



What Mobile Phone Survey Mode Produces the Most Representative Data? A Comparison of SMS, IVR, and CATI in Nigeria

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Acknowledgments

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Background

- Mode of data collection in LMICs evolving
- In 1950's, most data was collected using PAPI
- Researchers have embraced the boom in mobile phone subscriptions in sub-Saharan Africa to collect data using mobile methods

Applications:



SMS & IVR & Web & CATI: Rapid Data for Public Health Surveillance (10 countries)



SMS: Tracking Vocational School Graduates



CATI: Technology Adoption



IVR: Best Practices in IVR Introductions

Mobile Survey Modes



CATI



IVR



SMS

Other Mode: Mobile Web

Key Insights

- Response rates are low, especially for IVR and SMS
- Cross-sectional surveys compare FTF with a single mode (SMS, IVR, CATI)
- Mobile phone surveys tend to over-represent young, men, urban, educated
- Mobile phone surveys can be cost efficient

Knowledge Gaps

- Limited apples-to-apples comparisons
- How do modes differ with regard to cost and time?

Research Questions

1. How do response rates differ among CATI, IVR, SMS, and FTF surveys?

2. How representative are respondents from CATI, IVR, and SMS surveys?

3. How does the cost and data collection time differ across survey modes?

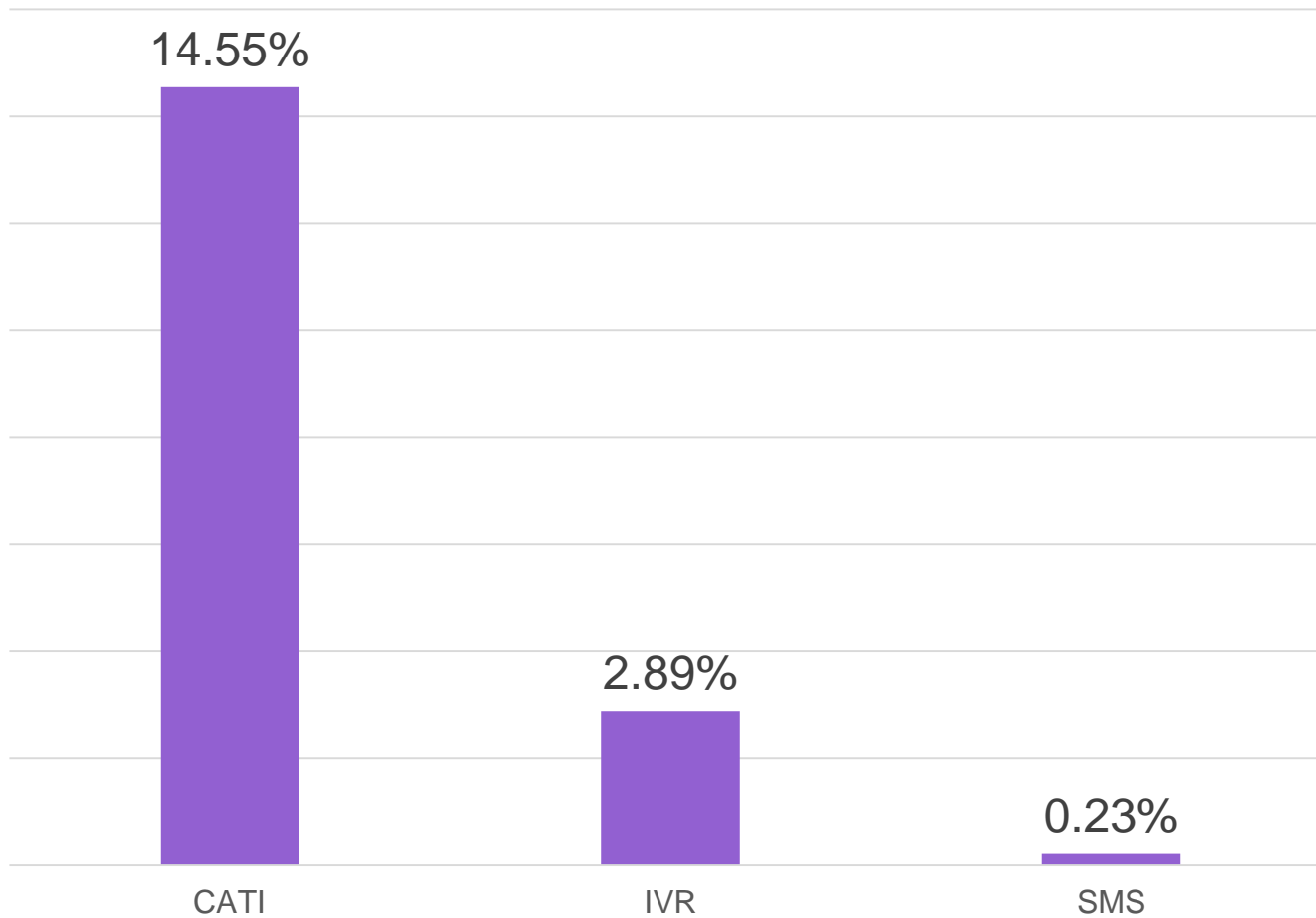
Method

- Mobile Phone Surveys
 - Modes: CATI, IVR, SMS
 - All used RDD sampling
 - IVR and SMS conducted in 2017; CATI in 2016
 - IVR, SMS used \$.50 incentive
 - IVR and SMS asked same 12 questions; CATI asked 85 questions
- FTF: 2013 Nigeria Demographic and Health Survey (paper-and-pencil, area probability sample with HH listing, HH quex used)
- Completes –
 - IVR 1,818;
 - SMS 2,759;
 - CATI 3,785
- Approach: Compare estimates from CATI, IVR, SMS to FTF (and to each other)

