Evaluation of Integrated SBC in Nigeria

Breakthrough RESEARCH Nigeria
Behavioral Sentinel Surveillance (BSS)
MNCH+N Baseline Results

Webinar Series – 25 June 2020

Dele Abegunde, COP
BR/Nigeria

Shittu Abdu-Aguye
Deputy Project Director
Breakthrough Action / Nigeria

Paul Hutchinson
BR/N, Tulane University
Presentation  Objectives

- To demonstrate how the Behavioral Sentinel Surveillance (BSS) survey can be used for informing BA/N and the wider SBC community
- To provide data for assessing integrated versus vertical SBC programs
- To measure the influence of ideational metrics for maternal, newborn, child health plus nutrition (MNCH+N)
- To demonstrate the potential effectiveness of SBC
- To discuss planning for the future
Breakthrough RESEARCH

- USAID’s flagship project for social and behavior change (SBC) research and evaluation

- Fiveyear project: August 2017 to July 2022

- B-R Nigeria activity start: January 2019
  B-R Nigeria office opened: September 2019

- Close collaboration with sister project Breakthrough ACTION and other IPs
Consortium
Breakthrough RESEARCH will embed rigorous research within a state-of-the-art SBC program in Nigeria led by Breakthrough ACTION

- **Effectiveness evaluation** of integrated versus malaria-only SBC programs, e.g. Behavioral Sentinel Surveillance (BSS) Survey

- **Costing study and cost-effectiveness evaluation** of integrated versus malaria-only SBC programs using BSS results and program cost data

- **Qualitative evaluations** of specific SBC program components, e.g. Sustainability Model
Objective Two - NHPP

- Facilitating Health Promotion interventions to support Government’s efforts aimed at ensuring sustainable healthy behavior, healthy lifestyle and enabling environment etc.

Action Points

- Promoting positive behavioral measures to improve MNCH
- Improving childcare practices which includes uptake of immunization, exclusive breastfeeding and additional or complementary feeding
Breakthrough ACTION in Nigeria

B/A Nigeria Overall Result:
Increase 17 priority health behaviors in the areas of MNCH + Nutrition, Family Planning and Malaria

Intermediate Results

- Determinants of priority health behaviors increased

- SBC coordination and collaboration among USG partners improved

- SBC capacity of public sector entities improved
B-A/N target MNCH+N behaviors

Milestones

**Pre-pregnancy**
- Use a modern contraceptive method, including long-acting reversible contraceptives (LARCs), to avoid pregnancy for at least 24 months after a live birth
- Attend a complete course of ANC
- Take intermittent preventive treatment of malaria (IPTp) during ANC visits

**Pregnancy**
- Attend a health facility for delivery and/or deliver with a skilled attendant
- Provide essential newborn care immediately after birth
- Initiate exclusive breastfeeding within 1 hour after delivery

**Childbirth**
- Breastfeed exclusively for six months after birth

**First 6 months**
- Feed adequate amounts of nutritious, age-appropriate foods to children from 6 to 24 months of age, while continuing to breastfeed

**6 – 24 months**
- Complete full course of timely vaccinations for infants and children under 2 years
- Caregivers provide appropriate treatment for children with diarrhea at onset of symptoms
- Seek prompt and appropriate care for signs and symptoms of malaria
- Accept and adhere to the full course of seasonal malaria chemotherapy for eligible children

**2 - 5 years**
Setting

- **Vertical (Malaria only) SBC approach.** (Zamfara)

- **Integrated SBC approach for family planning, malaria and MNCH+N** (Kebbi/Sokoto)
What is the BSS and why is it important?
<table>
<thead>
<tr>
<th>Study population</th>
<th>Pregnant women and women with under-2s living within BA/N program areas in Zamfara, Kebbi &amp; Sokoto states ( \textit{(not representative at state level)} )</th>
</tr>
</thead>
</table>
| Study design     | Cross-sectional and cohort components
Quasi-experimental and dose-response designs |
| Sample size      | 3,032 pregnant women
3,043 women with a child under 2 years |
| Sampling method  | 108 wards across Zamfara, Kebbi & Sokoto; Census of pregnant women and random selection of women with children under 2 years |
| Data analysis    | Univariate & bivariate analysis
Mixed-effects logistic regression models |
Why is the BSS a rich source of data?

