HIV estimates

Understanding the epidemic at a more granular level and links to SDGs

Mexico, March 2020:
Working group on geospatial information

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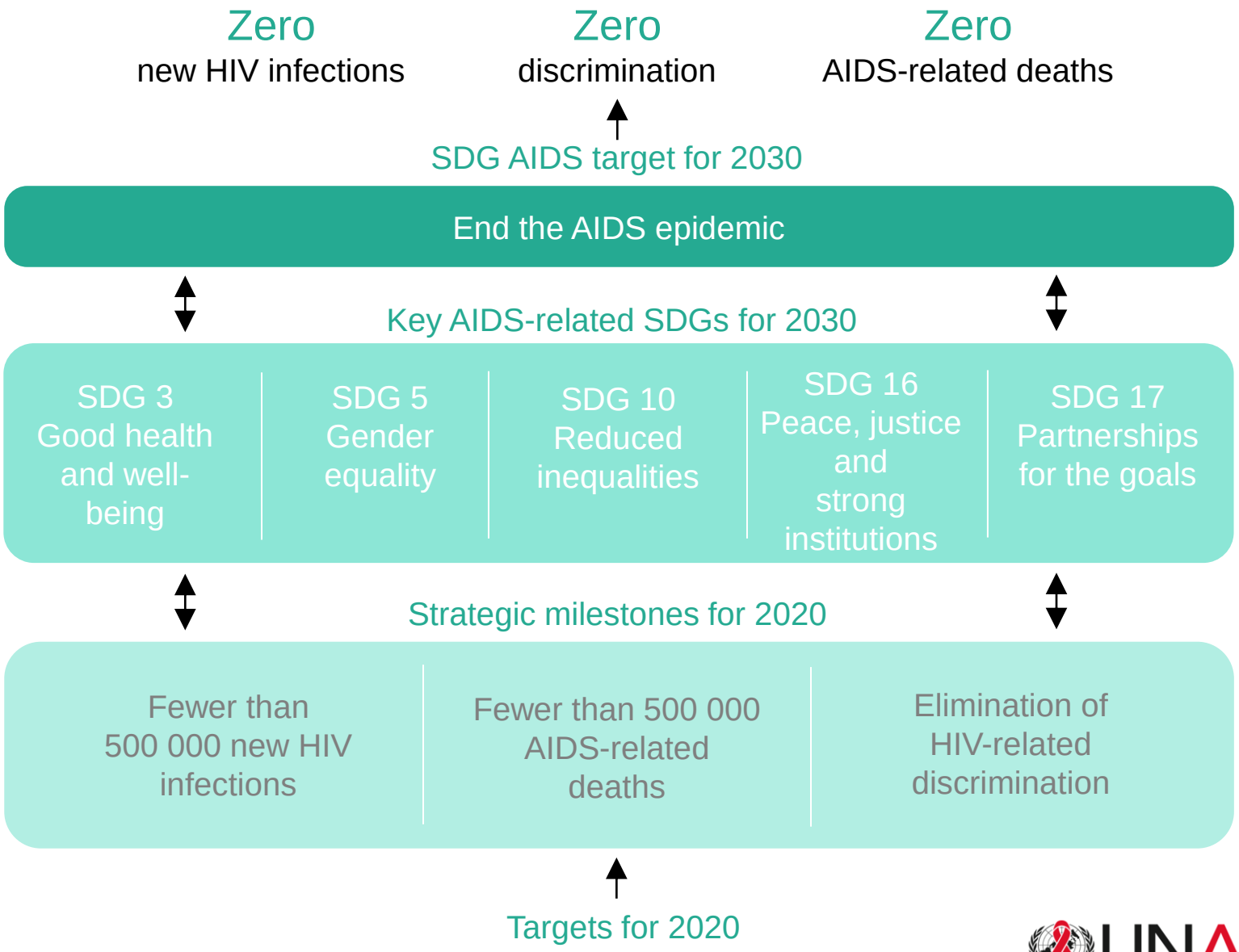
Presentation Outline

- UNAIDS and the SDGs
- HIV estimates generation
  - Process
  - Availability
- Sub national HIV estimates
  - Methods
  - Challenges
- Contributions and suggestions for the working group

