Psychosocial influences on pregnancy and childbirth in Sokoto, Kebbi and Zamfara States

Breakthrough RESEARCH Nigeria

Behavioral Sentinel Surveillance (BSS)

Key Baseline Results

Webinar Series – June 2020

Pregnancy and Childbirth

USAID FROM THE AMERICAN PEOPLE

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Breakthrough RESEARCH FOR SOCIAL & BEHAVIOR CHANGE

Webinar overview

- About Breakthrough RESEARCH
- What is the Behavioral Sentinel Surveillance (BSS) survey?
- Focus on pregnancy and childbirth
  - How did formative research inform the BSS survey?
  - New ideational metrics
  - Key BSS findings
  - SBC program implications
- Future work

About Breakthrough RESEARCH

Breakthrough RESEARCH

- USAID's flagship project for social and behavior change (SBC) research and evaluation
- Five-year 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


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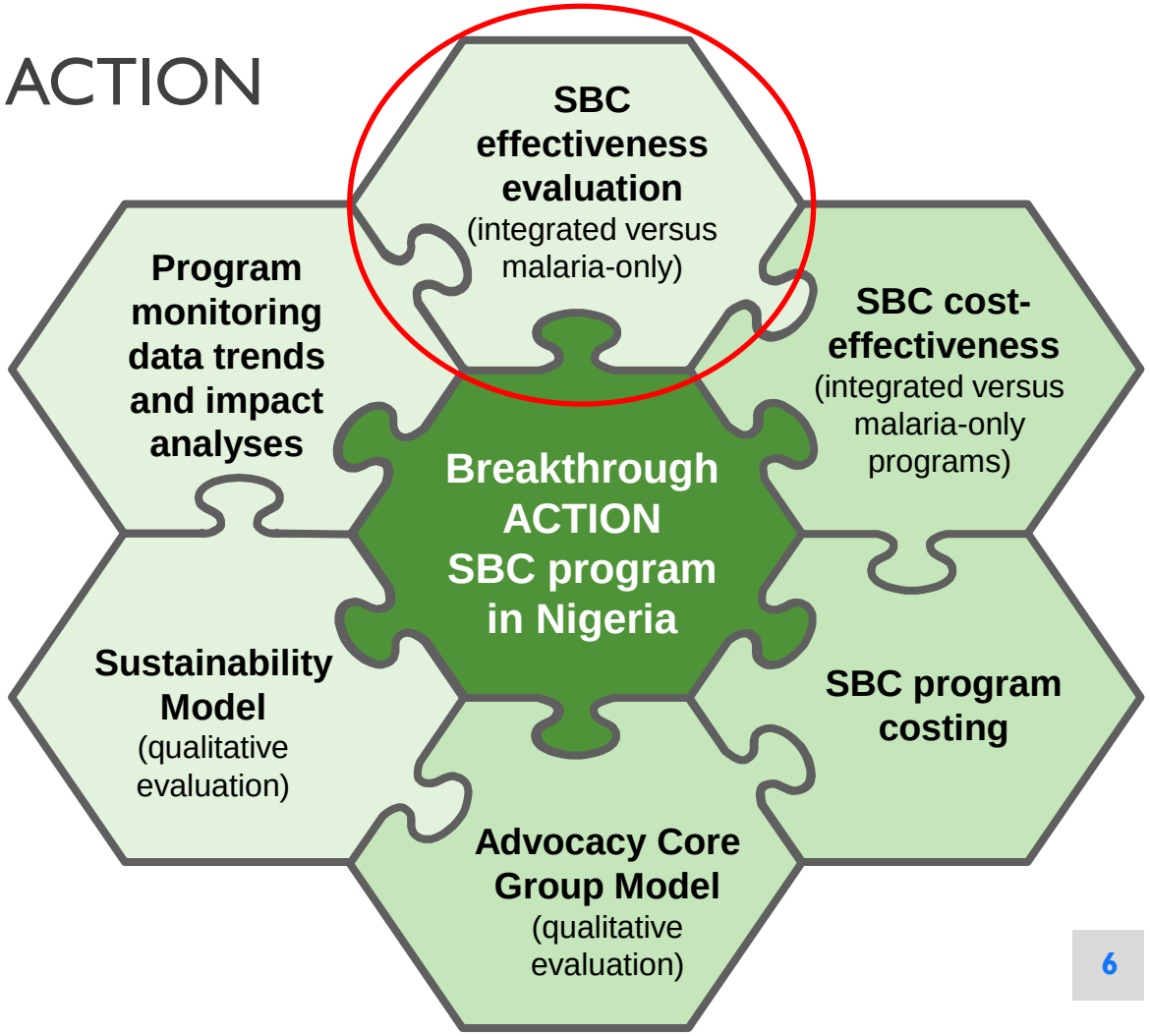
Breakthrough RESEARCH in Nigeria

Breakthrough RESEARCH will embed rigorous research within a state-of-the-art SBC program in Nigeria led by Breakthrough ACTION

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



Breakthrough ACTION in Nigeria

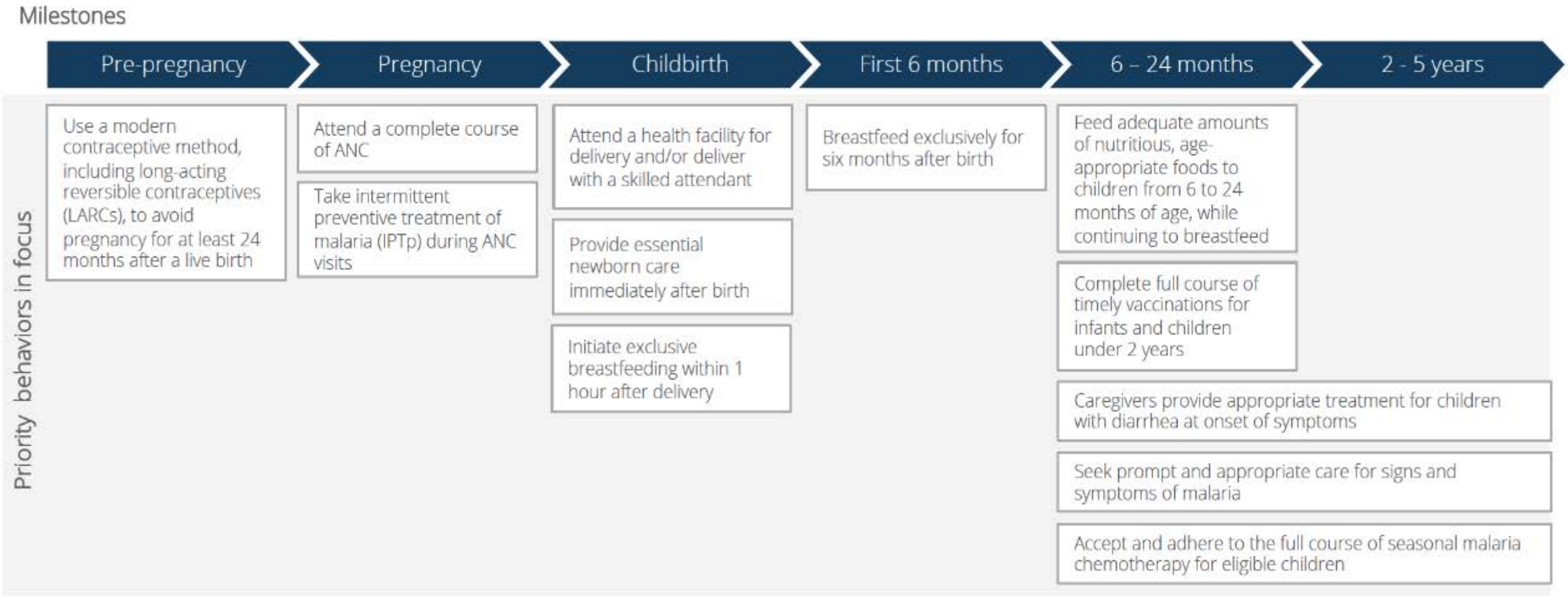
Overall Result

- Increase 17 priority health behaviors in the areas of maternal, newborn, and child health plus nutrition (MNCH+N), family planning and malaria