• Develops and quantifies metrics for testing the ideational model of behavior change upon which all BA/N activities are built
• Tracks priority indicators over the life of BA/N in both integrated and vertical programming states
• Quantifies the magnitude of effects of key barriers and influencers identified through prior literature and formative work in northwestern Nigeria
## Priority Programmatic Questions

<table>
<thead>
<tr>
<th>Section</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Use of services</strong></td>
<td>How frequently are respondents practicing the health behaviors that are being promoted? Are they aware of the health behaviors, e.g., how to prevent or treat certain diseases?</td>
</tr>
<tr>
<td><strong>2. Myths</strong></td>
<td>Are certain myths or beliefs held by respondents that could impede progress across health areas?</td>
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<tr>
<td><strong>3. Barriers</strong></td>
<td>How do respondents view health services in their communities and what are their main reasons for choosing certain treatment locations or for not seeking care at all? What types of difficulties, if any, have they had accessing services?</td>
</tr>
<tr>
<td><strong>4. Decision-making</strong></td>
<td>How do health decisions get made in the household? Who mainly influences decisions and practices across health areas? How much autonomy or influence do respondents have in making family health decisions?</td>
</tr>
<tr>
<td><strong>5. Ideational Influences</strong></td>
<td>How important are the individual components of the ideational framework? What areas should BA be targeting to maximize impact?</td>
</tr>
<tr>
<td><strong>6. Potential for Impact</strong></td>
<td>What can BA achieve? How does eliminating barriers enhance behaviors?</td>
</tr>
</tbody>
</table>
Theory of Strategic Communication and Behavior Change

- Survey questions were intended to measure constructs of these domains for MNCH+N, FP and malaria
- Questionnaire was developed jointly with BA/N
Vaccination ideational metrics

Adapted WHO vaccine hesitancy metrics for northwestern Nigeria

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Domain</th>
<th>Likert-scale statement or question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>Knowledge</td>
<td>At what age should a child go for his/her first routine vaccination?</td>
</tr>
<tr>
<td></td>
<td>Beliefs about vaccine safety and efficacy</td>
<td>In your opinion, how effective are childhood vaccines?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Many of the illnesses that vaccines prevent are severe</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vaccines have chemicals that can be dangerous to a child’s health</td>
</tr>
<tr>
<td></td>
<td>Beliefs about health services</td>
<td>Immunization services in my community are free</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Most people in my community trust health workers who provide immunization services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Health facilities in my community frequently have the vaccine you need and when you need it</td>
</tr>
<tr>
<td>Emotional</td>
<td>Self-efficacy</td>
<td>I am confident that I know where and when to get my child vaccinated</td>
</tr>
<tr>
<td>Social</td>
<td>Social influence</td>
<td>Besides yourself, who else may influence your decision to get a child vaccinated?</td>
</tr>
<tr>
<td></td>
<td>Norms</td>
<td>Most parents in my community take their children to the facility for routine immunization</td>
</tr>
<tr>
<td>Intentions</td>
<td>Intentions</td>
<td>If you had another infant today, how likely is it that you would make sure he/she received all of his/her recommended vaccines?</td>
</tr>
</tbody>
</table>

Main references:
HIGHLIGHTS

- Describes the theory, rationale and study methods
- Summarizes all indicators (~500) by state (Kebbi, Sokoto, Zamfara)
- Estimates all NDHS MNCH+N, FP and malaria indicators for these three states
1. Use of Services
Basic Findings

Modern Contraceptive Use

- Kebbi: 9.1
- Sokoto: 11.9
- Zamfara: 15.2

At Least 4 ANC Visits

- Kebbi: 23.5
- Sokoto: 16.9
- Zamfara: 26.1

Facility Delivery

- Kebbi: 14.8
- Sokoto: 13.8
- Zamfara: 16.3

Post-partum Care

- Kebbi: 18.2
- Sokoto: 22.2
- Zamfara: 33.1

IPTp

- Kebbi: 23.7
- Sokoto: 14.9
- Zamfara: 19.6

Fully Immunized (12-23 months)

- Kebbi: 3.6
- Sokoto: 4.5
- Zamfara: 7.7

Integrated
Vertical (Malaria only)
MNCH +N behavioral patterns

ANC4+
High variation even within states

VACCINATION
(very low rates across the 3 states)

EXCLUSIVE BREASTFEEDING
(clustering in southwest Kebbi)
MNCH +N behavioral patterns (Contd.)

