HIV Prevention Prioritization & Implementation Brief: Cross River State

Introduction

The HIV epidemic in Nigeria is complex, with substantial heterogeneity in HIV prevalence across different regions and diverse factors that drive the epidemic. Therefore, the development of appropriate HIV prevention strategies and policies at the state level is critical to ensure that the prevention response is appropriate for the local context and to ensure that resources are allocated to interventions that will have the greatest efficiency and impact. To do this it is imperative to match prevention strategies to the local epidemic, considering both the epidemic typology and transmission dynamics and the phase of the epidemic.

The purpose of this document is to provide a summary of the HIV epidemic in Cross River State and recommend prevention priorities and implementation strategies, to answer the following questions:

1) What is driving the HIV epidemic in Cross River State?

2) What needs to be done in Cross River State to reduce the number of new HIV infections?

It is anticipated that this prevention prioritization and implementation brief will be updated periodically as further knowledge about the HIV epidemic in Cross River State and its drivers emerge.

HIV in Nigeria

Nigeria is composed of 36 States and one Federal Capital Territory, arranged in six broader geo-political zones: North West, North East, North Central, South West, South East, and South South. Among the 36 States and FCT, the average state HIV prevalence among the general population was 3.6% in 2007\(^1\) and in 2008 the average state HIV prevalence among women receiving antenatal care was 4.6%\(^2\).
The average HIV prevalence among the general population and women received antenatal care for each geopolitical zone in 2007 is displayed in Table 1.

Table 1. Average general population HIV prevalence in the 6 geopolitical zones of Nigeria

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>North West</td>
<td>2.9%</td>
<td>2.4%</td>
</tr>
<tr>
<td>North East</td>
<td>3.4%</td>
<td>4.0%</td>
</tr>
<tr>
<td>North Central</td>
<td>5.7%</td>
<td>5.4%</td>
</tr>
<tr>
<td>South West</td>
<td>3.5%</td>
<td>2.0%</td>
</tr>
<tr>
<td>South East</td>
<td>2.9%</td>
<td>3.7%</td>
</tr>
<tr>
<td>South South</td>
<td>3.3%</td>
<td>7.0%</td>
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</tbody>
</table>

A. The Status of the HIV Epidemic in Cross River State

Cross River State is located in Nigeria’s South South geopolitical zone, which had an average general population HIV prevalence of 3.3%, ranging from 1.1% in Bayelsa State and Edo State to 8.8% in Akwa Ibom State. The general population HIV prevalence in Cross River State is 4.2%, which is somewhat higher than the average for the geopolitical zone.

The average state ANC HIV prevalence was 7% in the South South geopolitical zone, ranging from 3.7% in Delta State to 9.7% in Akwa Ibom State, and Cross River was higher than the average at 8% in 2008, dropping to 7.1% in 2010. Trends over time in ANC HIV prevalence are presented in Figure 1.

Figure 1. Cross River State ANC HIV Prevalence 1991-2010

Geographic Distribution of HIV in Cross River State

Cross River is the most populous state in Nigeria, with an estimated population size of 3.1 million (2005 estimate). Cross River has 18 Local Government Areas (LGAs). There is a paucity of specific data on the geographic distribution of HIV within Cross River State.
Within Cross River State, the 2010 ANC HIV prevalence ranged from 0.6% in Gakem, a rural area, to 10.4% in Calabar, an urban area (Figure 3).

**Figure 2. ANC HIV Prevalence in 4 Sites in Cross River State, 2001-2010**

*2001, 2003, and 2008 data were not available for Akampa and Gaken.*

**B. Factors Driving the HIV Epidemic in Cross River State**

Existing data suggests that the transmission dynamics in Cross River State are complex. Although it is somewhat difficult to interpret the sexual structure due to a lack of detail about sexual mixing and networking patterns and the tendency to social desirability biases in responses, there is evidence that there are high levels of sexual behavioral risks in the general population of Cross River and among the most at risk populations.

