questions</td>
<td>High</td>
<td>Low</td>
<td>Low; needs to clarify which question this is for</td>
<td>Some additional questions can be added to ask about year of deaths</td>
</tr>
<tr>
<td>Add question(s) about registration status of reported household deaths to death registration coverage by geographical areas</td>
<td>5</td>
<td>Census</td>
<td>Support analysis of completeness of death registration by age, sex and geographic areas; facilitates integration with data from death registration</td>
<td>#5: Measuring completeness and gaps in death registration and health information systems</td>
<td>Test and assess feasibility of asking this question in national context</td>
<td>This will be considered in the next revision of the P&amp;R</td>
</tr>
<tr>
<td>Collect month and year of each deceased persons reported in RHD</td>
<td>Survey</td>
<td>Core topic in the Census Principles and Recommendations &amp;R; (add a reference to the acronym).</td>
<td>#1: Achieve better coverage of old-age groups</td>
<td>Adopt the existing international recommendations</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Collect orphanhood data for all household members regardless of age of persons</td>
<td>7</td>
<td>Survey</td>
<td>Additional topic in the census P&amp;R rev 3</td>
<td>#1: Achieve better coverage of old-age groups</td>
<td>Adopt the existing international recommendations</td>
<td>Medium: prefer direct RHD in general to orphanhood data Medium: prefer direct RHD in general to orphanhood data. We have never asked this questions in our census/survey. We plan to ask it in Intercensal Population Survey 2025. We will to compare the results with other methods. (BPS Indonesia)</td>
</tr>
</tbody>
</table>

| Include questions on year of death and age at death for the deceased parent; and age of parent alive in the orphanhood question | 8 | Survey | Important to understand the timing of adult death and produce better estimates of mortality; could also be used to estimate excess mortality due to a crisis | #1: Achieve better coverage of old-age groups | Medium (BPS Indonesia) | High | High | Mid |
| Add question(s) about registration status of reported household deaths to death registration coverage by geographical areas and key sociodemographic characteristics | 9 | Survey | Support analysis of completeness of death registration by age, sex and geographic areas; facilitates integration with data from death registration | #5: Measuring completeness and gaps in death registration and health information systems | Test and assess feasibility of asking this question in national context | The concept of registration is not clear, is it death certificate(s), or death registration? Need to understand what we are trying to collect | Medium. It is important to complete information about the coverage of the death certificate. Are the sociodemographic characteristics in question for the deceased? If yes, then no need to ask. (BPS Indonesia) | High: There is need to know the registration status of deaths occurring in household s. This information is an indicator of the extent of death registration (Vesper Chisumpa, Zambia) | High | Low |
| Add questions on basic socioeconomic characteristics (e.g., education) of the deceased | 10 | Survey | Study educational level and marital status of deceased household members to measure mortality differentials | #3: Tracking socioeconomic disparities in adult mortality | Only include when sample size is large | Low | Medium: education | High: distinguish between household and individual level characteristics, limit to 6 | High, occupation, marital status, residence | Medium: education and occupation |
| Add questions about smoking among surviving and deceased household members | 11 | Survey | Strengthen measurement of mortality related to CVD and other non-communicable diseases | #2: Documenting risk factors of adult deaths | Only include when sample size is large | Low | Low. Low. Difficult to obtain information for the deceased. (BPS Indonesia) | Low: data might be unreliable | High: also consider those who are impacted by pollution from cooking | Low |
| Increase survey sample size | 12 | Survey | Increase the precision of adult mortality estimates; reduce the estimate reference period to 3-4 years (instead of 7-8 years in current status) before the survey | #1: Achieving better coverage of older age groups | Available resource needs to be allocated | Medium | Yes but need to consider the cost and the estimation level that can be | Yes but need to consider the cost | Large is relative, vary by countries | Low |
| Test innovative sampling frames and approaches | 13 | Survey | Increase the precision of adult mortality estimates; reduce the estimate reference period to 3-4 years | #1: Achieving better coverage of older age groups | Start with broader testing in different countries | High | High | High | High |

| Initiate pilot programmes of mortality-focused high-frequency mobile phone surveys | 14 | Survey | Increase timeliness and availability of adult mortality data | #1: Achieving better coverage of older age groups | Solicit interest from countries | Low - has experience with telephone survey but no experience with mortality data collection | High: Given that countries already have some experience in carrying out mobile phone surveys for other research topics (Jenny Garcia) | Low - no experience with phone surveys | High: but need to be piloted for mortality data collection | High: but country-specific; depending on mobile phone penetration level | Low. We never have been conducted by mobile phone survey |

<p>| Integrate mortality data collection (RHD and orphanhood) in all representative data collections in the | 15 | All sources | Increase the precision by polling samples together; and improve comparability of | #1: Achieving better coverage of older age groups | Low (BPS Indonesia) | Medium: need to share more experiences | Low |</p>
<table>
<thead>
<tr>
<th>Country</th>
<th>Data Source</th>
<th>Action</th>
<th>Methodology</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve integration of census, survey data with other data sources</td>
<td>All sources</td>
<td>Improve overall adult mortality estimates availability, quality and timeliness</td>
<td>#1 - #5</td>
<td>Low: need to improve the CRVS data can compare with census and survey and Need to provide guidance on how it could be done (BPS Indonesia)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Document existing methodologies and produce guidance Encourage new studies on data integration to explore the full potential of existing data sources</td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Follow-up surveys</td>
<td>17</td>
<td>Surveys</td>
<td>Follow-up surveys, after the census</td>
<td>Carry out follow-up surveys after the census</td>
</tr>
</tbody>
</table>
census makes this easier, both for shorter data processing time and being able to use metadata to help locate the correct households.

