Youth Respondent-Driven Sampling to Uncover Hidden Contraceptive Behavior

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Presentation outline

- Introduction
- Why YRDSS
- Study implementation in Abidjan and Nairobi
Introduction

- Youth 15-24 years of age: A broad portion of the population with high need for contraception yet low use

- Barriers to youth sexual and reproductive health:
  - Service-related barriers
  - Knowledge
  - Social, cultural, and economic factors
  - Social stigma particularly for young women

- PMA Agile: Seeks to monitor family planning awareness and use among youth
  - Challenge in capturing this information from youth clients of health facilities, especially unmarried females

- Innovation: Youth Respondent-Driven Sample Survey (YRDSS)
What is Respondent Driven Sampling (RDS)?

- Controlled, peer to peer recruitment, generally coupon based
- Useful when traditional sampling methods are not possible, when sampling frame is not known
- Primary used for hard to reach, marginalized and criminalized populations
  - Men who have sex with men
  - Female sex workers
  - People who inject drugs
  - Unstably housed adolescents

- Strengths
  - Effective at reaching invisible, marginalized sub-populations
  - Can be a fast and cost-effective sampling method, with greater inclusion of target population

- Key assumptions
  - An underlying network
Recruitment in RDS

- Recruitment begins with seeds
  - Initial, purposive recruits, often facilitated by a partner NGO
  - Generally 3-10, depending on the target population and size
  - Seeds are well-known, respected members of target population
  - Capable of generating buy-in
  - Comprise key sub-populations identified in formative phase

- Recruitment is controlled & accounted for analytically
  - Fixed number of recruitment coupons to each participant (usually 3-5)
  - No participant can recruit more than 3-5 individuals
  - Analysis entails use of weights, adjustment for non-independence, and post-estimation weight where population-based data exist
Theoretical recruitment chain

Why RDS for youth?

- Growing global youth population
- Young unmarried females and males may be procuring contraceptives via indirect means (e.g., via older friends)
  - young contraceptors effectively “hidden” to clinic staff
  - compromising the accuracy of clinic-based survey methods
# Implementation Overview

## Abidjan

- **Eligibility criteria:**
  - 15-24 years old
  - Unmarried
  - Resident of Abidjan for at least 1 year

- **Target sample size:** 2000
  - Final analytic sample size: 2068

- **Study dates:** Aug. 10 – Nov. 10, 2018

- **Study site:** Association Ivoirienne pour le Bien-Etre Familial (AIBEF) main office, Treichville commune

- **Primary incentive:** 2500 CFA (~5 USD)

- **Secondary incentive:** 1500 CFA (~3 USD) for each eligible recruit (max 3 recruits = 4500 CFA)

## Nairobi

- **Eligibility criteria:**
  - 15-24 years old
  - Unmarried
  - Resident of Nairobi for at least 1 year

- **Target sample size:** 1300
  - Final analytic sample size: 1354

- **Study dates:** Jun. 21 – Aug. 14, 2019

- **Study site:** 7 sites throughout the city in youth-serving CBOs

- **Primary incentive:** 500 KES (~5 USD)

- **Secondary incentive:** 300 KES (~3 USD) for each eligible recruit (max 3 recruits = 900 KES)
YRDSS Abidjan: Coupon

Coupon number

Office hours

Validation date

Expiration date (2 weeks later)

Coupon number as barcode

Referral number (handwritten)
# YRDSS Implementation Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Abidjan</th>
<th>Nairobi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coupons distributed (including seeds)</td>
<td>4285</td>
<td>1674</td>
</tr>
<tr>
<td>Coupons returned during the validation period (including seeds)</td>
<td>2134</td>
<td>1384</td>
</tr>
<tr>
<td>Coupon return rate during validation period (Returned/distributed)</td>
<td>49.8%</td>
<td>82.7%</td>
</tr>
<tr>
<td>Eligible participants/coupons returned</td>
<td>2073 (97.1%)</td>
<td>1357 (98.1%)</td>
</tr>
<tr>
<td>Consented/eligible</td>
<td>2073 (100.0%)</td>
<td>1357 (100.0%)</td>
</tr>
<tr>
<td>Complete data/consented</td>
<td>2068/2073 (99.8%)</td>
<td>1354/1357 (99.8%)</td>
</tr>
<tr>
<td>Number of recruits per seed (mean, range)</td>
<td>258.8 (4-985)</td>
<td>157.8 (4-245)</td>
</tr>
<tr>
<td>Number of recruitment waves per seed (mean, range)</td>
<td>6.4 (1-12)</td>
<td>7.4 (2-10)</td>
</tr>
</tbody>
</table>
Seed Chains: Week 1