Intermediate Results

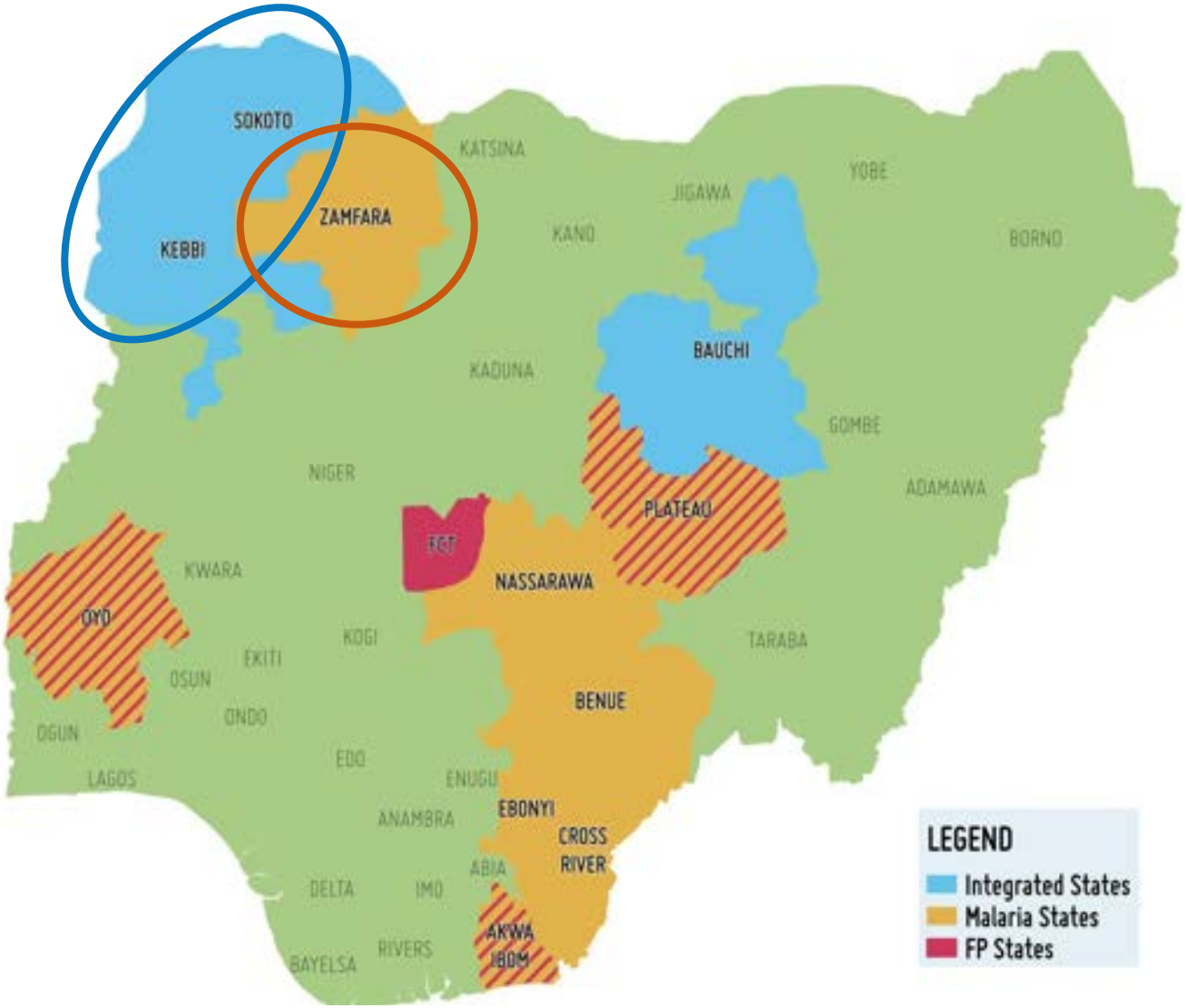
- Determinants of priority health behaviors increased
- SBC coordination and collaboration among USG partners improved
- SBC capacity of public sector entities improved

Priority behaviors targeted by integrated SBC



Where do we work in Nigeria?

- Breakthrough ACTION implements SBC programs in 11 States and FCT
- Integrated SBC for malaria, family planning and MNCH+N in 3 states; vertical SBC programs in other states
- Breakthrough RESEARCH will implement the effectiveness study in Kebbi and Sokoto (integrated) and Zamfara (malaria-only)



What is the Behavioral Sentinel Surveillance (BSS) Survey?

BSS objectives

- Assess the effectiveness of integrated versus malaria-only SBC approaches on malaria, family planning and MNCH+N behaviors and ideations
- Measure changes in key behaviors and ideations across malaria, family planning, and MNCH+N at baseline, midline and endline periods
- Contribute to the overall cost-effectiveness analysis of integrated versus malaria-only SBC approaches

What does the BSS measure?

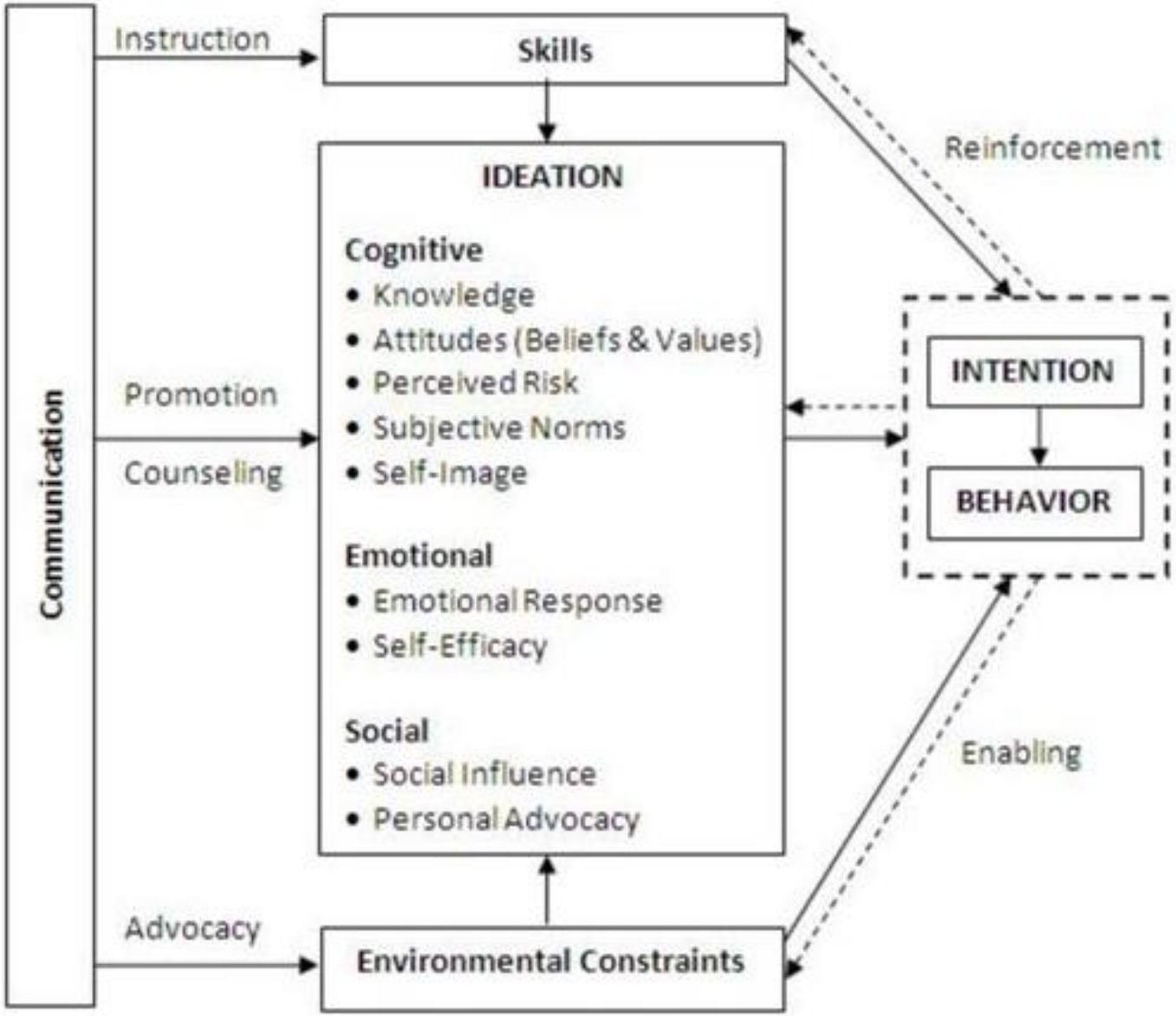
- BSS tracks a cohort of women and their newborns during their 1,000 day window of opportunity over the course of the SBC program cycle

- BSS measures priority behavioral outcomes including:

  Malaria *(LLIN use, IPTp, fever treatment/diagnosis);* ***family planning*** *(modern contraceptive use, postpartum family planning);* ***MNCH+N*** *(ANC, facility-based delivery, newborn and postpartum care, routine immunization, breastfeeding/nutrition, childhood illness care-seeking and treatment)*

- BSS measures psychosocial influences or ideations – cognitive, emotional, social – theorized as intermediate determinants of behavioral outcomes

Kincaid's Theory of Strategic Communication and Behavior Change



Kincaid DL, Delate R, Storey JD & Figueroa ME. (2013). Closing the Gaps in Practice and in Theory: Evaluation of the Scrutinize HIV Campaign in South Africa. In Rice R & Atkin C. Public Communication Campaigns, 4th Ed. Newbury Park, CA: Sage, pp. 305-319.