**HIV Transmission Risk Factors in the General Population**

The following sexual behavioral risks in the general population may be contributing to ongoing HIV transmission:

1. **Multiple and non-marital partnerships**
   
   In terms of reported multiple partnerships, 18.5% of men and 2% of women report two or more partners in the past year. 51% of men and 31% of women report sex with a non-marital partner in past year, somewhat higher than the national average. Overall, the mean self-reported number of lifetime partners was 8.1 for men and 1.7 for women. It should be noted that the discrepancy in sexual partner reporting between men and women could represent social desirability biases, high levels of sex work, or both. Self-reported data collected in population-based surveys, which are prone to social desirability bias, indicated that 1.7% of men had ever paid for sex.

2. **Condom use patterns**
   
   Condom use at last sex with a non-marital partner was higher than the national average, at 50% for men and 44% for women.
Most at Risk Populations and Other High Risk Networks

Although little is known about the size of the most at risk populations (MARPs) in Cross River State, some behavioral data is available. As illustrated in Figure 4, the HIV prevalence is extremely high among female sex workers, especially brothel-based FSWs (27.8%)\(^4\). This is substantially higher than the general population prevalence. MSM are a particularly stigmatized group in Nigeria. For IBBSS, respondent driven sampling (RDS) was used to recruit males eighteen years of age and older who had engaged in sexual activity with another male in the six months preceding the survey. Alliance Rights Nigeria, an NGO working to address HIV and STI issues among MSM, helped identify individuals who could act as seeds and begin chains of peer recruitment through MSM social networks.

**Figure 3. HIV Prevalence among MARPs\(^4\).**

<table>
<thead>
<tr>
<th>Population</th>
<th>HIV Prevalence</th>
<th>Access to Condoms</th>
<th>Clients Per Week</th>
<th>Non-Client Sex Partner</th>
<th>Consistent Condom Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Female sex workers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Brothel-based FSW</td>
<td>27.8%</td>
<td>64%</td>
<td>27.4</td>
<td>72%</td>
<td>0% - 100%</td>
</tr>
<tr>
<td>Non-brothel-based FSW</td>
<td>18.9%</td>
<td>47%</td>
<td>12.1</td>
<td>77%</td>
<td>6% - 91%</td>
</tr>
<tr>
<td><strong>2. Injection drug users</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>IDU</td>
<td>3.1%</td>
<td>79%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>3. Men who have sex</strong></td>
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<td></td>
</tr>
<tr>
<td>MSM</td>
<td>2.8%</td>
<td>27%</td>
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</tbody>
</table>

1. Female sex workers: The HIV prevalence among brothel-based FSW was found to be 27.8%. Nearly two-thirds (64%) reported having access to free condoms. The mean number of clients per week was 27.4 and 72% reported having a non-client sex partner in the past year. Consistent condom use in the past month ranged from 0% with regular partners to 100% with clients\(^4\).

The HIV prevalence among non-brothel-based FSW was found to be 18.9% and 47% percent reported having access to free condoms. The mean number of clients per week was 12.1 and 77% reported having a non-client sex partner in the past year. Consistent condom use in the past month ranged from 6% with regular partners to 91% with casual partners\(^4\).

A relatively high proportion of transport workers (8.7%) reported paying for sex in the past year\(^4\) compared to a general estimate of 1.7% of men\(^5\).

2. Injection drug users: The HIV prevalence among IDU was 3.1% and 79% reported always using sterile injecting equipment in the past month. Fourteen percent of the female IDUs sold sex. Eighteen percent of IDUs surveyed reported access to free condoms and condom use at last sex ranged from 17.5% with a regular partner to 83% with a sex worker\(^4\).

3. Men who have sex: The HIV prevalence among MSM was found to be 2.8% and 27% percent reported having access to free condoms. One quarter (24%) reported sex with a female partner in the past...
with men. A few (2.4%) reported sex with a FSW in the past year. Over one third (36%) reported selling sex to a male partner in the past six months and 15% reported buying sex from a male partner. The reported rate of anal sex with a non-paying male partner was 86%. Condom use at last sex ranged from 44% with a male sex worker to 71% with a FSW.

The large difference in HIV prevalence between FSWs and women in the general population strongly suggests a concentration of HIV within FSW and client subpopulations and provides strong evidence for substantial HIV transmission through these networks. Similarly, the large difference in HIV prevalence between MSM and men in the general population provides strong evidence for the concentration and transmission of HIV within MSM sexual networks.