Abidjan

Nairobi
Seed Chains: Final Week

Abidjan

Nairobi
Cumulative weekly enrollment overall and by sex

**Abidjan**

- Overall
- Male
- Female

**Nairobi**

- Overall
- Male
- Female
## YRDSS Key Results

<table>
<thead>
<tr>
<th>Indicator (among both male and females)</th>
<th>Abidjan</th>
<th>Nairobi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ever had sex</td>
<td>66.0%</td>
<td>70.3%</td>
</tr>
<tr>
<td>Ever been pregnant (females) or made a partner pregnant (males)</td>
<td>16.0%</td>
<td>24.0%</td>
</tr>
<tr>
<td>Ever used contraception</td>
<td>41.5%</td>
<td>60.2%</td>
</tr>
<tr>
<td>Currently using contraception</td>
<td>34.3%</td>
<td>45.2%</td>
</tr>
<tr>
<td>Most reported contraceptive method</td>
<td>Male condom (72.4% of users)</td>
<td>Male condom (69.5% of users)</td>
</tr>
<tr>
<td>Most reported source of current method</td>
<td>Pharmacy (55.4% of users)</td>
<td>Pharmacy (29.9% of users)</td>
</tr>
<tr>
<td>Contraceptive users who rely on partner to obtain current method</td>
<td>26.5%</td>
<td>19.1%</td>
</tr>
</tbody>
</table>
# Contraceptive procurement and dependence on self vs. others among current users in Abidjan

<table>
<thead>
<tr>
<th>Person who obtains current method</th>
<th>Overall</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>W%</td>
<td>N</td>
</tr>
<tr>
<td>(N = 839) *</td>
<td></td>
<td></td>
<td>(N = 442)</td>
</tr>
<tr>
<td><strong>Self</strong></td>
<td>492</td>
<td>62.2%</td>
<td>296</td>
</tr>
<tr>
<td><strong>Partner</strong></td>
<td>249</td>
<td>26.5%</td>
<td>85</td>
</tr>
<tr>
<td><strong>Other person</strong></td>
<td>32</td>
<td>3.8%</td>
<td>20</td>
</tr>
<tr>
<td><strong>Don’t know / No response</strong></td>
<td>66</td>
<td>7.5%</td>
<td>41</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level of dependence on others to obtain current method</th>
<th>Overall</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>(N = 281) **</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Entirely dependent</strong></td>
<td>28</td>
<td>23.3%</td>
<td>8</td>
</tr>
<tr>
<td><strong>Somewhat dependent</strong></td>
<td>87</td>
<td>25.3%</td>
<td>44</td>
</tr>
<tr>
<td><strong>Not dependent</strong></td>
<td>142</td>
<td>42.6%</td>
<td>47</td>
</tr>
<tr>
<td><strong>No response</strong></td>
<td>24</td>
<td>8.7%</td>
<td>6</td>
</tr>
</tbody>
</table>

* Current contraceptive users

** Respondents who report that a partner or “other” person obtains their current method
## Contraceptive procurement and dependence on self vs. others among current users in Nairobi

