HIV estimates

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

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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

Zero new HIV infections
Zero discrimination
Zero AIDS-related deaths

End the AIDS epidemic

Key AIDS-related SDGs for 2030

SDG 3 Good health and well-being
SDG 5 Gender equality
SDG 10 Reduced inequalities
SDG 16 Peace, justice and strong institutions
SDG 17 Partnerships for the goals

Strategic milestones for 2020

Fewer than 500 000 new HIV infections
Fewer than 500 000 AIDS-related deaths
Elimination of HIV-related discrimination

Targets for 2020
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/

New infections over time

-40% reduction (2010 to 2019)

SDG Indicator 3.1.1

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

**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

**Statistics**
- Mean
- Median
- Standard error
- 95% uncertainty range
Small-area estimation model for HIV prevalence
Sub national Modeling tool: Available online
https://naomi.unaids.org/

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

Workflow buttons
- Not yet available
- Available to proceed
- Activated; in progress
- Activated; complete
- Completed

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

Difference in subnational proportions relative to UBOS data 2015

Less than 0.001 % difference
Decision: Use NSO data
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