C. Key Strategies for Preventing HIV in Cross River

Based on the existing data, it appears that Cross River has an advanced mixed epidemic, with transmission dynamics dependent on both key most-at-risk populations (MARPs) and a strong generalized component driven by behavioural patterns through high risk sexual networks of the general population. As with most mixed epidemics, much remains unknown about the transmission dynamics, and therefore the prevention priorities in Cross River. Chief among the knowledge gaps are:

- The size and distribution of the MARPs in Cross River, how these populations link with the general population, and their relative contribution to the overall HIV epidemic.
- The geographic and sub-population distribution of HIV in the general population. As yet, it is difficult to know the extent to which prevention efforts ought to be focused on particular locales (e.g. LGAs), versus a broad-based prevention program.
- The specific behavioural patterns and contexts that promote HIV transmission in the general population, and the extent to which prevention programs should focus on particular behavioural norms.

**HIV Prevention Objectives and Strategies**

HIV prevention objectives should include rapid assessments of both categories of subpopulations and the rapid implementation of programs promoting behavior change, reaching a very high proportion of the identified target subpopulations. Specifically, HIV prevention objectives include:

1. Rapidly assess and implement programs for female sex workers
   a) **Mapping and rapid appraisals** – to provide information about the size and location and operational typology of FSWs and clients across the state, to guide the scaling up process.
   b) **Bio-behavioural surveys of FSWs and clients** – to better understand the current status of the epidemic, define prevention needs, and set a baseline for tracking progress in prevention programs.
   c) **Assessment of transmission dynamics** – by incorporating mapping and bio-behavioural data into mathematical models to estimate the contribution of FSWs and clients to the overall epidemic.
   d) **Rapidly scale up HIV prevention programs** - achieve near saturation coverage FSWs

2. Rapidly assess and implement
   a) **Mapping and rapid appraisals** – to provide information about the size and location and operational typology of IDUs across the state, to guide the scaling up process.
3. Rapidly assess and implement programs for
   injection drug users
   a) **Bio-behavioural surveys of IDUs** – to better understand the current status of the epidemic, define prevention needs, and set a baseline for tracking progress in prevention programs.
   b) **Assessment of transmission dynamics** – by incorporating mapping and bio-behavioural data into mathematical models to estimate the contribution of IDUs to the overall epidemic.
   c) **Rapidly scale up HIV prevention programs** - achieve near saturation coverage of IDUs

4. Rapidly assess and implement programs for
   men who have sex with men
   a) **Mapping and rapid appraisals** – to provide information about the size and location and operational typology of MSM across the state, to guide the scaling up process.
   b) **Bio-behavioural surveys of MSM** – to better understand the current status of the epidemic, define prevention needs, and set a baseline for tracking progress in prevention programs.
   c) **Assessment of transmission dynamics** – by incorporating mapping and bio-behavioural data into mathematical models to estimate the contribution of MSM to the overall epidemic.
   d) **Rapidly scale up HIV prevention programs** - achieve near saturation coverage of higher risk MSM, defined as those who are regularly engaging in high risk behaviours.

5. Rapidly assess and implement programs for
   other high risk networks
   a) **Mapping and rapid appraisals** – to provide information about the size and location of other high risk networks across the state, to guide the scaling up process.
   b) **Rapidly scale up HIV prevention programs** - achieve near saturation coverage of programs to promote behaviour change.

6. Rapidly assess and implement programs for
   the general population
   a) **Rapid ethnographic assessments of sexual behaviours** – to provide information about sexual behaviour norms that are likely contributing to HIV transmission in the general population.
   b) **Rapid assessments of risk contexts** - to identify if there are particularly high risk settings which are amenable to focused prevention efforts
   c) **Rapidly scale up HIV prevention programs** - achieve near saturation coverage of programs to promote behaviour change.

6. Increase accessibility and utilization of PMTCT
   Develop effective health system models to increase accessibility and utilization of PMTCT, prioritizing first geographic areas and population groups with the highest HIV prevalence.

