



**United
Nations**

Department of
Economic and
Social Affairs

United Nations Expert Group Meeting on Methods for the *World Population Prospects* **2021 and Beyond**

Population Division, DESA, United Nations

Virtual meeting (hosted in New York),
6-8 April 2020



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United Nations Expert Group Meeting on Methods for the *World Population Prospects 2021* and Beyond

Session 1: Monday 6 April 2020



Agenda: Monday, 6 April 2020

| | | | | |
|---------|----------|--------|--|--|
| Seattle | New York | Geneva | Facilitator: Thomas Spoorenberg | Presenter |
| 6:45 | 9:45 | 15:45 | Call in/Resolve connectivity issues | |
| 7:00 | 10:00 | 16:00 | 1. Welcome | John Wilmoth |
| 7:15 | 10:15 | 16:15 | 2. Introduction: <i>World Population Prospects 2021</i> Upgrade: Towards a more open and reproducible WPP | Patrick Gerland |
| 7:30 | 10:30 | 16:30 | 3. WPP method protocol: Presentation and discussion | Peter Johnson |
| 7:45 | 10:45 | 16:45 | 4. WPP probabilistic projection models and incorporating uncertainty in estimates Update for annual time series (and single age) a. Statistical models and methods b. R packages | Adrian Raftery Hana Ševčíková |
| 8:15 | 11:15 | 17:15 | BREAK | |
| 8:30 | 11:30 | 17:30 | 5. B3 modelling experience and extension to modelling of robust time trends for ASFR/TFR, and adult and old-age mortality data A. Lessons learned from the B3 development and application to model time trends for various outcomes B. Lessons learned from the B3 development and application to model time trends in differentials C. Modelling of age-specific mortality rates from census summary birth histories and survey full histories over space and time D. Modelling of age-specific fertility rates from survey full histories over space and time | Leontine Alkema Fengqing Chao Jon Wakefield Oli Stevens |
| 9:30 | 12:30 | 18:30 | 6. Group Discussion | |
| 10:00 | 13:00 | 19:00 | ADJOURN | |



Questions for session #1

- WPP method protocol:
 1. What would you like us to improve or clarify?
 2. Do you see any gaps?
- WPP probabilistic projections upgrade:
 1. We have prioritized the transition from 5-year age groups and 5-year periods (5x5) to annual series by single year of age (1x1). Are there other priority upgrades we should consider?
- Robust time trend modelling for fertility and mortality indicators
 1. Is accounting for non-sampling data biases "high priority" or "nice to have"?
 2. The WPP series begins in 1950, but many countries lack data for the early decades. Which approach is preferred? hierarchical modeling, covariates, etc.?
 3. Choice of model implementation for country-specific modelling with fast computational capacity to review and revise inclusion/exclusion of series



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Session 2: Tuesday 7 April 2020



Agenda: Tuesday, 7 April 2020

| Seattle | New York | Geneva | Facilitator: Sara Hertog | Presenter |
|---------|----------|--------|---|------------------|
| 6:45 | 9:45 | 15:45 | Call in/Resolve connectivity issue | |
| 7:00 | 10:00 | 16:00 | 1. Adult and old-age mortality data: evaluation and modelling for deficient or lacking VR countries | |
| | | | A. Evaluation and adjustments for population and mortality data in Latin America based on LAMBDA experience | Hiram Beltran |
| | | | B. Direct and indirect adult mortality estimates from censuses and surveys | Bruno Masquelier |
| | | | C. HDSS mortality | Ayaga Bawah |
| | | | D. Evaluation & estimates of old age mortality | Hong Mi |
| 8:00 | 11:00 | 17:00 | BREAK | |
| 8:15 | 11:15 | 17:15 | 2. Modelling of age patterns: abridged and complete age distributions | |
| | | | A. Mortality age pattern | Sam Clark |
| | | | B. Fertility age pattern | Carl Schmertmann |
| | | | C. Estimation of fertility rates from survey full histories and HDSS | Bruno Schoumaker |
| 9:15 | 12:15 | 18:15 | 3. Group Discussion | |
| 10:00 | 13:00 | 19:00 | ADJOURN | |



Questions for session #2

- Adult and old-age mortality recommendations:
 1. Application of death distribution methods for VR deaths, and what age range is best to use for each method
 2. Use and application of other evaluation and adjustment methods
 3. Robust time trend modelling for countries (or periods) with sparse or lacking adult mortality data: hierarchical modeling, covariates (and if so which ones), etc.?
 4. Do you see any gaps in the WPP method protocol?
- Graduation and modelling of mortality and fertility age patterns:
 1. Are you comfortable with the modelling strategies presented? Including the proposed extensions for:
 1. Estimation?
 2. Projection?
 2. Any concerns about the expansion of the reference dataset used to calibrate and validate of mortality models?
(including more VR from selected LMICs country-years, truncated life tables based on survey FBH/SBH data, life tables from HDSS, and simulated life tables for HIV/AIDS & ART)



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Session 3: Wednesday 8 April 2020



Agenda: Wednesday, 8 April 2020

| Seattle | New York | Geneva | Facilitator: Patrick Gerland | Presenter |
|---------|----------|--------|---|-----------------------------------|
| 6:45 | 9:45 | 15:45 | Call in/Resolve connectivity issue | |
| 7:00 | 10:00 | 16:00 | 1. Population reconciliation and demographic balance | |
| | | | A. CELADE experience with 1x1 population and demographic estimates | Helena Cruz Castanheira |
| | | | B. US Census Bureau International Branch experience with RUP/DAPPS | Nobuko Mizoguchi and Sean Fennell |
| | | | C. Demographic methods for data evaluation, transformation and adjustments | Tim Riffe |
| | | | D. Bayesian demographic estimations and population reconstruction | Mark Wheldon |
| | | | E. Bayesian demographic estimation and inferring counts from (un)reliable data | John Bryant |
| 8:15 | 11:15 | 17:15 | BREAK | |
| 8:30 | 11:30 | 17:30 | F. UNAIDS Reference Group and HIV/AIDS countries in SSA | Jeff Eaton |
| | | | G. Consistent Population Estimates: An Application to Brazil | Gabriel Borges |
| | | | H. Bayesian reconstruction of populations and vital rates by educational attainment | Dilek Yildiz |
| 9:15 | 12:15 | 18:15 | 2. Group Discussion | |
| 9:45 | 12:45 | 18:45 | 3. Conclusion and way forward | |

Questions for session #3

- Population reconciliation recommendations:
 1. How can we best prioritize deterministic vs. probabilistic statistical approaches for countries with different data situations?
 2. We are envisioning an incremental upgrade of methods by group of countries upon type and availability data, and methodological and statistical challenges. Do you have any concerns about this approach?
- Strategic recommendations and priorities for WPP 2021+:
 1. Upgrade to annual time series and single age estimates
 2. GATHER compliance checklist
 3. Streamline steps used to prepare country data and WPP estimates
 4. Provide access to both WPP estimates and underlying empirical data