UNAIDS and the SDGS: Goal and target framework



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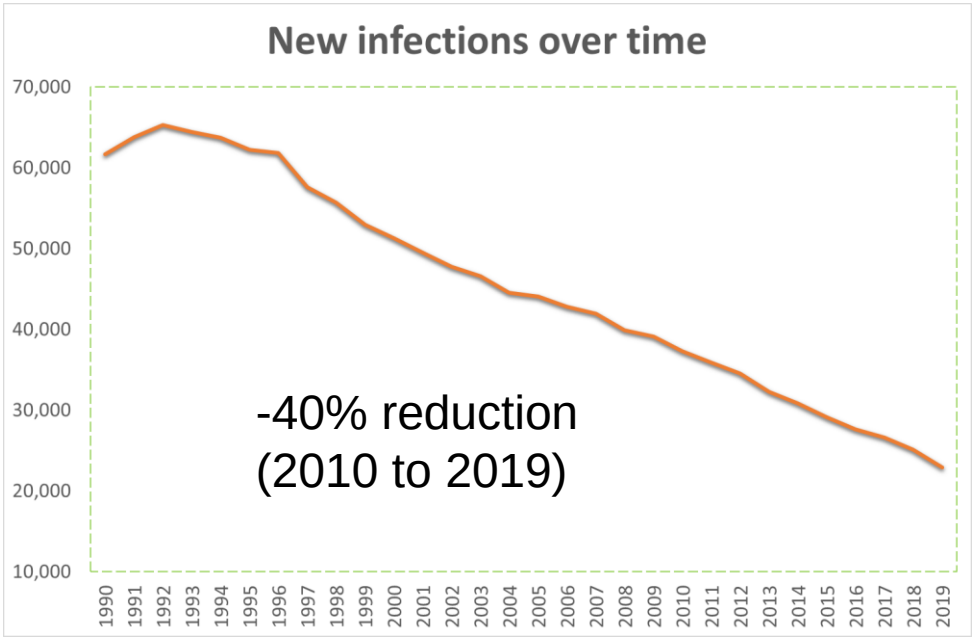
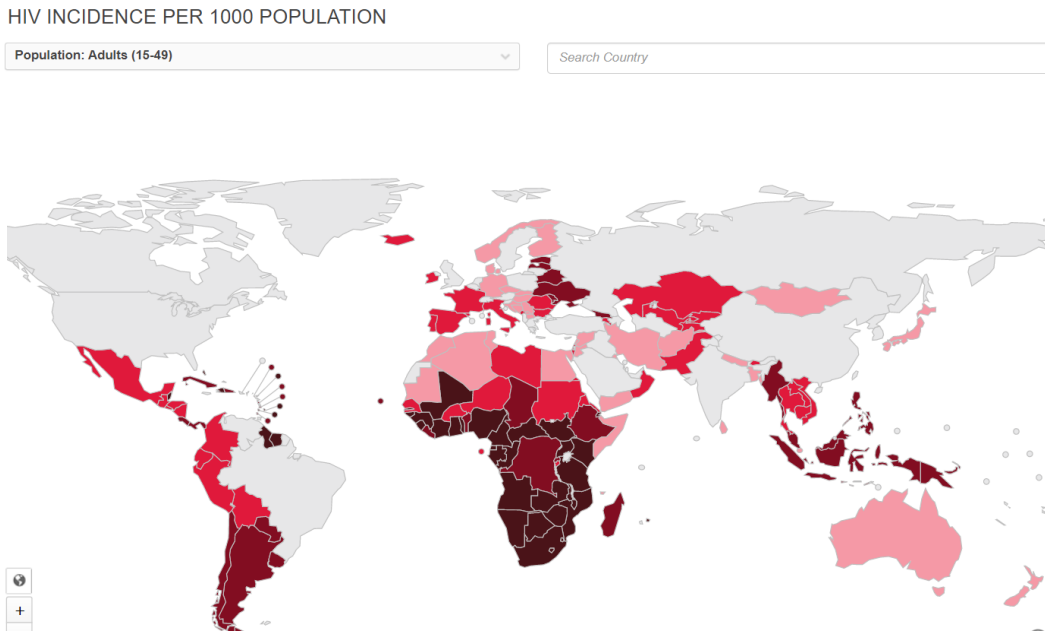
HIV estimates generation