7. Develop other approaches to reducing HIV transmission
   Develop effective health system models to ensure blood safety, safe healthcare waste management, adherence to universal precautions, post-exposure prophylaxis, and other approaches to reducing HIV transmission.
D. Cross River HIV Prevention Strategy Implementation Plan

*Logical Framework for the Design and Implementation of the HIV Prevention Strategy*
Objective 1: Establish effective and efficient HIV prevention programs for FSWs in Cross River State

Activity 1: Improve knowledge of the sexual behaviors and other risk factors contributing to HIV transmission in the context of female sex work using baseline surveys to gather data

Activity 2: Implement an HIV prevention program focusing on risk reduction with high coverage of the local FSW population

Activity 3: Implement an HIV prevention program focusing on vulnerability reduction with high coverage of the local FSW population

Activity 4: Implement routine program monitoring system to assess program performance and identify opportunity gaps

Activity 5: Perform annual evaluation to assess achievement of targets of the prevention program

Target 1.1: Complete data collection by DATE

Target 2.1: Individual annual contact with at least 50% FSW by 2013

Target 2.2: Registration and regular contact (i.e. twice per month) with at least 40% of FSWs

Target 2.3: STI clinical services received by at least 50% FSWs, with a reduction of treatable STIs by at least 25%

Target 2.4: VCT of at least 60% of FSWs

Target 2.5: Consistent condom use of a) 98% of FSWs with last client/casual partner and b) 60% of FSWs with last sexual intercourse with regular partner.

Target 3.1: A reduction of 25% in the proportion of FSWs reporting violence by 2012 and 30% by 2012

Target 4.1: Implement system to routinely monitor program performance and identify opportunities for program improvement by DATE

Target 5.1: Perform annual program evaluation by DATE

Target 5.2: Implement program improvements by DATE
Objective 2: Establish effective and efficient HIV prevention programs for IDUs in Cross River State

Activity 1: Improve knowledge of the sexual behaviors and other risk factors contributing to HIV transmission in the context of injection drug use using baseline surveys to gather data

Activity 2: Implement an HIV prevention program focusing on injection risk reduction with high coverage of the local IDU population

Activity 3: Implement an HIV prevention program focusing on sexual risk reduction with high coverage of the local IDU population

Activity 4: Implement routine program monitoring system to assess program performance and identify opportunity gaps

Activity 5: Perform annual evaluation to assess achievement of targets of the prevention program

Target 1.1: Complete data collection by DATE

Target 2.1: Individual annual contact with at least 60% IDUs by 2013
Target 2.2: Registration and regular contact (i.e. twice per month) with at least 50% of IDUs
Target 2.3: At least 50% of estimated IDUs will have received needle and syringes.
Target 2.4: At least 50% of estimated IDUs will have used clean injection equipment during last injection
Target 2.5: At least 50% of estimated IDUs will have received drug maintenance or substitution treatment

Target 3.1: STI clinical services received by at least 50% IDUs, with a reduction of treatable STIs by at least 25%
Target 3.2: VCT of at least 60% of IDUs
Target 3.3: Condom use by 60% of IDUs at last sexual intercourse

Target 4.1: Implement system to routinely monitor program performance and identify opportunities for program improvement by DATE

Target 5.1: Perform annual program evaluation by DATE
Target 5.2: Implement program improvements by DATE
Objective 3: Establish effective and efficient HIV prevention programs for high risk MSM in Cross River State

Activity 1: Improve knowledge of the risk factors contributing to HIV transmission among high risk MSM using baseline surveys to gather data

Activity 2: Implement an HIV prevention program focusing on risk reduction with high coverage of the local MSM population

Activity 3: Implement an HIV prevention program focusing on vulnerability reduction with high coverage of the local high risk MSM population

Activity 4: Implement routine program monitoring system to assess program performance and identify opportunity gaps

Activity 5: Perform annual evaluation to assess achievement of targets of the prevention program

Target 1.1: Complete data collection by DATE

Target 2.1: Individual annual contact with at least 50% of high risk MSM by 2013
Target 2.2: Registration and regular contact (i.e. twice per month) with at least 50% of high risk MSM
Target 2.3: STI clinical services received by at least 50% of high risk MSM, with a reduction of treatable STIs by at least 25%
Target 2.4: VCT of at least 60% of high risk MSM
Target 2.5: Consistent condom use of a) 60% of high risk MSM with last client/casual partner and b) 50% of MSM with last sexual intercourse with regular partner.