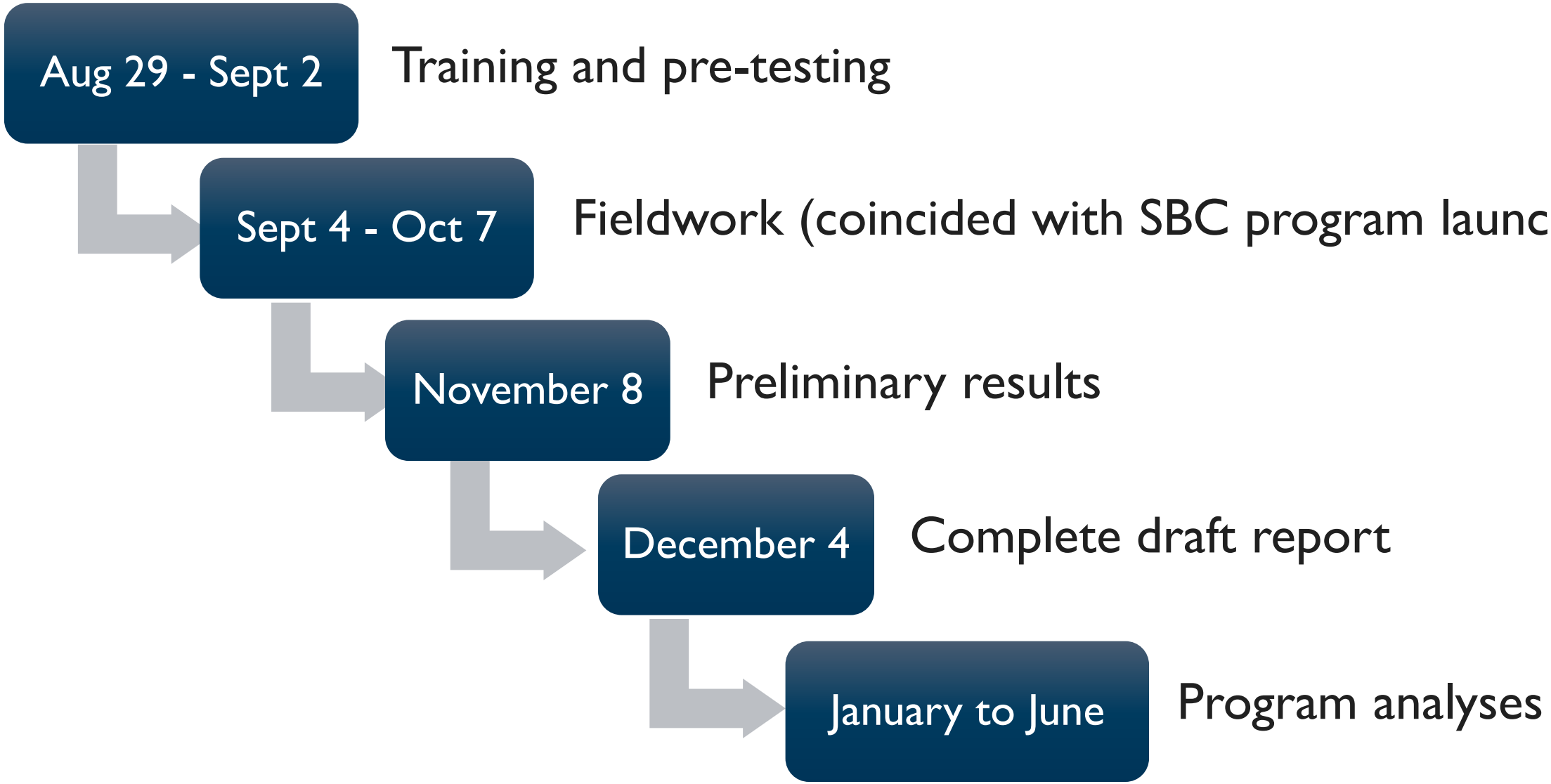
Why is the BSS important?

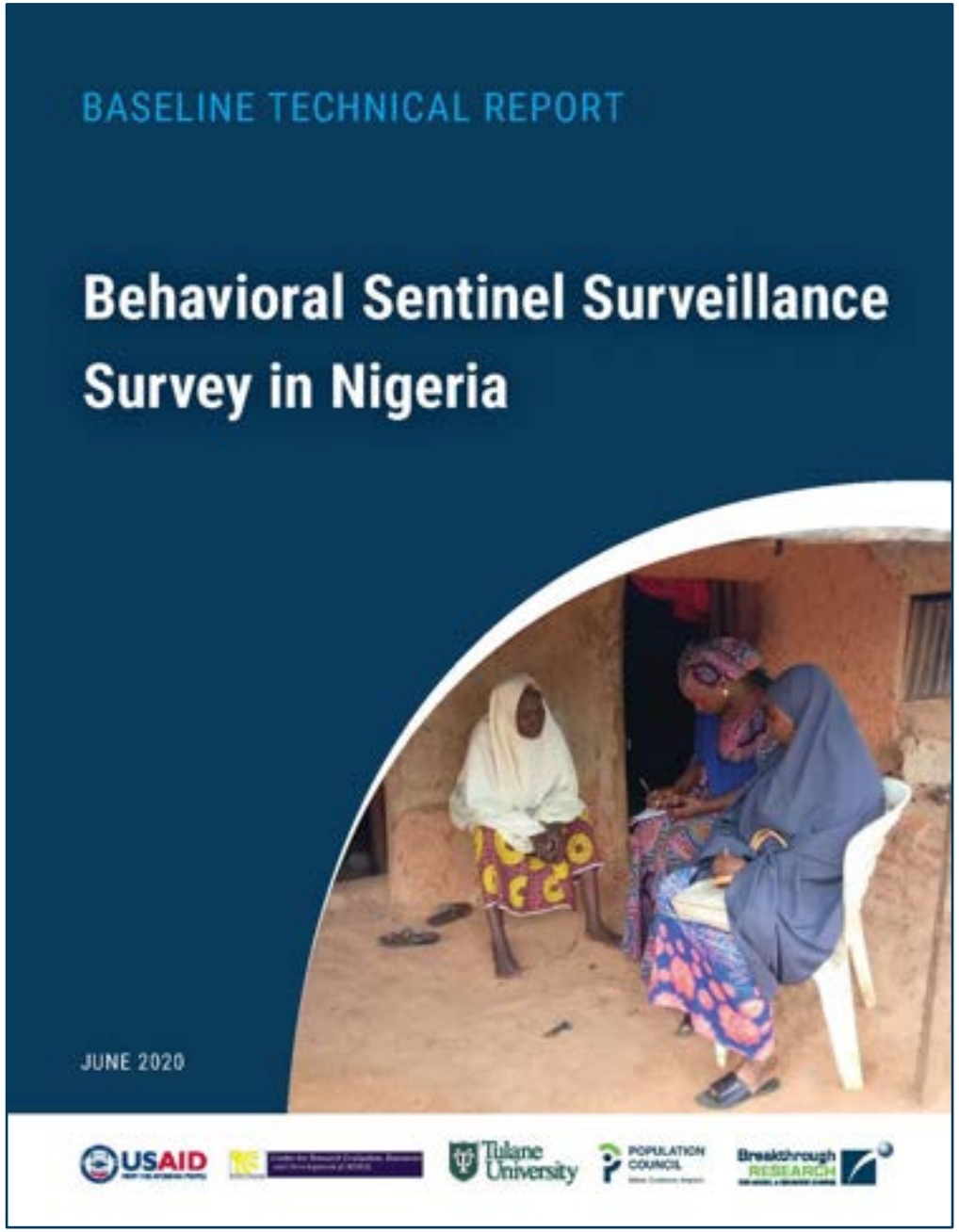
- Generate robust evidence on behaviors and ideations to inform SBC program adaption and scale-up over the full program period
- Develop and collect new MNCH+N ideational metrics to inform both local programs and the global SBC community
- Quantify new ideational metrics for testing behavioral change theories
- Identify the most important ideations, or behavioral determinants, that SBC programs must address to improve health outcomes

BSS design

Study population	Pregnant women and women with a child under 2 years living within Breakthrough ACTION program areas in the 3 states *(not representative at state level)*
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 three states; census of pregnant women and random selection of women with children under 2 years
Data analysis	Predicted probabilities of outcomes were derived using mixed-effects logistic regression models adjusted for ideational and sociodemographic variables: wealth, age, education and employment (respondent and spouse)

BSS timeline





Highlights

- Describes theory, rationale and study methods
- Summarizes results for ~500 questions by state (Kebbi, Sokoto and Zamfara)
- Estimates standard DHS indicators by state across malaria, family planning and MNCH+N
- Presents new ideational metrics by state across malaria, family planning and MNCH+N

Pregnancy and childbirth:
Formative work and literature reviews

How did formative research inform the BSS?