Regarding the recommendation to better link census data with other data sources: This is intriguing, and an area that many NSOs need more guidance on, including how to put in disclosure avoidance measures.
| Analyze and publish the data & metadata | 18 | All sources | | | High (BPS Indonesia) | | | High |
|----------------------------------------|----|-------------|---|---|------------------|---|---|
| What can offer as global statistical guidelines/manuals; something that countries can use; IUSSP on mortality estimation; survey/manual… | | | | | Prepare some sort of Manual (line WHO Maternal Mortality using census manual). - with experiences - overview of questions asked - and their limitations - overview of methods used to analyze the data |

Providing support after the priority setting

Analyze and publish the data & metadata

Guidelines on best practices

Platform to share experiences; and innovative experiences…

Jenny: RHD, reference to exact date
<table>
<thead>
<tr>
<th>Collaboration between health &amp; statistics office</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detailed history on sibships and sibling survivorship with age at death of sibs (Nirmala from WHO HQ)</td>
</tr>
<tr>
<td>VA for deaths in households (Nirmala from WHO HQ)</td>
</tr>
<tr>
<td>GIS data to enable geospatial analysis of inequalities (Nirmala from WHO HQ)</td>
</tr>
</tbody>
</table>
ANNEX 7. Session 8 – Questions for round table discussion: Integrating the proposed innovative methods into national statistical systems

Round 1
From your experience working with countries (OR, in your country for a NSO) on improving data availability and national capacity; and also reflecting on the discussions in the past two days, what is the most important challenge in adopting innovative approaches in improving adult mortality data collection through censuses and surveys? (is it funding/technical capacity/resistance to change; there has been lots of “complains” about relying too much on the modelling but are we ready to change the culture and embrace more changes (and sometimes more resource requirements).

Round 2
From your community, how can we work together to help improve the availability and timeliness of adult mortality, while ensuring that these efforts are country-driven, well-integrated with the national statistical systems and sustainable? How would you contribute to this effort?
ANNEX 8. Conclusions of the Expert Group Meeting (final)

Advocacy
1. The meeting underscored the importance of sensitizing and advocating for the importance of availability and timeliness of adult mortality data.

Collaboration
2. The meeting stressed the importance of strengthening the collaboration between different communities, both at the global and national level, including national statistical offices, health ministries, other national government institutions that play a role in death registration, research institutions, humanitarian emergency response organisations, civil society organisations and development partners (donors), to better respond to data needs on adult mortality in countries with incomplete or no death registration systems, including data that allows appropriate and relevant disaggregation to monitor inequalities. The meeting also emphasized that this collaboration is key for strengthening national capacity to produce more timely and relevant data for monitoring the impacts of crises on the level and pattern of mortality. The ultimate goal is to institutionalize such surveys within national health information systems.

3. At the global level, such collaboration could be further fostered through an expanded TAG-WG2 on excess mortality associated with the COVID-19 pandemic of WHO-UNDESA, with additional members representing NSOs and other parts of the data/statistical system in countries, including participants from this Expert Group Meeting; and TAG members of other working groups.

4. It was also highlighted that capacity building activities should aim to improve the capacity of all national partners and to strengthen the collaboration among them for the production, integration and analysis of data on adult mortality, including through censuses and surveys, taking into consideration international recommendations, while at the same time for improving death registration systems in countries.

Priorities in adopting innovative approaches
5. The meeting discussed a set of recommendations on innovative approaches (see Annex 1) to improve adult mortality data availability through censuses and surveys in countries where CRVS is incomplete and is still being further developed; and identified priorities for implementing those innovative approaches to fill data gaps on adult mortality in those countries.

6. Those priorities intend to guide (a) national statistical offices and other parts of the national/data system such as research institutions, health ministries and others, in adopting new solutions, while acknowledging national variations in terms of policy priorities, level of statistical development, availability of both human and financial resources, and setup of national statistical systems including census and survey operations; and (b) international, regional, national partners and donors to collaboratively support the implementation of these priorities, through provision of technical and financial support, guidance and testing in the national context.

7. The meeting stressed that the proposed innovation priorities could be further revised after an open global consultation with countries and experts later this year, and
Adoption of innovative approaches

8. Before adopting new solutions and other innovative approaches in countries, it is necessary to first conduct a review of national experiences in countries that have already tested such solutions, and of existing experiments and literatures; this should be followed by testing to ensure the applicability of the recommendations in the national context. The implementation of the new solutions should be integrated into the existing national statistical systems, to ensure sustainability.

9. Methodological guidance should be prepared based on a thorough literature review, country practices and experiences gathered from the piloting whenever necessary.

Institutional

10. A mechanism should be established to set the implementation plan and research agenda, oversee the testing of the new solutions; facilitate the timely sharing of experience and innovative approaches among countries by establishing a community of practice, and within the global community on technical priorities and institutional collaboration mechanisms. In addition, existing platforms such as the World Health Survey Plus, ISWGHS, the World Programme on Population and Housing censuses and Data4Now could be utilized.

11. It was suggested that the WHO-UNDESA TAG may consider expanding the mandate of-WG2 to cover methodologies, including data analysis on regular monitoring adult mortality through censuses and surveys; and for responses to other crisis.