Results

RQ1. Response Rates

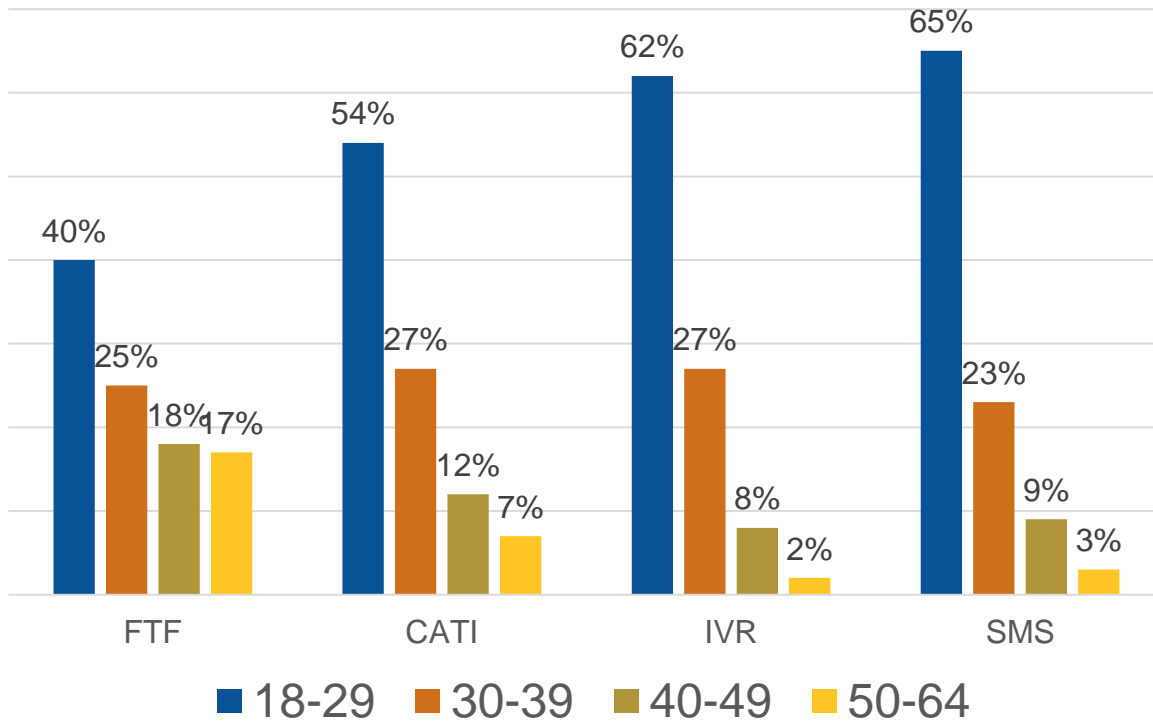
Response Rates by Mode



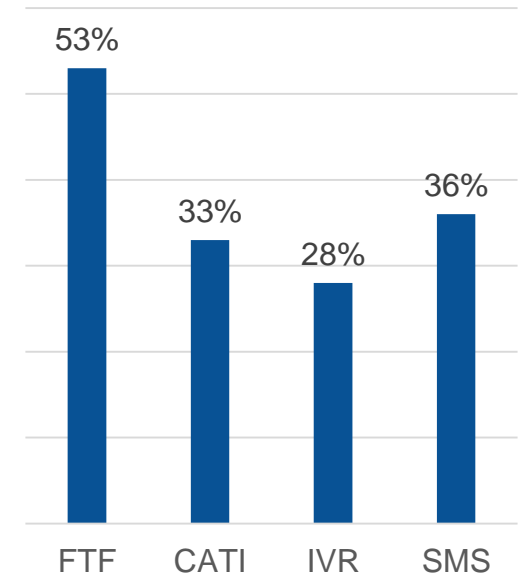
Response Rate for FTF is 99%

RQ2. Representativeness

Age by Mode

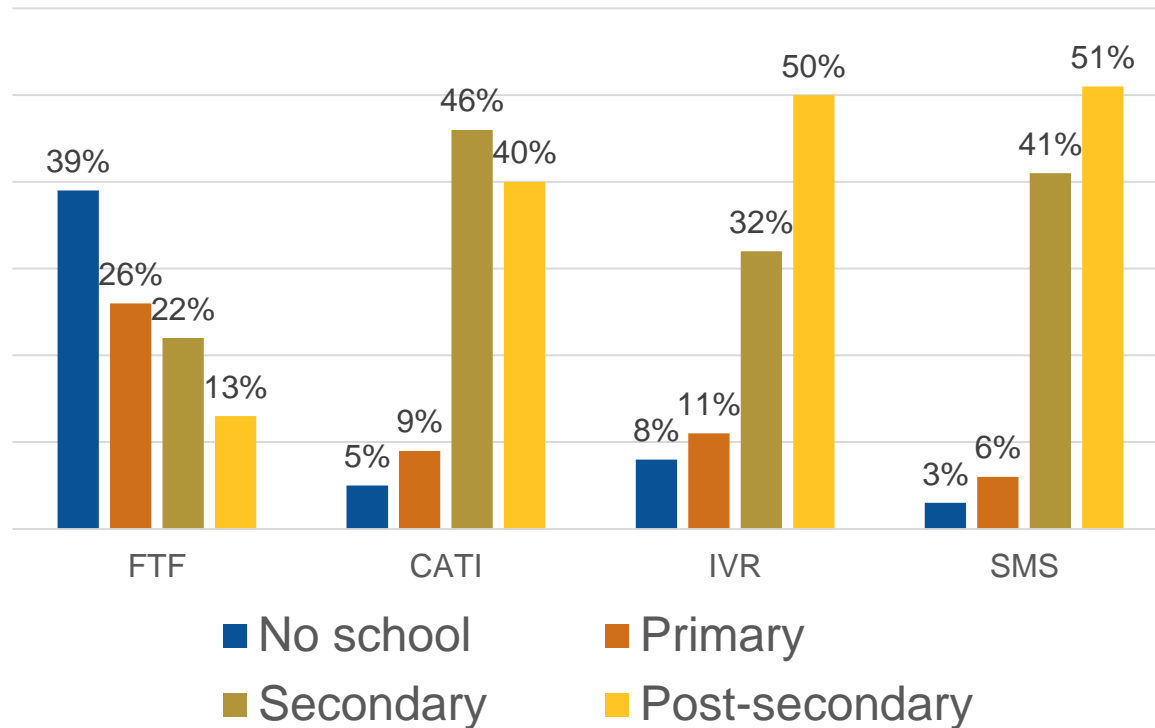


Female by Mode



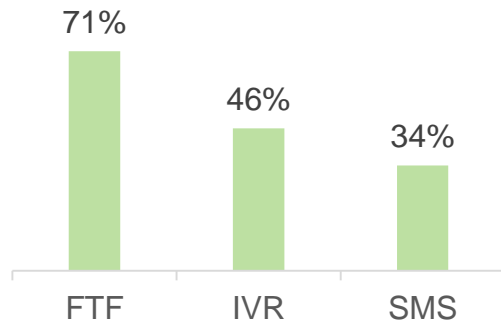
RQ2. Representativeness

Education by Mode

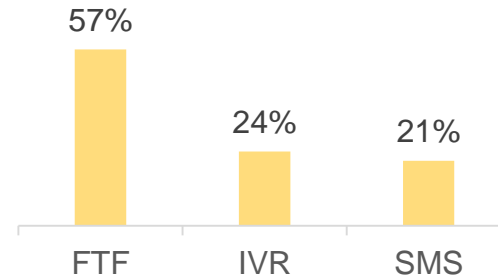


RQ2. Representativeness

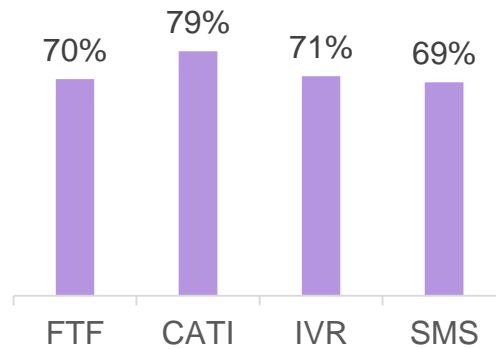
Married by Mode



Village by Mode



Radio by Mode



Data Collection Cost

- In this study, IVR is 32% and SMS is 14% the cost of CATI. However, IVR and SMS had 12 questions, CATI had 85.

Data Collection Time

Data collection days

- CATI: 43 days
- IVR: 42 days
- SMS: 16 days

Completes per day

- CATI: 88
- IVR: 43
- SMS: 172

Discussion

Takeaways

1. CATI, IVR, SMS can't match representativeness of FTF surveys
2. IVR respondents are *slightly* more representative than SMS (age, education, village). But are the small differences worth the cost?
3. CATI has an edge over IVR/SMS (age) .
4. For short, simple surveys, IVR & SMS may be best modes if you're willing to sacrifice a bit of representativeness
5. For complex or larger surveys (questions, N), CATI is your best bet.