- Breakthrough ACTION conducted formative research and literature reviews to inform SBC programs in Nigeria
- Breakthrough RESEARCH used this to inform BSS ideational questions including:
  - **Reasons for non-use of maternal health services, e.g.** lack of perceived need, customs, distance, cost, spousal disapproval, lack permission, no female provider, family influence or advice
  - **ANC perceptions**, e.g. ANC is only needed for sick women; special treatment during pregnancy is viewed as a humiliation or a show of weakness
  - **Facility delivery perceptions**, e.g. women only give birth in facilities if complications occur; home birth is viewed as easier and more comfortable

Pregnancy and childbirth:
New ideational metrics

Innovative MNCH+N ideational metrics

- Limited ideational research for MNCH+N in contrast to FP and malaria
- Need to develop new MNCH+N ideational questions for BSS
- New metrics developed using theory-based design, and by adapting ideational questions used in other settings or other health areas
- BSS ideational questions were reviewed by B-A, USAID and other experts
- BSS asked a limited set of ideational questions within each health area

Pregnancy and childbirth metrics

No previous research - used theory-based design and applied ideational questions from other health areas, e.g. malaria, vaccination, family planning

Dimension	Domain	Likert-scale statement or question
Cognitive	Knowledge	In your opinion, when should a woman go to antenatal care for the first time?
		How many times should a women receive a check-up during pregnancy?
		In your opinion, if a pregnant woman goes to antenatal care at a health facility what are the benefits to herself?
	Beliefs about pregnancy and childbirth	Pregnant women attending go to a facility for at least 4 antenatal care visits have safer pregnancies and healthier children
		Pregnant women only need antenatal care when they are sick
		Only women who are pregnant for the first time need antenatal care
	Beliefs about health services	It is better to use traditional healthcare during pregnancy than go to a health facility for antenatal care
		The health facility is the best place to delivery a baby

Main reference: *No previous research on pregnancy and childbirth ideations from LMICs*

Pregnancy and childbirth metrics (continued…)

No previous research - used theory-based design and applied ideational questions from other health areas, e.g. malaria, vaccination, family planning

Dimension	Domain	Likert-scale statement or question
Emotional	Self-efficacy	How confident are you that you could get to a health facility for antenatal care? How confident are you that you could get to a health facility for delivery?
		How confident are you to start a conversation with your husband about attending antenatal care at a facility? How confident are you to start a conversation with your husband about giving birth in a health facility?
Social	Social influence	Besides yourself, who else may influence your decision to go to at least 4 ANC visits during pregnancy? Besides yourself, who else may influence your decision to give birth in a health facility?
	Norms	It is important for a woman to discuss her pregnancy with her husband so they make decisions together
Intentions	Intentions	For your next pregnancy, how likely are you to go to at least 4 antenatal care visits at a health facility? For your next pregnancy, how likely are you to deliver in a health facility?

Main reference:
No previous research on pregnancy and childbirth ideations in LMICs

Pregnancy and childbirth:
Key findings

Key findings by SBC program priorities

1. Behavioral patterns

How frequently do respondents practice the promoted health behaviors? What are the key behavioral patterns by geography or sociodemographic characteristics?

2. Knowledge and Beliefs

Are respondents aware of promoted health behaviors, e.g. how to prevent disease? Are certain beliefs held by respondents that could impede progress?

3. Barriers

How do respondents view health services in their communities? What are the main reasons for choosing certain treatment locations or for not using services at all?

4. Social Influence and Decision-Making

How do health decisions get made in households? Who mainly influences women's healthcare practices?

5. Ideational Relationships

How important are the individual components of behavioral change frameworks? What ideations should SBC programs target to maximize impact?

6. SBC Program Potential

What is the potential impact of SBC programs to spur behavior change? How does eliminating barriers enhance uptake of behaviors?

I. Behavioral patterns

ANC4+

Women 15-49 years with a child under two years who attended ANC 4+ times in last pregnancy, at least once with skilled provider	*Kebbi*		*Sokoto*		**Malaria-Only (Zamfara)**		**Integrated (Kebbi/Sokoto)**	
	%	*N*	*%*	*N*	**%**	**N**	**%**	**N**
Total	*23.5*	*887*	*16.9*	*1,069*	**26.1**	**1,069**	**19.7**	**1,971**
Household wealth quintile								
Lowest	*12.1*	*263*	*6.2*	*341*	**5.9**	**111**	**8.5**	**606**
Highest	*39.1*	*166*	*43.7*	*148*	**56.8**	**304**	**41.4**	**318**
Maternal education, highest level attended								
None	*17.6*	*670*	*14.7*	*853*	**17.6**	**698**	**15.9**	**1,530**
Secondary or higher	*53.2*	*95*	*53.2*	*53*	**67.7**	**180**	**53.2**	**155**

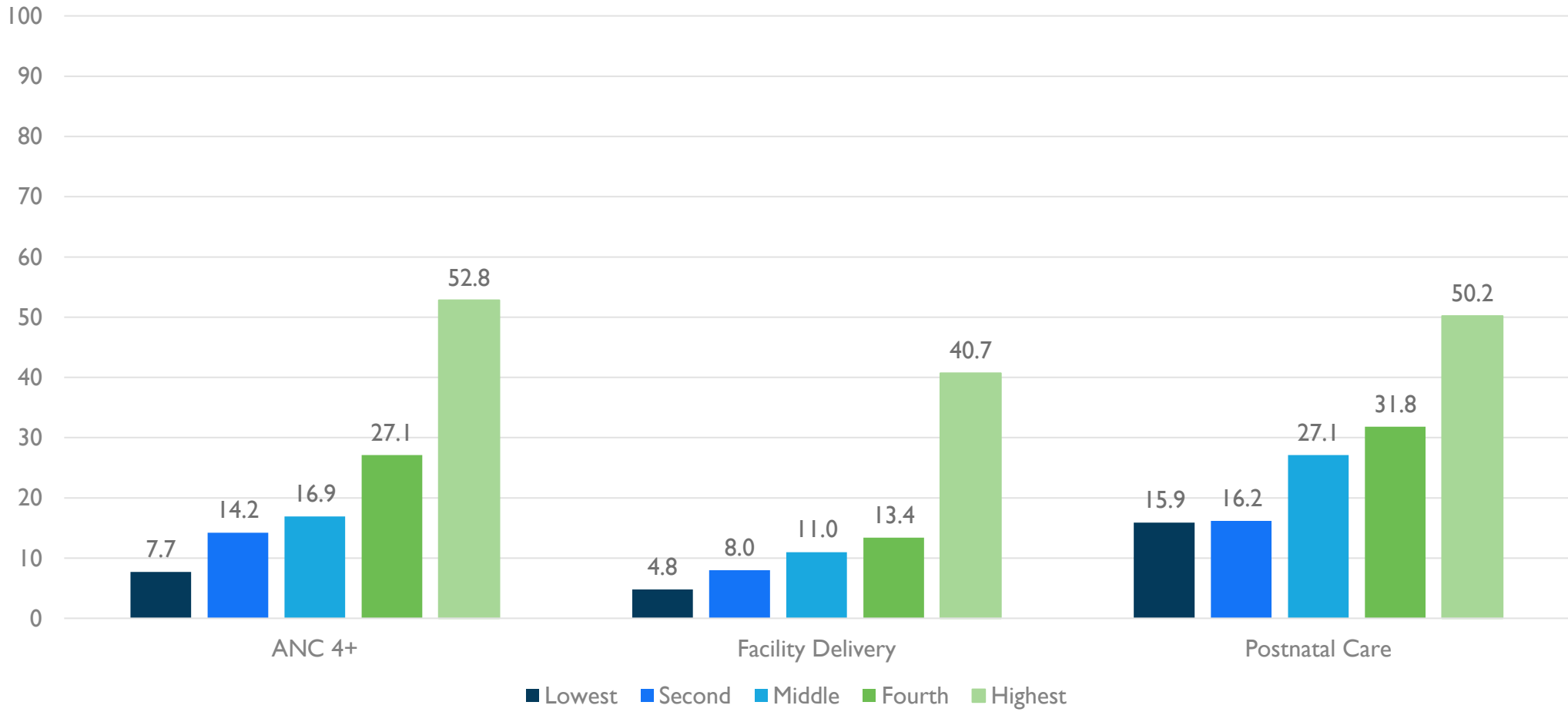
Facility delivery

Women 15-49 years with a child under two years who delivered in a health facility during the last completed pregnancy	*Kebbi*		*Sokoto*		**Malaria-Only (Zamfara)**		**Integrated (Kebbi/Sokoto)**	
	%	*N*	%	*N*	%	**N**	%	**N**
Total	*14.8*	*892*	*13.8*	*1,078*	**16.3**	**1,069**	**14.2**	**1,971**
Household wealth quintile								
Lowest	*5.7*	*264*	*5.3*	*341*	**3.5**	**111**	**5.4**	**606**
Highest	*29.5*	*166*	*42.1*	*153*	**42.5**	**304**	**35.6**	**318**
Maternal education, highest level attended								
None	*8.8*	*675*	*10.3*	*855*	**9.0**	**698**	**9.7**	**1,530**
Secondary or higher	*40.5*	*95*	*68.1*	*60*	**54.4**	**180**	**50.4**	**155**