Target 3.1: A reduction of 30% in the proportion of MSM reporting violence, by 2013

Target 4.1: Implement system to routinely monitor program performance and identify opportunities for program improvement by DATE

Target 5.1: Perform annual program evaluation by DATE
Target 5.2: Implement program improvements by DATE
Objective 4: Establish effective and efficient HIV prevention programs for other high risk networks in Cross River State

Activity 1: Improve knowledge of the sexual behaviors and other risk factors contributing to HIV transmission in the context of other high risk networks using baseline surveys to gather data

Activity 2: Implement an HIV prevention program focusing on behavior change with high coverage of the other high risk networks

Activity 3: Implement an HIV prevention program focusing on vulnerability reduction with high coverage of other high risk networks

Activity 4: Implement routine program monitoring system to assess program performance and identify opportunity gaps

Activity 5: Perform annual evaluation to assess achievement of targets of the prevention program

Target 1.1: Complete data collection by DATE

Target 2.1: Individual annual contact with at least X% by DATE

Target 2.2: Registration and regular contact (i.e. twice per month) with at least X%

Target 2.3: X behavior change by X% of other high risk networks

Target 3.1: A reduction of X% in the proportion reporting X, by DATE

Target 4.1: Implement system to routinely monitor program performance and identify opportunities for program improvement by DATE

Target 5.1: Perform annual program evaluation by DATE

Target 5.2: Implement program improvements by DATE
Objective 5: Establish effective and efficient HIV prevention programs for the general population in Cross River State

Activity 1: Improve knowledge of the sexual behaviors and other risk factors contributing to HIV transmission in the general population using baseline surveys to gather data

Activity 2: Implement an HIV prevention program focusing on behavior change within the general population

Activity 3: Implement an HIV prevention program focusing on vulnerability reduction within the general population

Activity 4: Implement routine program monitoring system to assess program performance and identify opportunity gaps

Activity 5: Perform annual evaluation to assess achievement of targets of the prevention program

Target 1.1: Complete data collection by DATE

Target 2.1: X behavior change by X% of other high risk networks

Target 3.1: A reduction of X% in the proportion reporting X, by DATE

Target 4.1: Implement system to routinely monitor program performance and identify opportunities for program improvement by DATE

Target 5.1: Perform annual program evaluation by DATE

Target 5.2: Implement program improvements by DATE
Objective 6: Increase accessibility and utilization of PMTCT in Cross River State

Activity 1: Assess incidence of vertical HIV transmission and assess current PMTCT programs

Target 1.1: Complete assessment by DATE

Activity 2: Implement effective health system models to increase accessibility and utilization of PMTCT, prioritizing geographic areas and populations with the highest HIV prevalence

Target 2.1: Increase accessibility of PMTCT by X% by DATE in X geographic areas and with X population

Activity 3: Implement routine program monitoring system to assess program performance and identify opportunity gaps

Target 3.1: Implement system to routinely monitor program performance and identify opportunities for program improvement by DATE

Activity 4: Perform annual evaluation to assess achievement of targets of the prevention program

Target 4.1: Perform annual program evaluation by DATE

Target 4.2: Implement program improvements by DATE
Objective 7: Develop other approaches to reducing HIV transmission

Activity 1: Assess structural and institutional HIV transmission risks

Target 1.1: Complete assessment by DATE

Activity 2: Implement HIV prevention programs addressing structural and institutional HIV transmission risks

Target 2.1: Blood safety by X% by DATE
Target 2.2: Safe healthcare waste management by X% by DATE
Target 2.3: Adherence to universal precautions by X% by DATE
Target 2.4: Post-exposure prophylaxis by X% by DATE

Activity 3: Implement routine program monitoring system to assess program performance and identify opportunity gaps

Target 3.1: Implement system to routinely monitor program performance and identify opportunities for program improvement by DATE

Activity 4: Perform annual evaluation to assess achievement of targets of the prevention program

Target 4.1: Perform annual program evaluation by DATE
Target 4.2: Implement program improvements by DATE
References