

# SessionX: Wrap up and conclusions

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Cheryl Sawyer, Lina Bassarsky  
Population Estimates and Projections Section

[www.unpopulation.org](http://www.unpopulation.org)

# Session I: Introduction

- The long term nature of demographic processes and the guiding principle of the demographic transition bring some degree of predictability to population projections
- Various needs of different users
- General overview of the challenges in preparing baseline inputs and projection assumptions for cohort component projections

# Session II: Overview of projection methods

- Trend extrapolation methods useful in limited circumstances for total populations
- Logistic functions are used in many tools for projection of components
- Understanding the detailed calculation steps of cohort component method is an important foundation for preparing sound projections

## Session III: Establishing the base population

- Graphical analyses, including both pyramids and line graphs, are useful tools for diagnosing errors or anomalies in population structure
- Smoothing procedures should be used on base population
- Adjustment of the base population cannot be done in isolation from other demographic analyses. Estimates of survival ratios and age-specific fertility rates are needed to evaluate and adjust the youngest age groups.

# Session IV: Projecting fertility

- Compared to other components, fertility will contribute the highest share of population growth in Africa in coming decades.
- Steps for preparing fertility inputs
  - Observe recent levels and trends
  - Compare trends to similar ones in the past (in same or other populations)

# Session V: Projecting mortality

- Evaluating current mortality levels and trends for baseline input remains challenging
  - Methods for child mortality estimation are well developed
  - Summary indicators of child and adult mortality can be used to evaluate against model patterns
- Projection models for  $e_0$  based on global data (UN models) allow for projecting 5 different paces of life expectancy improvement
- More study is needed of HIV mortality impact in age of ART
- In projecting the age pattern of mortality we can
  - Use a model pattern throughout (only if appropriate)
  - Start with an empirical pattern based on country data and project convergence to a model pattern in the future

# Session VI: Projecting international migration

- African countries experience a considerable volume of international migration; however, relative to total population size it is usually not a major factor in population change
- Projection assumptions for international migration are normally kept simple, since fluctuations in migration streams are unpredictable
- Model age-sex schedules of migration are useful for projection inputs given a basic assumption about the nature of migration (family, male- or female-dominated labour migration)





# Session VIII: Outputs and variants

- Graphical and tabular outputs are easy to produce in Spectrum, although flexibility for configuring e.g. age/sex combinations somewhat limited
- In Spectrum it is very simple to create and compare projection variants
- Variants are a useful way to convey projection uncertainty to users
- Varying future fertility assumptions will have the most dramatic effect on future population totals

# Session IX.1: WPP projection approach

- Probabilistic projections are a relatively new way of communicating uncertainty in projections
- Uncertainty in future fertility trends is very high
- You can see probabilistic projection graphs (total population, age groups, fertility, etc.) for your country at <http://esa.un.org/unpd/wpp/Graphs/Probabilistic/>



# Final thoughts?

- How will you apply the knowledge and methods learned here in your future work?
- What gaps remain?

Thank you

Questions?

>>until 11 March:

>>After 11 March:  
sawyc@un.org  
bassarsky@un.org