



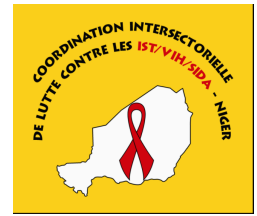
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# Reorienting the HIV Response in Niger Toward Sex Work Interventions: From Better Evidence to Targeted and Expanded Practice

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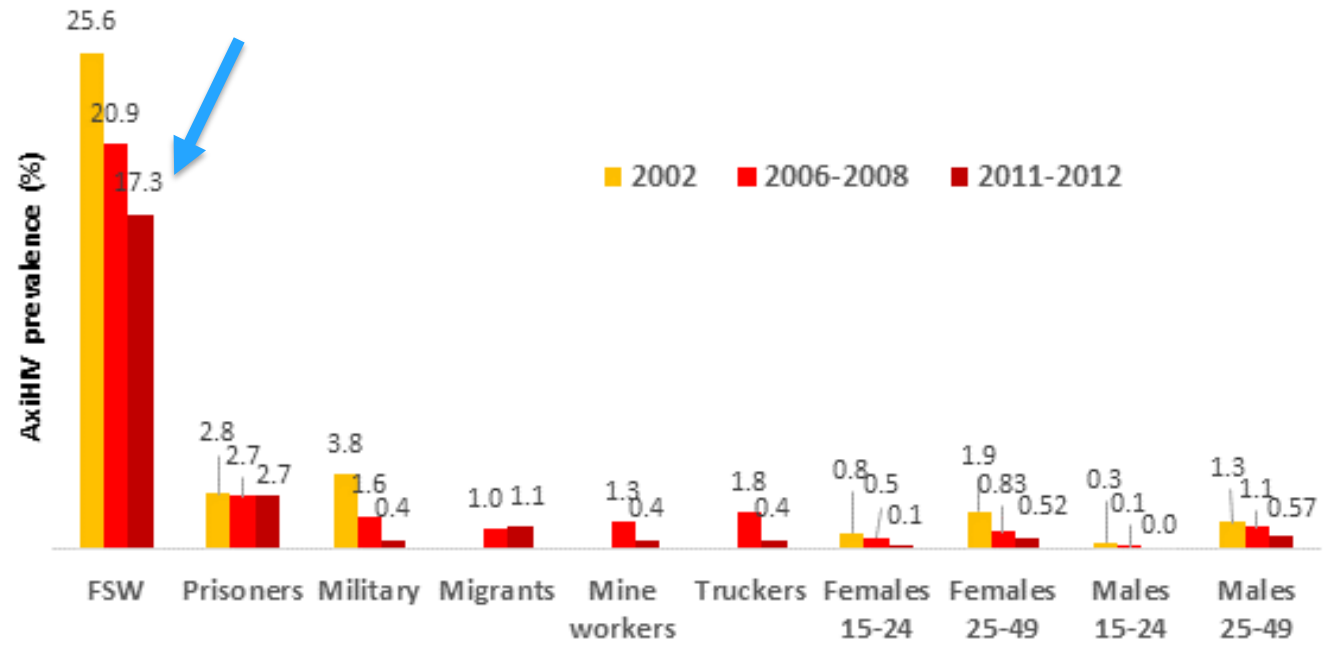
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# Context