- HIV estimates team
- Key data inputs
  - Population
  - Program data (ART, ANC)
  - Surveillance data :
    - Population based surveys
    - ANC Sentinel site surveillance
    - Routine HIV testing data among ANC
- Models used
  - Mathematical model to generate national estimates using Spectrum software
  - Small area estimation for sub national estimates

HIV estimates availability

http://aidsinfo.unaids.org/





SDG Indicator 3.1.1

Number of new HIV infections per 1,000 uninfected population, by sex, age and key populations

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Sub national HIV estimates

- Synthesize and triangulate all available data sources available at district level:
  - Population size
  - Household survey: HIV prevalence, ART coverage, recently infected
  - ART programme: number receiving treatment
  - ANC testing: HIV prevalence and ART coverage prior to first ANC

Key outputs

Indicators

- Population
- HIV prevalence
- PLHIV
- ART coverage (residents)
- Number on ART (residents)
- Number on ART (attending)
- New HIV infections
- HIV incidence rate

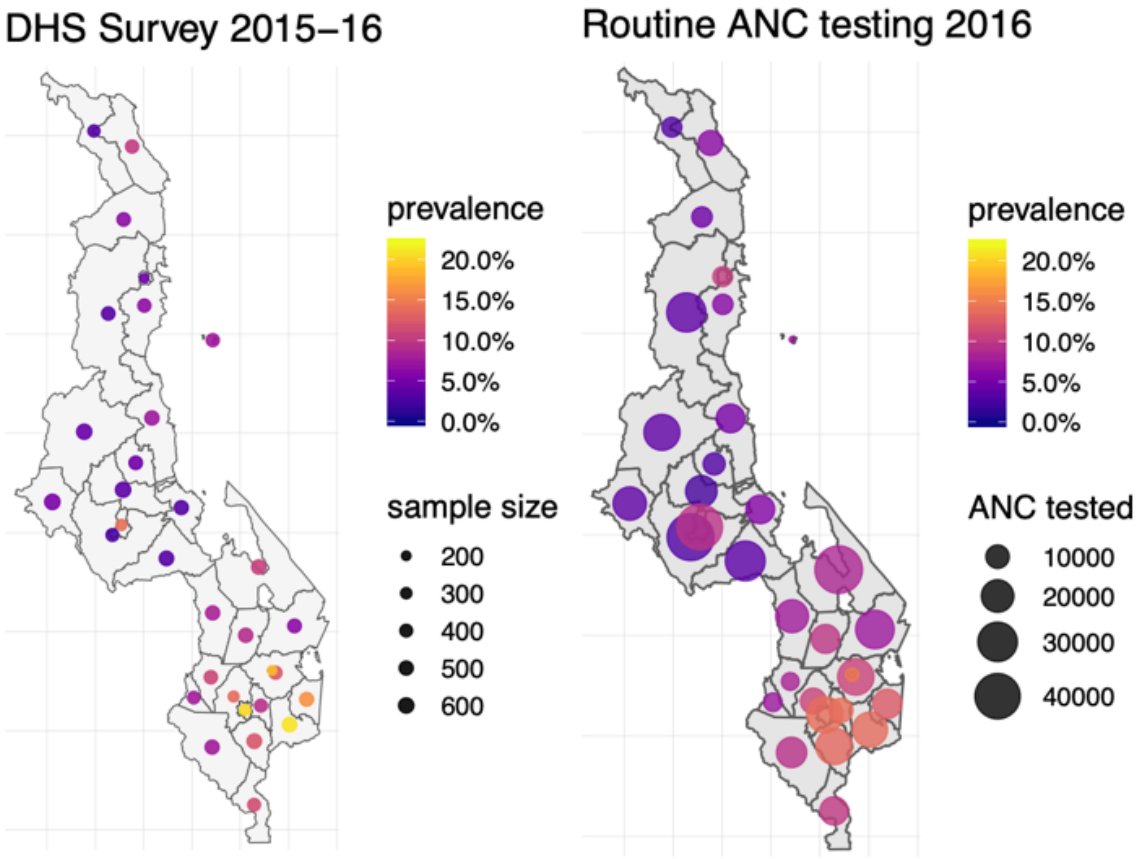
Statistics

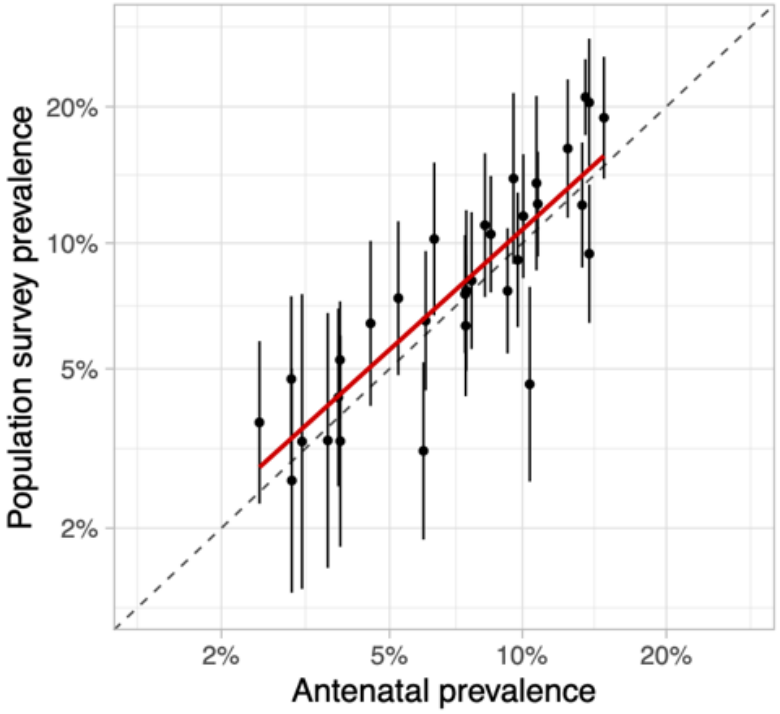
- Mean
- Median
- Standard error
- 95% uncertainty range

Stratifications

- All levels of hierarchy to area of health planning (e.g. district, PSNU)
  - e.g. National / Province / District
- Sex (male / female / both)
- Age groups:
  - 5-year age group
  - 0-14, 15-24, 25-34, 35-49, 50-64, 65+
  - 15-49, 15-64, 15+, all ages, 0-64
- Two time points:
  - Time of most recent HH survey
  - December 2019

Small-area estimation model for HIV prevalence





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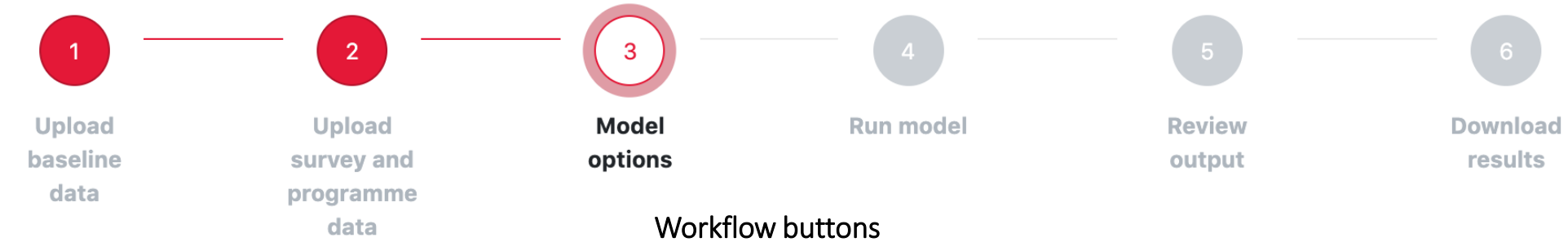
Sub national Modeling tool: Available online
https://naomi.unaids.org/



BACK / CONTINUE

1. Upload baseline files
2. Upload survey and programme data
3. Model options
4. Run model
5. Review output
6. Download results

Workflow buttons

Can click any activated button (white / red) to go to that step, or use 'Back' and 'Continue' to proceed sequentially.