Limitations: Nigeria only

More Information

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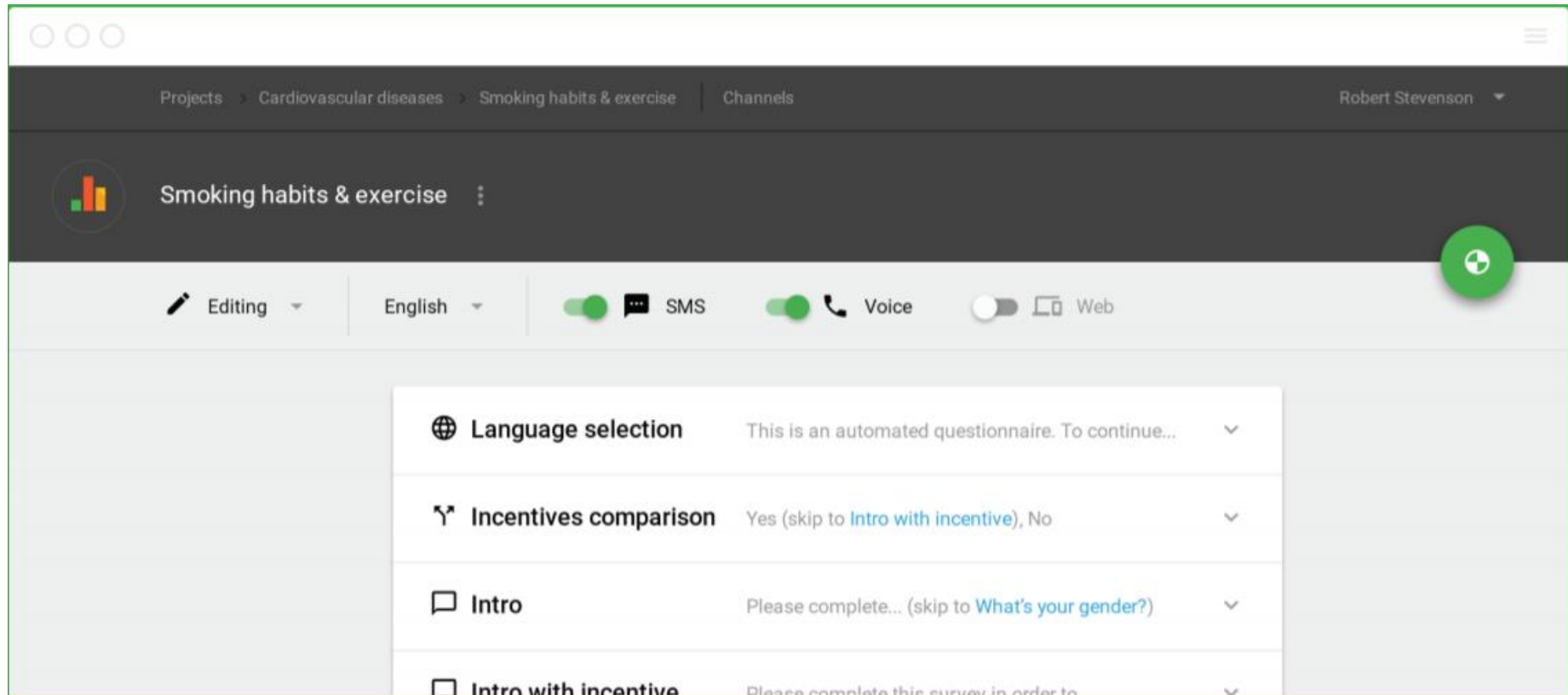
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Tool: *Surveda* for Mixed Mode Surveys

As part of Bloomberg Philanthropies Data for Health project, RTI and InSTEDD have built an open-source survey tool for mixed mode (SMS, IVR, Web) surveys: <https://surveda.instedd.org>



The screenshot displays the Surveda web interface for configuring a survey. The breadcrumb navigation shows the path: Projects > Cardiovascular diseases > Smoking habits & exercise > Channels. The user is identified as Robert Stevenson. The main heading is "Smoking habits & exercise". The interface includes a navigation bar with "Editing" (with a pencil icon), "English" (with a dropdown arrow), and three channel toggles: "SMS" (checked), "Voice" (checked), and "Web" (unchecked). A green circular button with a play icon is visible on the right. A dropdown menu is open, showing the following options:

🌐 Language selection	This is an automated questionnaire. To continue...	▼
🗨️ Incentives comparison	Yes (skip to Intro with incentive), No	▼
🗨️ Intro	Please complete... (skip to What's your gender?)	▼
🗨️ Intro with incentive	Please complete this survey in order to	▼