**Calibration methods**

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| --- | --- | --- | --- |
|  | **Step 1** | **Step 2** | **Step 3** |
| **Method** | Initial run of 100,000 with 1/8 weight | Subsequent run of 50,000 with prevalence weight = 4 | Final run of 100,000 at weight 1; across 2 chains |
| **Start from** | Prior | 8/4-5 starting values | 8/11-13 starting values |
| **Save at the end** | Params saved as 8/4-5 starting values for next step | Params saved as 8/11-13 starving values for next step | Final output |
| South Africa | Y | Y | Y |
| Mozambique | Y | Y; Stopped and saved at 79% | Y |
| Nigeria | Y | Y; Stopped and saved at 63% | Y |
| Tanzania | Y | Y | Y |
| Uganda | Y | Y | Y |
| Kenya | Y | Y | Y |
| Zambia | Y | Y | Y |
| Zimbabwe | Y | Y | Y |
| Malawi | Y | Y | Y |
| UNAIDS remainder | N | N | Started from prior |
| Non-UNAIDS remainder | N | N | Started from prior |
| R1 low | N | Y; This was initial run (from prior); tweaked 50+ transmission multipliers after running and before saving for next step | Y |
| R1 lower middle | N | Y; This was initial run (from prior); tweaked 50+ transmission multipliers after running and before saving for next step | Y |
| R1 upper middle | N | Y; This was initial run (from prior); tweaked 50+ transmission multipliers after running and before saving for next step | Y |
| R1 high | N | N | Started from prior |
| France | Y | Y; Stopped and saved at 79% | Y |
| Thailand |  |  |  |
| Cambodia |  |  |  |

R1 high, UNAIDS remainder, Non-UNAIDS remainder skipped steps due to time (updated data manager with removed incorrect US data on 8/13; had to rerun these)

* For each country:
  + Initial run of 100,000 with 1/8 to get in a good range; save these as starting values
    - Except remainder models – skip this step
  + Subsequent run of 50,000 from the above starting values, with prevalence weight at 4
    - Save starting values from this
  + Then full run of 100,000 across 4 chains
    - Total weight at 1
* Steps:
  + Run 2 chains (generate all.results from 1 chain if both not ready yet)
  + Merge 2 chain objects
    - SAVED in mcmc\_runs/mcmc\_files/merged
  + Pull simset from merged chain object
    - SAVED in mcmc\_runs as simset\_X\_chains12 (these are not run to 2040 though)
    - Run simset to 2040
    - Generate all results from merged, 2040 simset
      * SAVED in cached as all.results\_merged\_X
  + Join country all.results (through 2040) into global combined object
    - SAVED in cached as combined.countries or combined.countries.income, if using income breakdown
      * Don’t really need this though
    - Generate global simset from global combined object
      * SAVED in cached as **simset\_global\_** or **simset\_global\_income**
  + Generate all results from global simset
    - SAVED in cached as **all.results\_global** or **all.results\_global\_income**