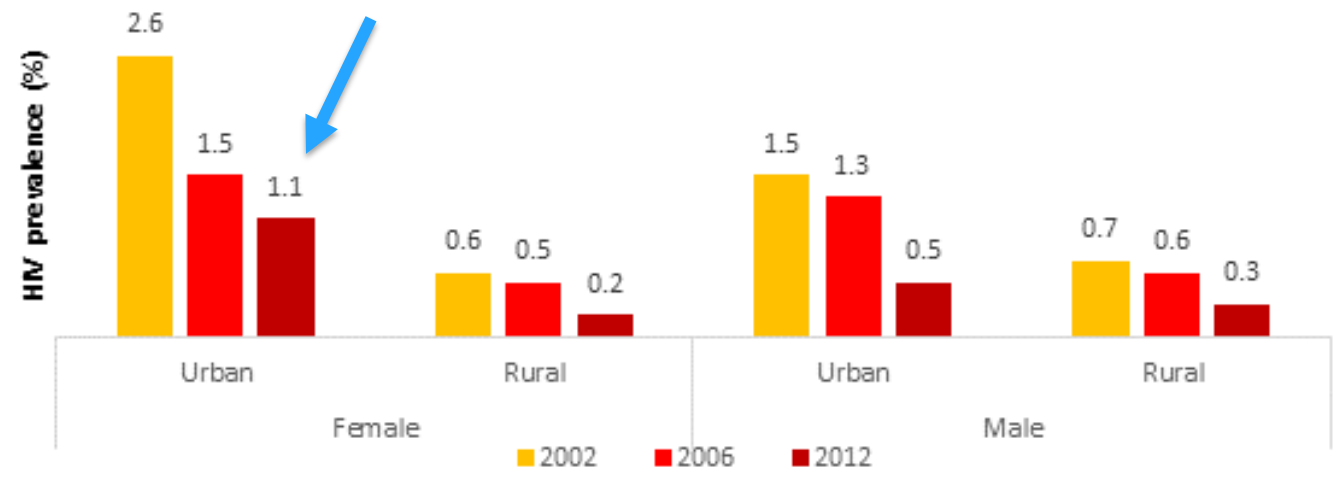
- Low GDP, high population growth, economic growth driven by mining/extractive industries, labor-related migration
- **Contracting, concentrated, urban HIV epidemic** - only 1.4% of all years of life lost due to HIV/AIDS in 2010
- Male sexual risk behavior linked to mobility
- **Wealthiest men** 5 times more likely to have paid for sex (2.9%, vs. 0.6% in poorest quintile Q5)
- **Wealthier men** more likely to be HIV infected (0.6%, vs. 0.1% in poorer Q3-5 of men)
- **HIV prevalence in FSW 17.3% in 2011 - 40 times higher than general population females**
- Approx. **28,000 FSW**, mainly in urban and industrial zones

**Empirical data:**

**HIV prevalence by population (2002--12)†**



**HIV prevalence by sex and residence (2002, 2006, 2012)†**



# Resources for FSW programs and approach

- Niger's HIV response heavily reliant on external financing (=almost 90% of HIV spending 2007–2011; World Bank loan commences in 2012)
- **Decline of investment in FSW services** - regional bilateral cooperation project SIDA-3 ends 2007
- In 2012, only 0.9% of total HIV prevention spending for FSW interventions, and majority of FSW-directed funding from international sources

## *Prioritization, sustainability, ownership of Niger's sex work–related response?*

1. Review of evidence on HIV epidemic, programmatic and resource allocation
  2. Epidemic modelling of HIV transmission dynamics
  3. Impact and cost-effectiveness of past HIV spend
  4. Optimization analysis of HIV resources, simulation of impacts
  5. Program science approach to improve allocative and implementation efficiency and effectiveness of Niger's HIV response
- Optima modeling

# Optima application

- 1. Optima:** mathematical model for analysing and projecting HIV epidemics, conducting health economic assessments and calculating optimal allocation of resources to meet strategic objectives
- 2. Use of available empirical data and estimations**
- 3. Included in optimization:** expenditure categories with evidence of direct HIV impact (*prevention package for FSWs - condoms, HCT, community mobilization /peer approaches; prevention package for other KPs - condoms, HCT, risk reduction communication; prevention services for general population - HCT and risk reduction communication; public sector condom distribution; social marketing of condoms; PMTCT; ART*)
- 4. Not included in optimization:** expenditures categories without evidence of direct HIV impact (*OVC support, blood screening, PEP, medical waste management, response management/coordination*)
- 5. Stakeholder consultations** to refine modeling and review FSW programs

## Optimization objectives:

- minimizing cumulative HIV incidence 2014-2025
- minimizing cumulative HIV DALYs 2014-2025