Pregnancy-related care by wealth quintile

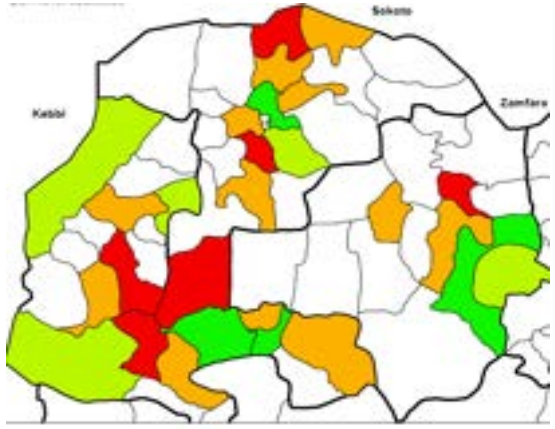
The richest quintile is more than 2x as likely to use services as the next highest quintile …

and over 7x as likely as the poorest quintile

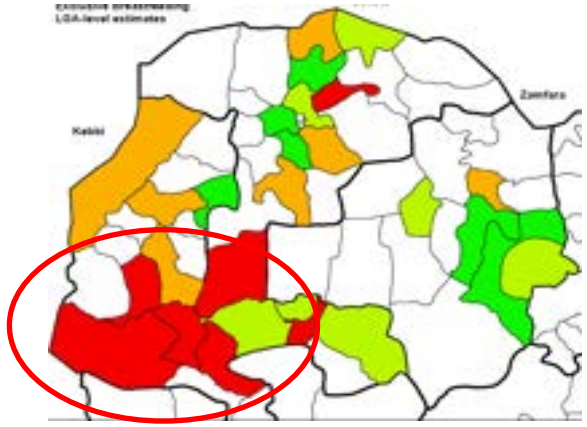


MNCH+N behavioral patterns

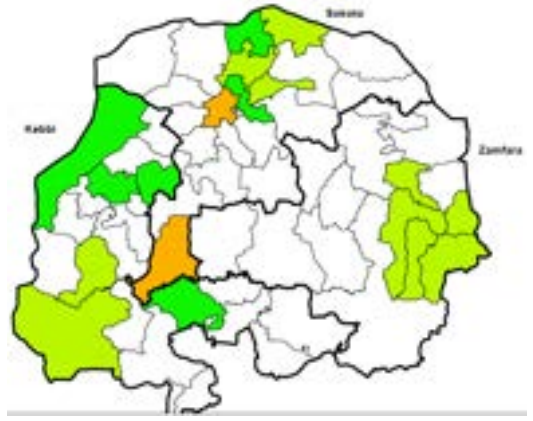
ANC4+
(High variation: 8% poorest vs. 53% richest)



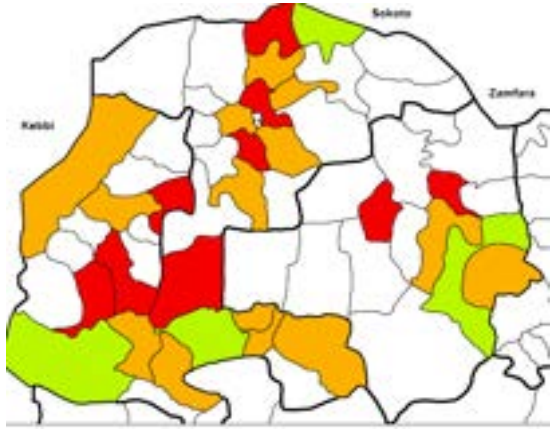
EXCLUSIVE BREASTFEEDING
(clustering in southwest Kebbi)

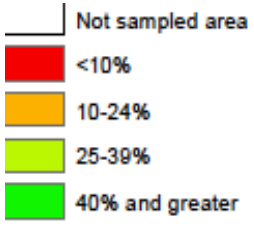


DIARRHEA FORMAL CARESEEKING
(despite relatively high formal care-seeking…

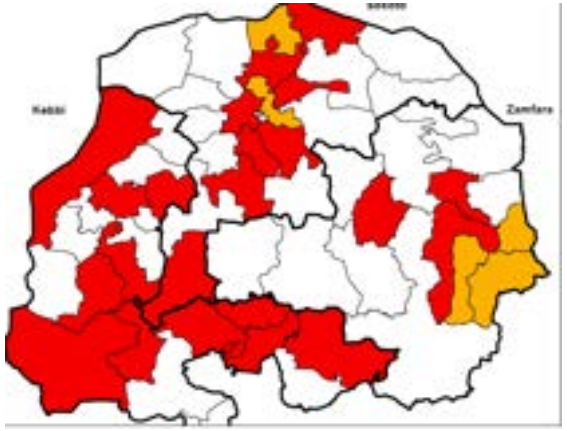


FACILITY DELIVERY
(High variation: 5% poorest vs. 41% richest)

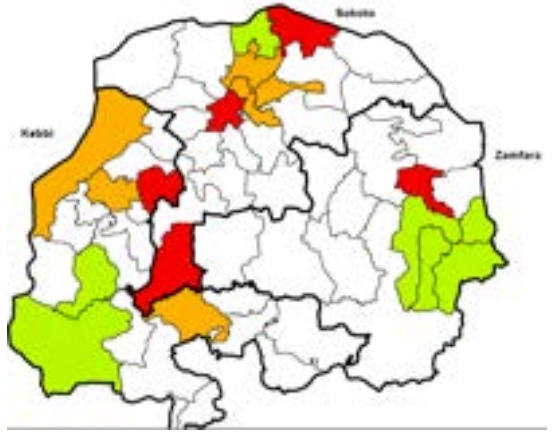




FULLY VACCINATED RATES
(very low rates across the 3 states)



DIARRHEA ORS/ZINC USE
(…lower and more variable ORS/zinc use)

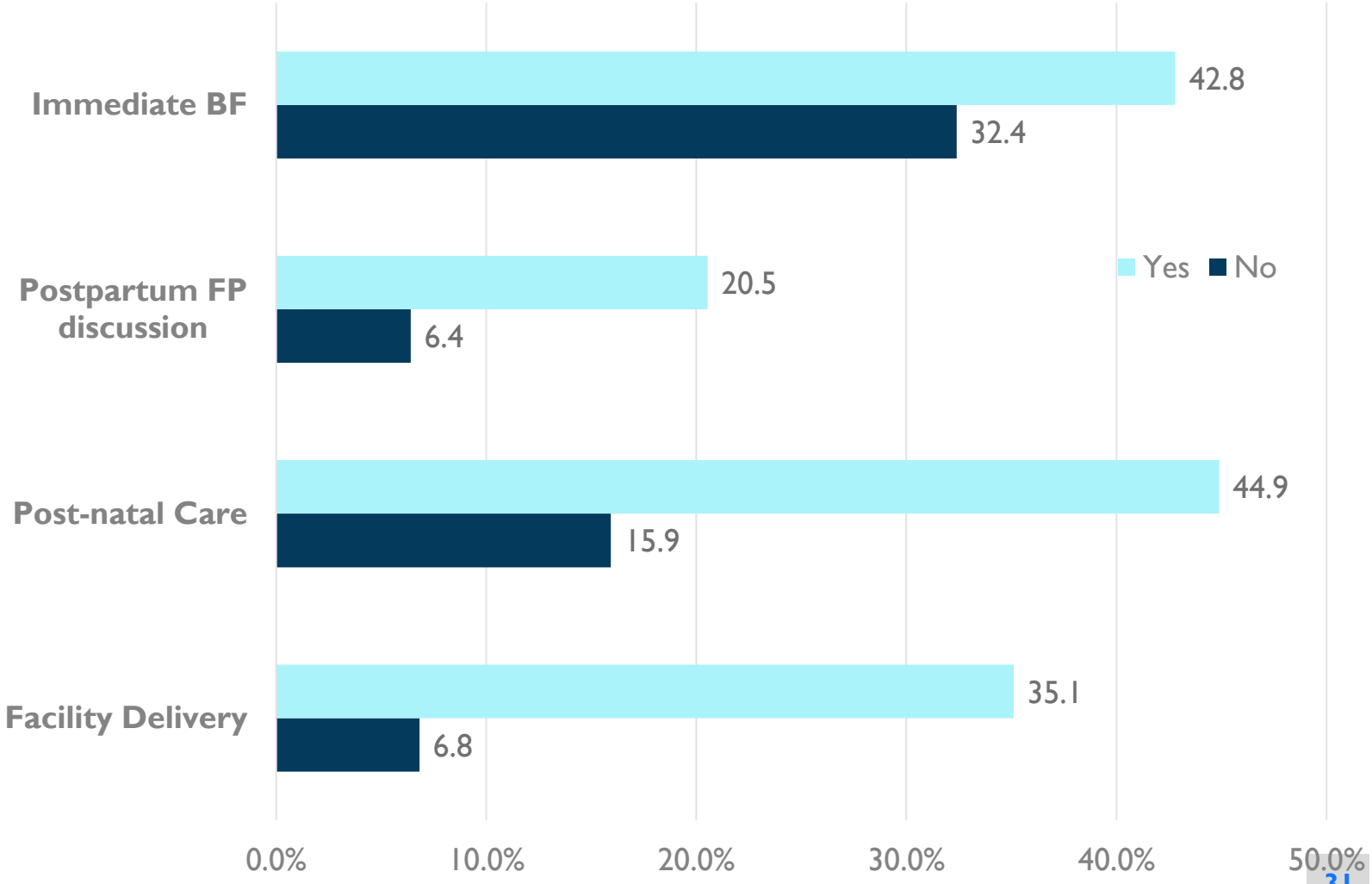


Is ANC a gateway for downstream MNCH+N?