FACILITY DELIVERY
(High variation: 5.1% poorest vs. 39.0% richest)

DIARRHEA FORMAL CARESEEKING
(despite relatively high formal care-seeking…)

DIARRHEA ORS/ZINC USE
(…lower and more variable ORS/zinc use)
Common practices hold back progress …

Overall, less than 1/3 discussed a birth plan during ANC.

About 3 of 5 gave non-breastmilk liquids to their newborns in the first 3 days after birth.

Nearly half who sought any care for pediatric symptoms went to a pharmacy.
Pregnancy-related care by wealth quintile

The poor are many times less likely to use services than the non-poor.
2. Myths
Myths persist across health areas...

54% believe (or were unsure) if vaccines have chemicals that are dangerous to a child’s health.

52% believe only weak children die of pneumonia.

40% believe only sick pregnant women need ANC.

23% believe colostrum is bad milk.
3. Barriers & Influencers
What are top reasons for choice of care?

- Trust is high across all providers
- Location matters for lower-level care
- Price is not a major concern
- Government is chosen when drug availability matters
What are the top reasons for non-use?

- **Lack of perceived need** -- main reason across MNCH+N areas especially ANC and facility delivery
- **Spousal opposition** – main reason for MNCH+N behaviors except childhood illness care-seeking
- **Costs too much** – main reason for childhood illnesses but not other MNCH+N behaviors

<table>
<thead>
<tr>
<th>Among respondents not doing MNCH+N behavior, reasons cited for not doing so?</th>
<th>Family Planning</th>
<th>Antenatal care</th>
<th>Facility delivery</th>
<th>Vaccination</th>
<th>Exclusive breastfeeding</th>
<th>Diarrhea care-seeking</th>
<th>ARI care-seeking</th>
<th>Fever care-seeking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not necessary</td>
<td>41.6</td>
<td>66.9</td>
<td>--</td>
<td>21.2</td>
<td>24.8**</td>
<td>25.4</td>
<td>20.7**</td>
<td></td>
</tr>
<tr>
<td>Spousal opposition</td>
<td>21.1</td>
<td>25.3</td>
<td>27.3*</td>
<td>32.9</td>
<td>33.5</td>
<td>2.7</td>
<td>9.9</td>
<td>10.0</td>
</tr>
<tr>
<td>Costs too much</td>
<td>0.5</td>
<td>6.7</td>
<td>5.0</td>
<td>5.5</td>
<td>--</td>
<td>31.6</td>
<td>32.6</td>
<td>31.1</td>
</tr>
<tr>
<td>Fatalism (“Up to God”)</td>
<td>24.7</td>
<td>20.3</td>
<td>--</td>
<td>--</td>
<td>12.4</td>
<td>28.9</td>
<td>14.6</td>
<td>33.2</td>
</tr>
<tr>
<td>Facility distance</td>
<td>0.4</td>
<td>8.0</td>
<td>5.8</td>
<td>14.0</td>
<td>--</td>
<td>5.5</td>
<td>1.0</td>
<td>3.3</td>
</tr>
</tbody>
</table>

*Husband or family  **Not severe/home care
4. Decision-making
Husbands significantly affect the use of most services.
Husbands influence greatest on child-related care.
Women whose spouses supported the decision to use services were:

- **1.4x** more likely to have their child vaccinated against measles
- **1.6x** more likely to have their child get 3 doses of DPT vaccine
- **1.2x** more likely to attend ANC4+
- **1.6x** more likely to give birth in a health facility

* Differences in likelihood are statistically significant at <0.05 level in multivariate regression analysis
How important are contraceptive discussions with husbands?

“Have you ever talked with your husband about using modern contraception?”

- Women who have ever spoken with their husband about FP are 11 times more likely to currently be using modern contraception.*
- They are more than 5 times more likely to say that they intend to start using FP
- They are 50% more likely to indicate that they will continue using FP in the next 6 months

* Differences in likelihood are statistically significant at <.001 level in multivariate regression analysis.
5. Ideational Influences
Multivariate analysis

- Mixed effects logistic regressions examined the independent effects of ideational factors on key MNCH+N behaviors.

