

## **How to create a sub-National Projection: A cheat sheet**

- 1) Collect the following pieces of data on your sub-national region:
  - a. Population of the sub-national region and Population of the nation in the same year
  - b. TFR of the sub-national region and the TFR of the nation in the same year
  - c. CPR of the sub-national region and the CPR of the nation in the same year (option: if you are using the family planning module)
  - d. HIV prevalence and HIV treatment data in the sub-national region and HIV prevalence and HIV treatment data in the nation in the same year (option: if you are using the AIM module OR there is a significant HIV epidemic)
  - e. Births, population information and census data since 1970 (optional as a checking mechanism)
- 2) Open the Country that you are interested in analyzing at a sub-national level.
- 3) If HIV is active, you must do this first!!!
  - a. Open the AIM Module. Go to 'Epidemiology'.
  - b. Copy the 'HIV prevalence' trend into Excel. Multiply by the ratio of the sub-national region to the national. Paste these new values back into the HIV prevalence.
  - c. For PMTCT, Adult ART, Child Treatment: Convert all numbers into percents. Use the outputs in the Display, Child 0-14, Summary to see the number in need and the number receiving PMTCT and the Child Treatment options. Use the Display, Adult 15-49, Summary to see the number in need and the number receiving Adult ART. Calculate the percent receiving by dividing the number receiving by the number in need and then multiplying. The value should be 0-100.
  - d. Replace all numbers with percents. Ensure that the number row only has zeros in it.
  - e. If you have sub-national treatment data in numbers, enter all of the values, but calculate the number in need AFTER doing the population changes.
- 4) Open DemProj. Go to 'Demographic Data'.
- 5) Change the 'International Migration' values to 0.
- 6) Multiply the 'First year population' by the ratio of the sub-national region to the national (value 0-1).

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- 7) Copy the 'TFR' trend into Excel and multiply by the ratio of the Sub-national to the national (value likely to be 0.6 to 1.4). Replace the old TFR values with these new ones.
  - a. If there is note linking TFR to FamPlan, you must go to the Projection Manager and turn FamPlan off (uncheck the box). Once you have completed step 6. You may return to the Projection Manager and turn FamPlan on (recheck the box).
- 8) If the 'CPR' in the sub-national region is significantly different than that found in the national area, one should also replace the CPR with the sub-national value. If possible, collect data from multiple surveys and calibrate at multiple points. Assume that the time when contraception was first used is the same in the sub-national region as in the nation.
- 9) If you have census data or other data which confirms the total population or the total births, check that now. If the values are different, then make minor adjustments to the values discussed above. This is a trial and error process. Also check the number of HIV deaths compared to any data you have available.