Women who attend ANC at least one time are more likely to practice other MNCH+N behaviors than non-ANC users

ANC as a "gateway moment" for other MNCH+N outcomes –

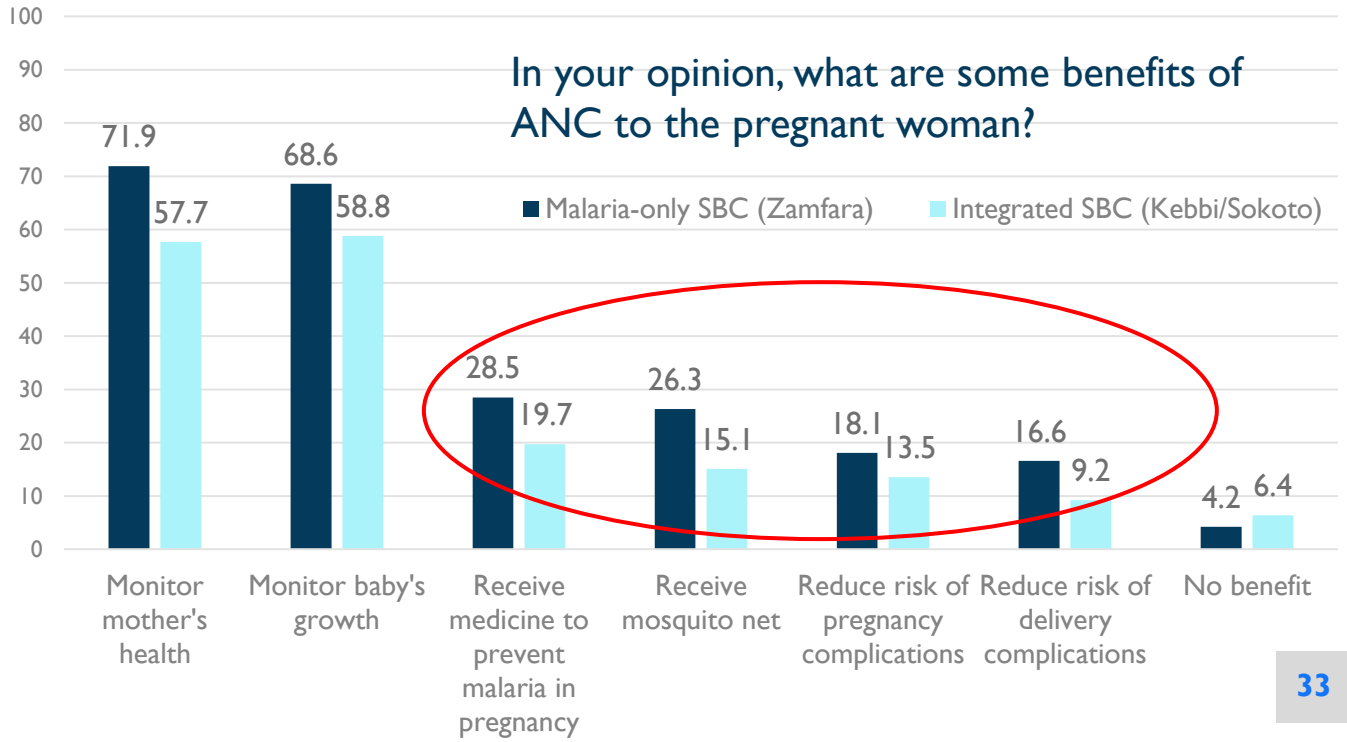
how to focus SBC programs on this linkage?



2. Knowledge and Beliefs

Low knowledge of ANC timing, vague about benefits

- Less than half (43%) knew women should attend ANC 4 or more times
- One-quarter (27%) knew that women should initiate ANC visits during the first trimester or as soon as she thinks she is pregnant
- While most (82%) could report any ANC benefit, few (<29%) cited preventing malaria during pregnancy or reducing risks from complications (<18%)

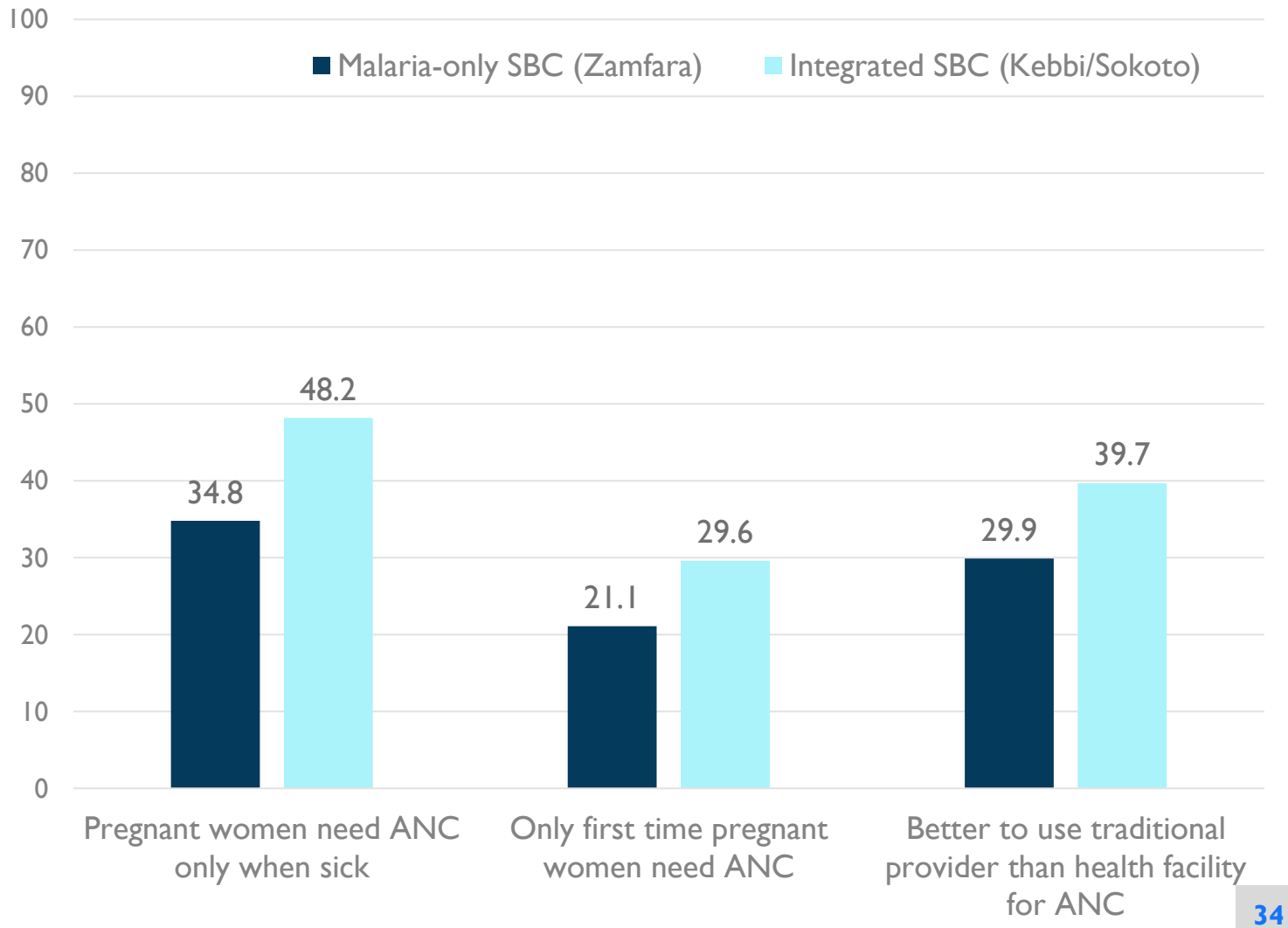


ANC myths persist…

40% believe pregnant women need ANC only when sick

25% believe only first-time pregnant women need ANC

34% believe it's better to use traditional providers than a health facility for ANC