## Use of financial data:

- **Costs:** Drug costs kept constant over time, other costs increased in line with GDP per capita
- **Reference year:** 2012 spending pattern used as reference in optimization
- **Medium-term resource availability:** Assumed that funds acquired by end 2013 for 2014-17 NSP years available at annual average of USD 6.5 million
- **Long-term projections:** Assumed program coverage maintained post-2017
- **Relationship between funding, HIV outcomes, and program coverage:** Local data used to formulate assumptions on “cost-outcome curves”<sup>1</sup>

# Review of HIV services for FSW in Niger

- **Specialised adapted FSW services in the past** (SIDA-3, until 2007)
- **Integration** led to decreased service delivery, use and coverage
- **Medical follow-up scheme** in Niamey, covering 41% of surveyed FSW
- **Package of services** not well defined, except FSW peer education
- **Consistent condom use** reported by 23% of FSW
- **Link & referral** between peer educators and clinic staff weak
- **Service planning** not based on data on hotspots/site characteristics, FSW migration
- **Service-related barriers:** user fees, geo access, unwelcoming & inefficient services, lack of privacy
- **Socio-cultural barriers:** stigma associated with sex work
- World Bank-supported project:
  - i) Free consultations for FSWs at health centres;
  - ii) NGO contracts (mapping surveys, referral, service delivery functions)

# Impact & cost-effectiveness of past HIV spend (Optima)

- **Estimated HIV impact** of 6 years of HIV program spending 2007-12
  - **Directly averted close to 3,900 infections**
  - **By 2035, prevention effect projected at 12,600 infections averted**
- **Estimated cost-effectiveness:**
  - **USD 4,700 per infection averted if only HIV program spending considered**
  - **USD 6,200 if all HIV spending included**
- **HIV reduction largest in FSW** - HIV incidence from 3.5% in 2000 to 1.1% in 2012 (estimated between 0.6%-1% in 2015)
- **FSW clients** - in 2012 about 1 new infection per 2000–3000 individuals
- General population very low HIV risk. In 2012, ca. 1 new HIV infection for every 4,200 women and every 2,900 men aged 25–49
- 2014 Spectrum estimates show similar HIV trends to Optima
- Government validated outputs of both models



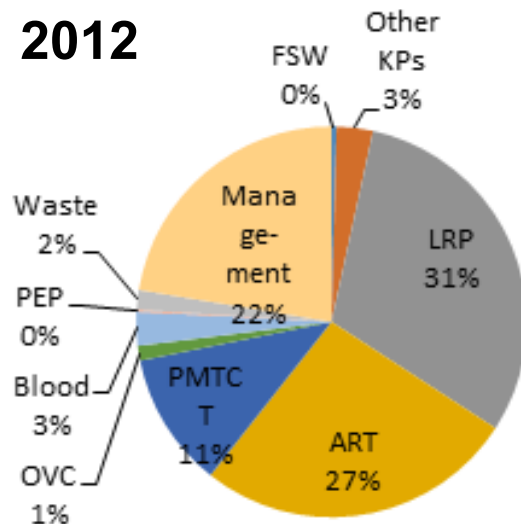
# Gaining allocative efficiency of HIV investments (Optima)

**Quadruple share to FSW HIV prevention (from 0.9% to 4-5%)**

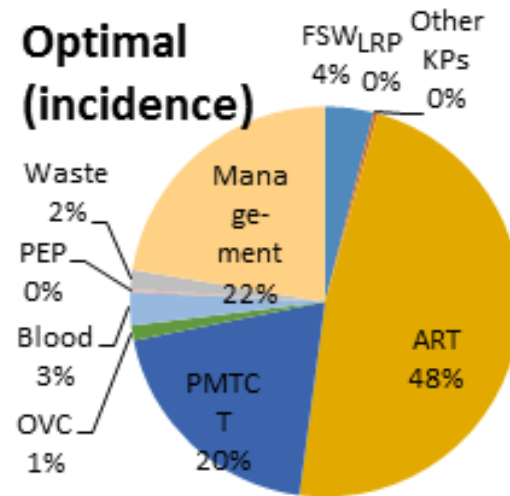
**Almost double share for ART (from 26% to 48%) and for PMTCT (from 11% to 20%) (further increasing investment in favour of FSW)**