BACK / CONTINUE

BACK / CONTINUE

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Requirements

- Standardized and agreed upon subnational boundaries

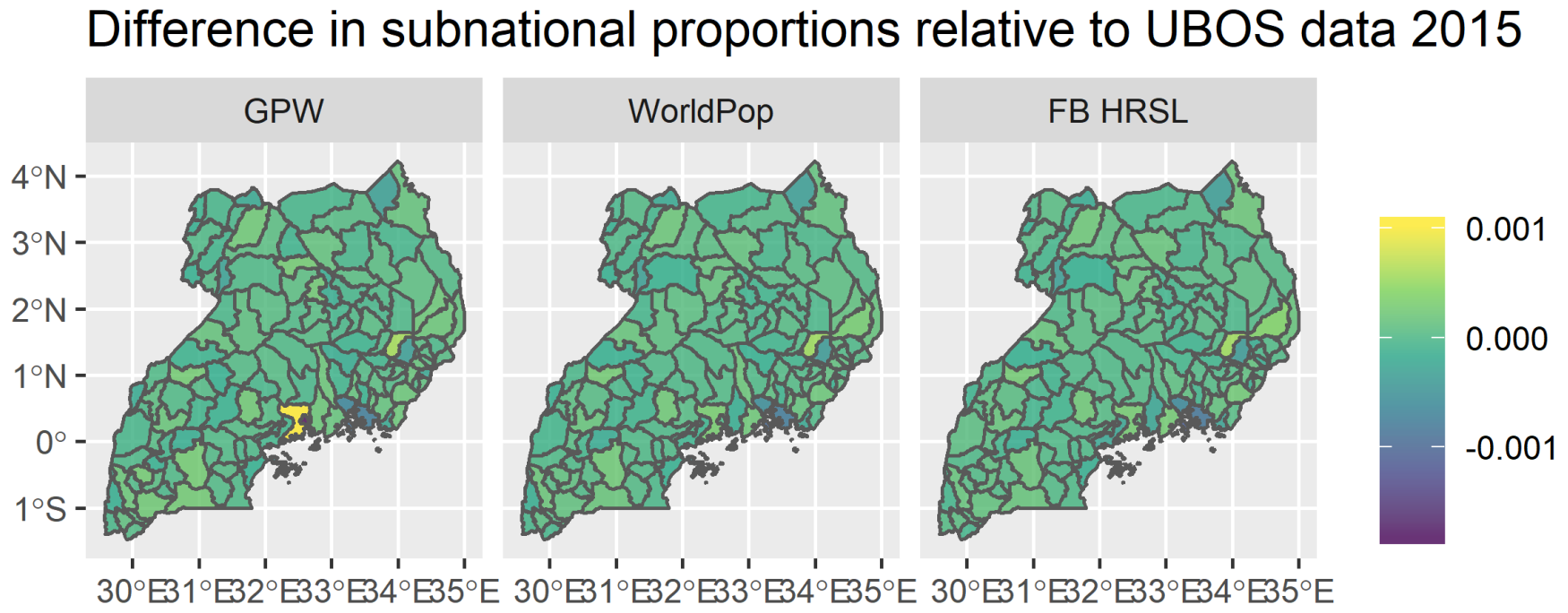
- Population by 5-year age groups and sex
  - Ideally from NSO (when available)
  - Use of global products (GPW, World pop)

Global gridded population products

- There are some global products that provide population estimates at very granular levels. I.e. district and sub district levels
- More information on these can be found at the links below as well as in the note's slides

- These include
  - WorldPop
  - Gridded population of the world (GPW)
  - Facebook high resolution settlement layer

2015 comparison NSO vs Global tools



Less than 0.001 % difference

Decision: Use NSO data

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Contribution and suggestions for working group

- Standardized data sources (boundaries and population)
- Possibility of extending the approach /tools and model to other areas of interest
- When global products are used guidance on strengths and weaknesses and impact on the outputs