Improving HIV allocative efficiency in West Africa

Experience from Optima analyses in Senegal and Côte d’Ivoire

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Country analyses in West Africa

**Senegal**
- Population 13.6 million
- HIV prevalence 0.53% (44,000 people living with HIV)
- Concentrated epidemic:
  - Female sex workers: 18.5%
  - Men having sex with men: 17.8%
- 16,700 people on ART
  - First African country to subsidize ART
Senegal: 4.2% of deaths linked to HIV

Global Burden of Disease study, 2013
Country analyses in West Africa

**Côte d’Ivoire**
- Population 23.9 million
- HIV prevalence 3.5% (460,000 people living with HIV)
  - Second-highest burden in West Africa
- 140,700 people on ART
Côte d’Ivoire: 13.3% of deaths linked to HIV

Global Burden of Disease study, 2013
HIV financing: Sources (2013)

Source: National AIDS Spending Assessment (NASA) reports
HIV financing: Sources (2013)

Source: National AIDS Spending Assessment (NASA) reports
HIV financing trend in Senegal (2007-13)

High dependency on external funding

Decreasing HIV resource base

Budget deficit in National Strategic Plan 2013-17

Uncertain funding sources post-2017

Source: National AIDS Spending Assessment (NASA) reports; UNAIDS
HIV expenditure by programme, Senegal (2013)

- Spending on prevention programmes decreasing since 2011
- Spending on management and administration staying stable

Source: National AIDS Spending Assessment (NASA) report, Senegal
HIV prevention expenditure, Senegal (2013)

Prevention programmes among key populations financed from international sources

Source: National AIDS Spending Assessment (NASA) report, Senegal
## Rationale and key questions

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**Key questions:**

- **National Strategic Plan targets**: can they be achieved – with current or optimized allocations? How much does it cost?
- **Investment cascade**: What are the priority programmes if budgets decline?
- **Impact and cost of**: a) changes in ART eligibility, b) implementing 90-90-90 targets, c) pursuing target on eliminating mother-to-child transmission?
Considerations: Populations in the model

- Population sizes and HIV prevalence levels crucial to estimate accurately
- Understand overlapping risk behaviours

- General population
  - Youth
  - Children
  - Female sex workers
  - Clients of sex workers
  - People who inject drugs
  - Men having sex with men

- Data from small surveys
- Geographical and age distribution not representative
- Official versus clandestine sex workers
- Fear of legal consequences (MSM, drug users)
Model inputs: Costs, coverage and impact

- How much does the programme cost?
- What is the coverage of the programme?
Consideration: Costs, coverage, outcome

**Example 1: Antiretroviral therapy**
Total cost known
Total number of patients receiving therapy known
Cost ~ Number of patients ~ Impact

**Example 2: Condom promotion and distribution**
Total cost known
Percentage of people who are reached by the programme
  - Estimated from numbers of distributed condoms
  - Coverage estimate from one year is not sufficient
Impact not proportional to coverage
Consideration: HIV care within the health care programmes

- TB care
- HIV care
- General health care
- Other specialized care
Consideration: HIV care within the health care programmes

Programmes should not be considered independent and separate

- TB care
- HIV care
- General health care
- Other specialized care
Consideration: Technical efficiency

Technical efficiency

- Our analysis aims to optimize the *allocation of resources* to *different programmes*
- Technical efficiency: could some programmes be made more efficient?

Example: Antiretroviral therapy - costs of ART depend on:

- General level of costs (agreements on ARV prices etc.)
- Regimens used
- Availability of second-line and further regimens
- Laboratory monitoring
- Adherence support interventions
In 2014, in Côte d’Ivoire 2175 patients on second-line ART (2.1% of all ART patients)

Assumptions for projections into the future?

Estill et al, Lancet HIV (in press)
Consideration: Share of HIV budget spent on management/administration

Senegal: About one third of the budget in management and administration

- Could this be made more efficient?
- What additional impact would the money saved be able to buy?

Source: National AIDS Spending Assessment (NASA) report, Senegal
Conclusions

> Key populations play an important role in the West African HIV epidemic
  — Good modelling relies on accurate estimates of population size and HIV prevalence among the different population groups
> Cost and coverage data are relatively scarce
  — Need to use multiple data sources and triangulation
> In addition to allocative efficiency of programmes, technical efficiency of interventions and efficiency in programme management and administration should be assessed to identify further saving potentials