3. Barriers

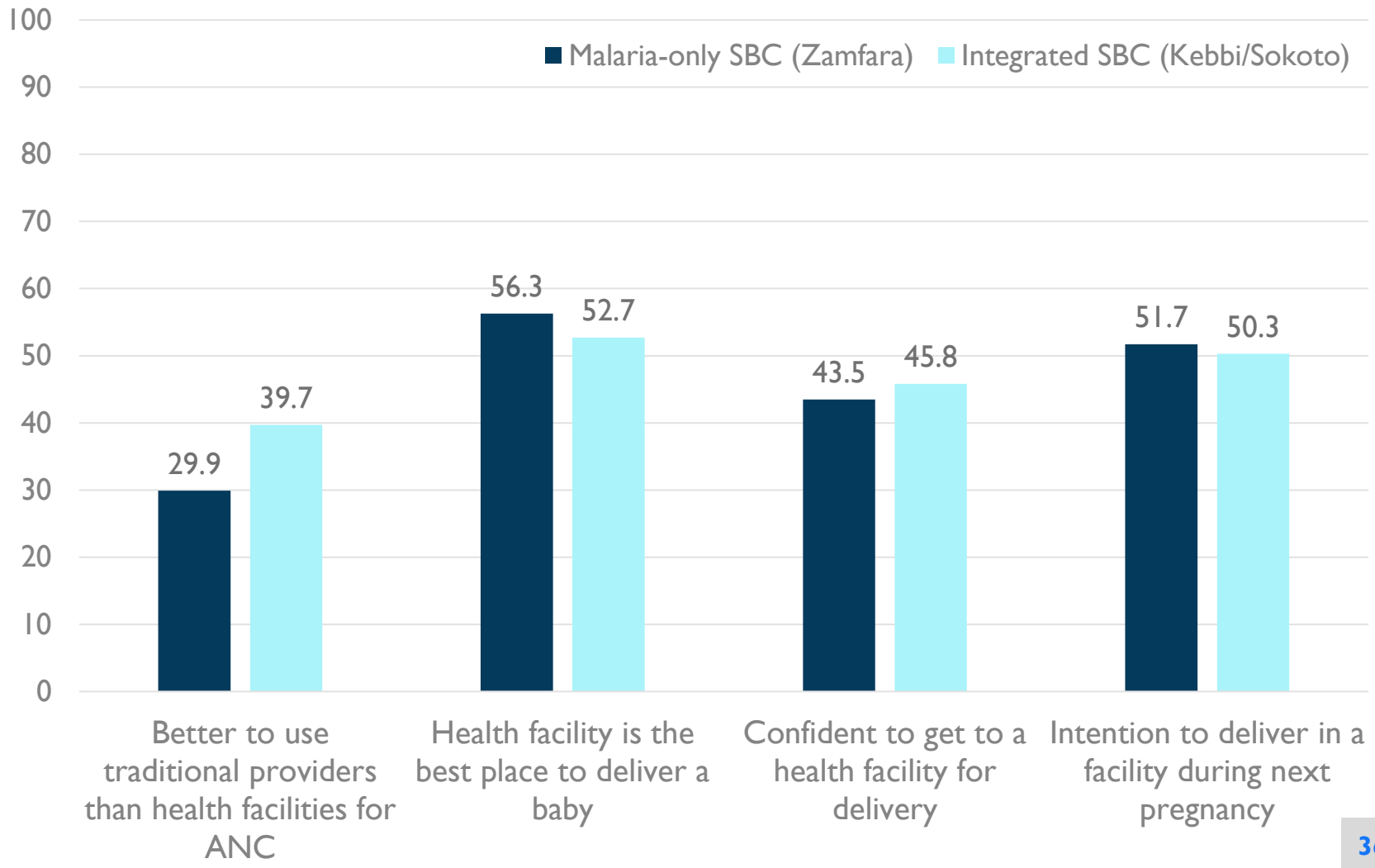
Poor perceptions of health services…

34% believe it's better to use traditional providers than health facilities for ANC

Half (55%) believe the health facility is the best place to deliver a baby

44% were confident they could get to a facility for delivery

Half (50%) intend to deliver in a health facility during their next pregnancy



"Not necessary to go"- key reasons for non-use

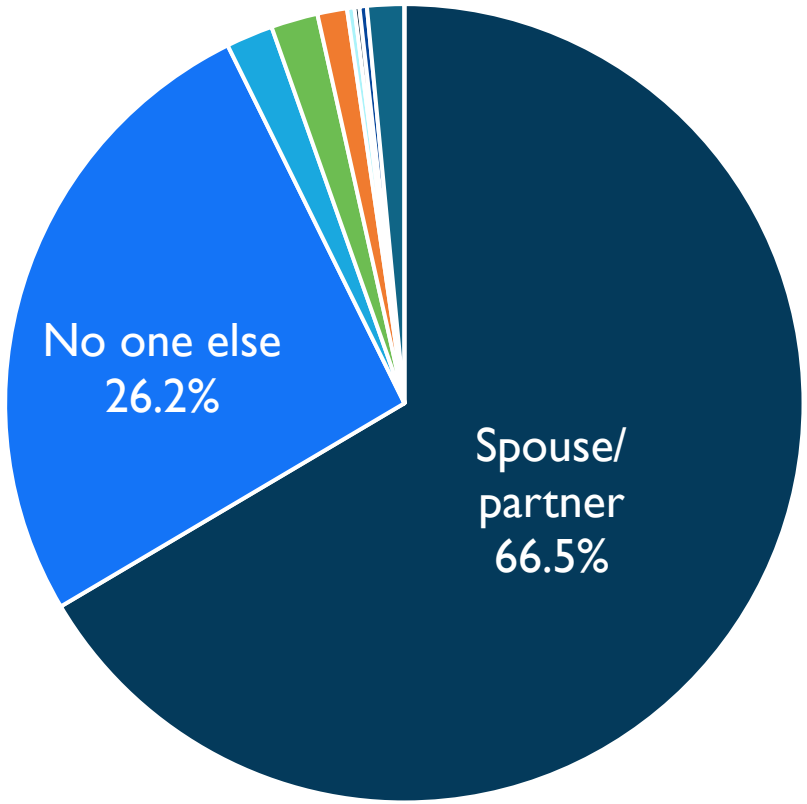
Reasons stated for not attending ANC during the last pregnancy (n=1,523)	
Not necessary to go	41.6%
Spousal opposition	25.3%
Fatalism ("It's Up to God")	20.3%
Not customary	12.7%
Facility distance	8.0%
Costs too much	6.7%
Poor quality service	1.5%
Reasons stated for not delivering in a facility during the last pregnancy (n=2,518)	
Not necessary to go	66.9%
Spousal opposition	27.3%
Facility distance	5.8%
Costs too much	5.0%
Poor quality service	0.5%

4. Social influence and decision-making

Spouses are common influencers of decisions…

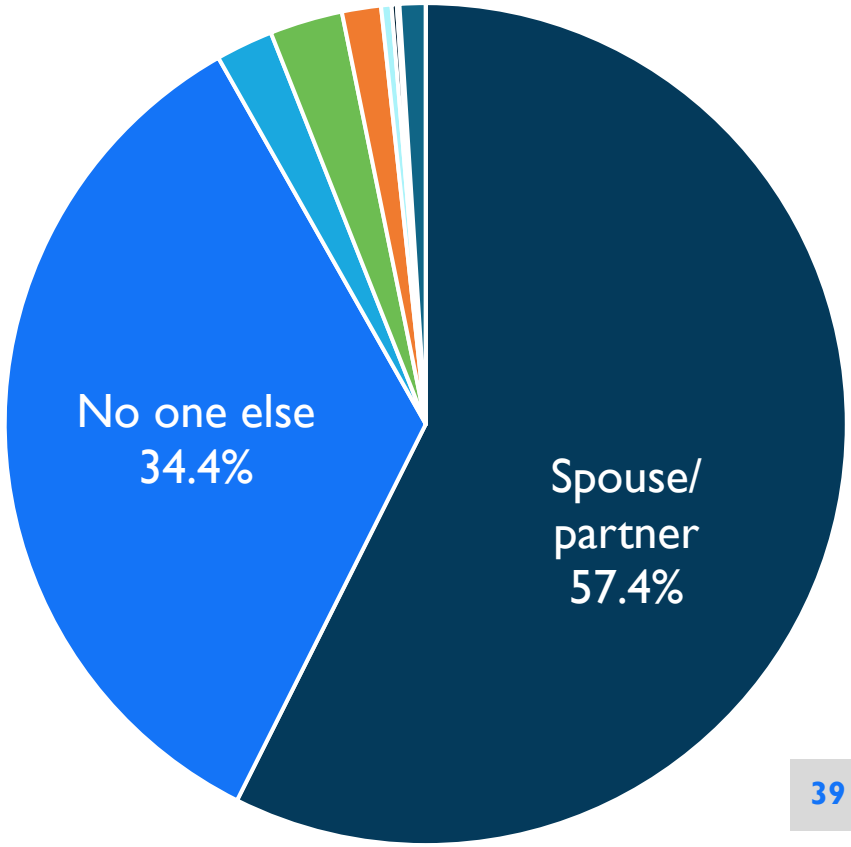
Besides yourself, who else may influence your decision to attend antenatal care [or give birth in a facility]?