**Reduce share to low-risk general population programs**

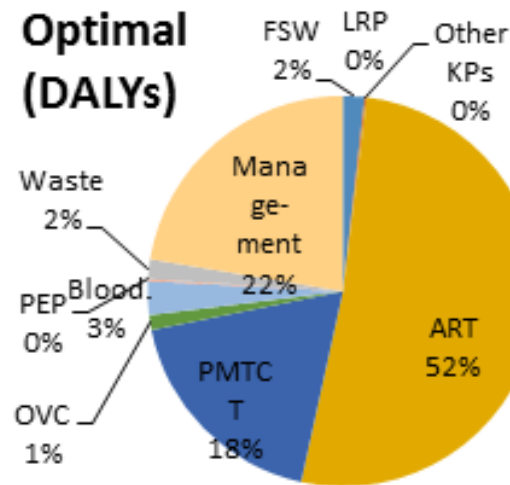
**2012**



**Optimal (incidence)**



**Optimal (DALYs)**



	Current	Optimal (Incidence)	Optimal (DALYs)
FSW	35	347	154
Other KPs	259	30	16
LRP	2655	0	0
ART	2287	4122	4445
PMTCT	965	1703	1587
OVC	106	106	106
Blood	240	240	240
PEP	15	15	15
Waste	140	140	140
Management	1932	1932	1932

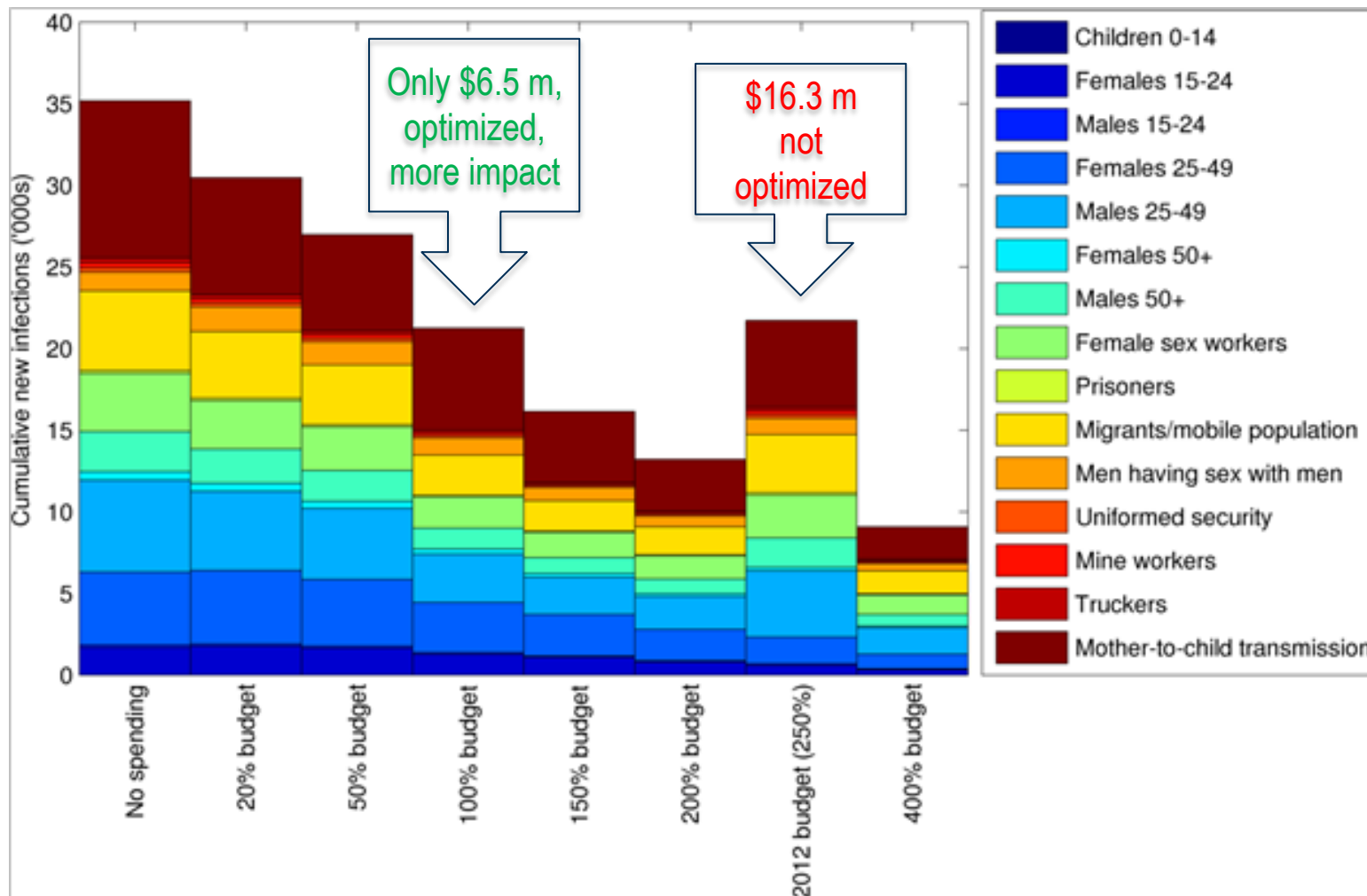
Sources: Spending data from NASA; Niger epidemical, demographic, behavioral, and service data in the populated Optima model. Note: OVC, safe blood, PEP, waste, and management costs were kept fixed. Condoms are part of the HIV intervention packages for the different populations. Other KPs = A combined group of prisoners, migrants, MSM, uniformed security/defense personnel, mine workers and truckers; LRP = A combined group of low-risk populations of females and males 15+