- Regression models control for age, education of mother and father, wealth quintile, occupations, state.

- These models allow us to demonstrate how much more likely a behavior is if a respondent holds a specific ideational characteristic.
Percentage of women likely to attend ANC4+, by ideations

Knowledge: Women who reported any ANC benefit to herself were 3.2x as likely to attend ANC4+

Self-efficacy: Women who had confidence to get to a facility for ANC were 2.5x as likely to attend ANC4+

Beliefs: Women who agreed that attending ANC 4+ times during pregnancy leads to safer pregnancies were 1.3x as likely to attend ANC4+

*Differences in likelihood are statistically significant at <0.05 level in multivariate regression analysis*
**Self-efficacy:** Women who had confidence to get to a facility for delivery were **3.4x** as likely to give birth there.

**Beliefs:** Women believed that the facility was the best place to deliver a baby were **2.6x** as likely to give birth there.

* Differences in likelihood are statistically significant at <0.05 level in multivariate regression analysis.
6. Potential for Impact
By how much would ANC4+ use increase if SBC programs created “perfect knowledge” and “perfect ideation” (all significant ideations reached 100%)?

In the absence of other changes, ANC4+ use could double from 23% to 55% with ‘perfect ideation’. The lowest quintile would have the greatest increase.
How much could SBC increase facility delivery?

By how much would facility delivery increase if SBC programs created ‘perfect ideation’ (all significant ideations reached 100%)?

In the absence of other changes, facility deliveries could rise from 16% to 37% with ‘perfect ideation’. The greatest increases would occur in the lowest quintile.
SBC program implications
Findings that inform SBC programs in Nigeria

• Outcomes are low among most women but even lower among the poorest and least educated.
• Husbands play an important role in decision-making across health areas; Robust evidence about male ideations/behaviors and their changes over time is critical to understanding behavioral models.
• There is a clear need to address misconceptions that hold back progress.
• Women value convenient, trusted and effective care in choosing treatment location, underscoring the need to improve health services quality.
Implications of ideation analyses

• Evidence from the baseline suggests that improving an array of ideational factors will have a large impact on ANC, facility delivery, and other health behaviors.

• There is a need for conjoined efforts to improve healthcare quality and perceptions of healthcare quality:
  • Technical, structural and process indicators of quality (Hutchinson, Do and Agha 2011)

• Awareness / beliefs about treatment efficacy are priorities.

• Inaccurate risk perceptions about illness severity and susceptibility lead to underuse of services.
What’s next?
Next and ongoing steps

Disseminate BSS findings via webinars (May to September 2020)

Conduct in-depth analyses to inform SBC program (Ongoing)

- Examining associations between ideations and behaviors for MNCH+N, malaria and family planning; preparing research briefs, slide decks and manuscripts
- Other program-relevant analyses, e.g. income inequalities, spousal communication, differences between doers and non-doers

Prepare for midline BSS survey
Future work

- BSS baseline is the first phase in assessing the effectiveness of integrated malariaonly SBC programs
- BSS will also contribute to cost-effectiveness analysis of integrated vs. malariaonly SBC programs
- BSS will also be linked to program monitoring data to examine localized impacts, e.g. HC3 program impact on family planning behaviors, ideation
- BSS could be linked to health facility datasets to examine demand and supply-side factors in health services use
Project Team

Paul L. Hutchinson, Tulane University (PI)
Paul C. Hewett, Population Council (co-PI)
Emily White Johansson, BR Nigeria/Tulane
Elizabeth Omoluabi, CRERD
Akanni Akenyemi, CRERD

Dele Abegunde, BR Nigeria/Population Council
Dominique Meekers, Tulane University
Udochisom Anaba, BR Nigeria/Tulane
Stella Babalola, Johns Hopkins University

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Ian Tweedie, BA Nigeria
Mathew Okoh, BA Nigeria
Shittu Abdu-Aguye, BA Nigeria
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ABOUT BREAKTHROUGH ACTION + RESEARCH

Breakthrough ACTION and Breakthrough RESEARCH are USAID’s flagship programs for social and behavior change working to increase the practices of priority health behaviors for improved health and development outcomes.

https://breakthroughactionandresearch.org/