<table>
<thead>
<tr>
<th>Person who obtains current method</th>
<th>Overall</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>W%</td>
<td>N</td>
</tr>
<tr>
<td><em>(N = 564)</em></td>
<td></td>
<td></td>
<td><em>(N = 318)</em></td>
</tr>
<tr>
<td><strong>Person who obtains current method</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self</td>
<td>428</td>
<td>77.0%</td>
<td>284</td>
</tr>
<tr>
<td>Partner</td>
<td>116</td>
<td>19.1%</td>
<td>20</td>
</tr>
<tr>
<td>Other person</td>
<td>20</td>
<td>3.9%</td>
<td>14</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level of dependence on others to obtain current method</th>
<th><em>(N = 136)</em> **</th>
<th><em>(N = 34)</em></th>
<th><em>(N = 102)</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Entirely dependent</td>
<td>55</td>
<td>46.4%</td>
<td>7</td>
</tr>
<tr>
<td>Somewhat dependent</td>
<td>40</td>
<td>27.8%</td>
<td>11</td>
</tr>
<tr>
<td>Not dependent</td>
<td>40</td>
<td>25.4%</td>
<td>16</td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
<td>0.4%</td>
<td>0</td>
</tr>
</tbody>
</table>

* Current contraceptive users
** Respondents who report that a partner or “other” person obtains their current method
Person who obtains current method among male condom users and EC users in Abidjan

<table>
<thead>
<tr>
<th>MALE CONDOM USERS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>W%</td>
</tr>
<tr>
<td>Males (N=363)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self</td>
<td>274</td>
<td>78.7%</td>
</tr>
<tr>
<td>Partner</td>
<td>61</td>
<td>13.0%</td>
</tr>
<tr>
<td>Other*</td>
<td>14</td>
<td>3.9%</td>
</tr>
<tr>
<td>No response</td>
<td>14</td>
<td>4.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EMERGENCY CONTRACEPTION USERS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males (N=62)</td>
<td>Females (N=123)</td>
</tr>
<tr>
<td>Self</td>
<td>21</td>
<td>30.5%</td>
</tr>
<tr>
<td>Partner</td>
<td>34</td>
<td>47.7%</td>
</tr>
<tr>
<td>Other*</td>
<td>4</td>
<td>7.3%</td>
</tr>
<tr>
<td>No response</td>
<td>3</td>
<td>14.5%</td>
</tr>
</tbody>
</table>

* “Other” includes sister, brother, friend, health worker, other male adult relative, other female adult relative, or “other” person
## Comparisons between sites

### Similarities

- Acceptability of survey and RDS methodology among youth participants
- Pharmacies are the main source of contraception for youth in both sites
- Young women are more reliant on partners or others to obtain their current method than young men are
- Young people, especially young women, are stigmatized for using contraception
- Community engagement was high in both sites and was crucial for study success

### Differences

- Rapid male enrollment in Abidjan; rapid female enrollment in Nairobi
- Current and ever contraceptive use was higher in Nairobi
- Use of long-acting methods was higher in Nairobi
- Interviewers differed by site: PMA REs in Nairobi and youth interviewers from AIBEF’s affiliated youth group in Abidjan
Benefits of using RDS

- May enable more accurate reporting on sensitive topics from youth as compared with traditional household surveys due to:
  - peer-to-peer recruitment
  - questionnaire self-administration
  - data collection based outside the home

- Post-estimation weighting using DHS or other population-based sources enables adjustment for underlying demographics
Challenges conducting YRDSS

- Differential recruitment by sex
- Challenging to manage participant flow and rapid recruitment growth at study sites
- Younger adolescents (<18 years) may have more difficulty traveling to a site to participate compared to older youth due to reasons such as greater parental oversight or inability to pay initial cost of travel to site
- Difficult to recruit youth from higher SES neighborhoods
Dissemination of study results

- Abidjan technical report and briefs:
  https://www.pmadata.org/technical-areas/pma-agile
- Key Results brief
- Emergency Contraceptive Use brief
- Sexual/Reproductive Health Autonomy and Relationship Power Dynamics brief
- YRDSS/Abidjan Technical Report
Acknowledgements

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- Collaboration and participation of **TCI** and of **Ministries of Health** in Côte d’Ivoire and Kenya
Questions?
Contact us!

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RDS Resources & Key References


- Johnston, LG. Online RDS toolkit: https://sites.google.com/site/lsjohnstonglobal/respondent-driven-sampling