## Gaining allocative efficiency of HIV investments (Optima)

- **60% less cost** (6.5 m annually instead of 16.3 m in 2012) for similar impact on HIV incidence in 2014-2025
- Would avert an extra 7,000 incident infections in FSW, and **avert in total an extra 8,900 infections**
- Would look very similar for best DALY reduction
- At budget levels <USD 6.5 m, **FSW programs remain best investment**
- Only budgets of USD 12+ m bring general population programs into the optimal investment mix

# Cumulative HIV infections over 2013–2025 resulting from different spending scenarios

No spending, 2012 funding levels and targeting, and model-optimized resource allocation patterns at various funding levels (100%=expected funds available 2014–2017)



Sources: Spending data from NASA; Niger epidemic, demographic, behavioral, and service data in the populated Optima model. Note: 2012 budget = 2012 expenditure pattern, for a total of USD 16.3 million. 100% budget = USD 6.5 million per year, based on acquired funding by end 2013<sup>11</sup>. Drug costs are kept constant over time and other costs increase in line with GDP per capita.

# Way forward: Make FSW-targeted investments work

**A) Better program intelligence: Programmatic and geographic mapping in all regions and periodically updated**

**B) Better implementation: Build on what works already, but gain efficiency**

- Peer-led outreach education has increased FSW's risk perception & screening
- Coupon system for free access to STI services, client uptake monitored
- Condoms and lubricants promoted, HCT offered 3 monthly with HIV+ cases referred
- Some mapping and size estimation, can be built on

**C) Improved, targeted, and expanded service delivery**

- Use mapping data – link clinics to clusters of hotspots
- Focus on ART initiation and adherence support for HIV infected FSW
- Provide FSW with *integrated* health care, which includes HIV/STIs, SRH, PMTCT
- Strengthen dialogue and alliances with police, community leaders, opinion makers
- Self-evaluation, joint program review and learning

# Conclusion

- **Efficient and effective FSW programs** hold key to Niger's sustainable and manageable HIV response
- **Resource allocations to FSW programs** have been inadequate and non-optimal
- **Footprint, reach and impact of FSW programs** insufficient and a missed opportunity
- **Evolving risk context** (urban growth, raising incomes, labour migration)
- Growing understanding of importance of **viral suppression** of PLHIV
- ***Gaps systematically being addressed:***
  - **Allocative efficiency study with Optima** – supporting long-term investment decisions for impact and sustainability
  - **Program science approach** to harness local intelligence & global knowledge
  - **Financial and technical assistance**
    - World Bank credit for strengthening FSW programs
    - Multi-agency regional technical assistance package (USAID, UNAIDS, World Bank)



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