ANC4+



- Mother-in-law
- Health provider
- Mother
- Other own family
- Other partner's family
- Friends
- Other
- Community or religious leader

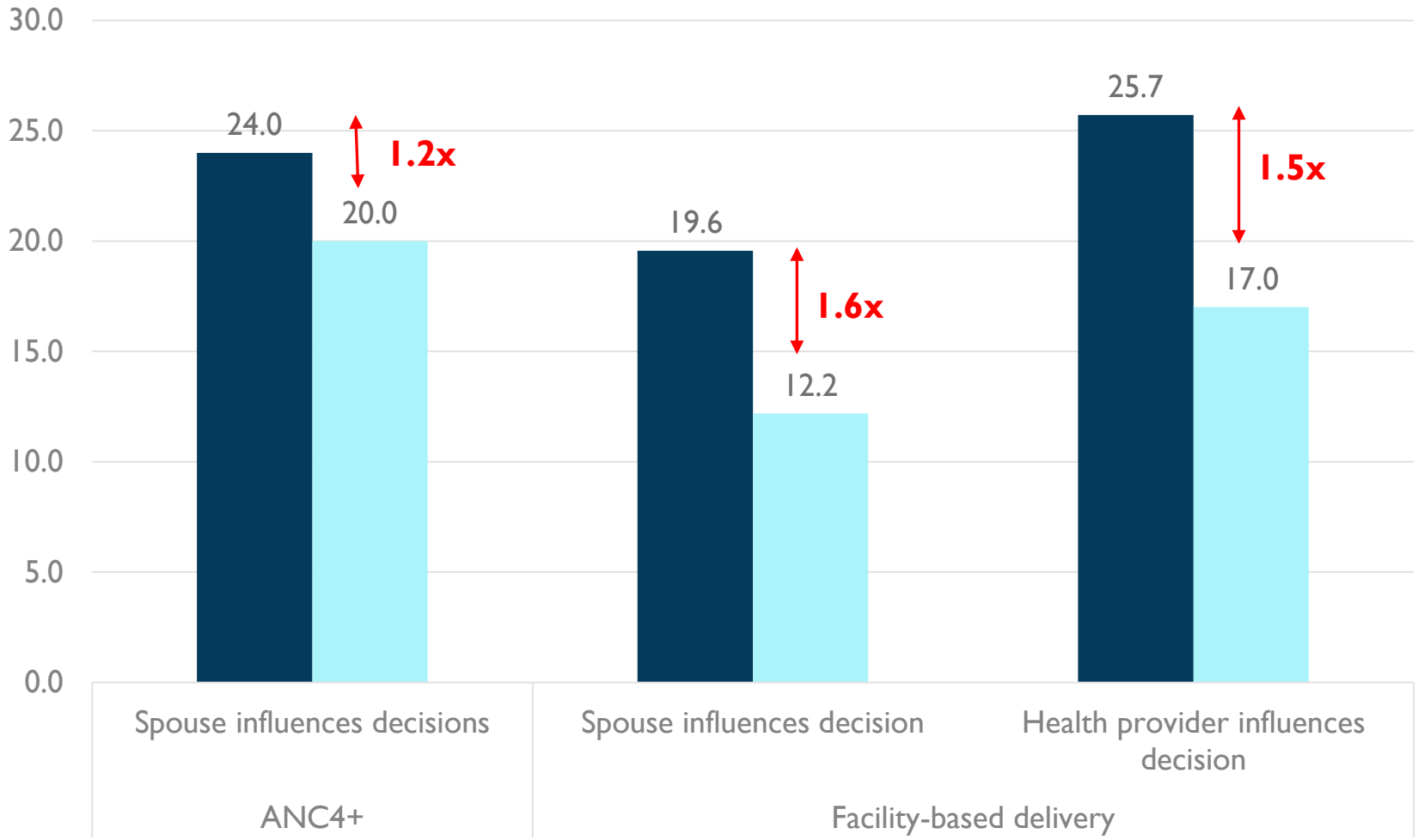
Facility Delivery



…and spousal support is critical for uptake

Women whose spouses supported their decision were 1.2x and 1.6x more likely to attend ANC 4+ times and give birth in a facility

Women who said health providers supported their decision were 1.5x more like to give birth in a facility



Differences in likelihood are statistically significant at <0.05 level in mixed-effects logistic regression analysis adjusted for ideational and sociodemographic variables, e.g. wealth, age, employment and education (respondent and spouse)

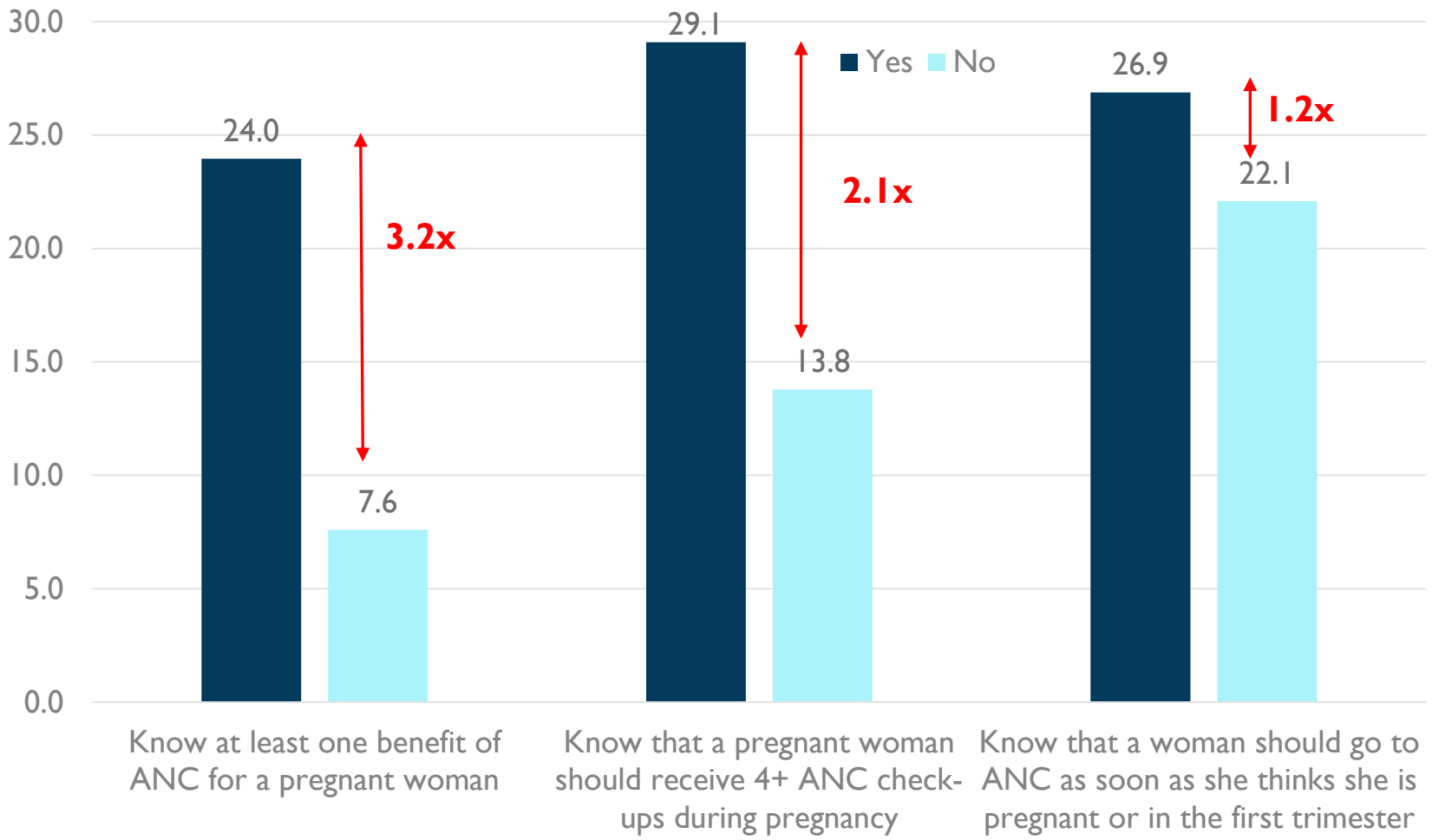
5. Ideational Relationships

While ANC knowledge is critical for uptake …

Women who knew at least one ANC benefit were 3.2x more likely to attend ANC 4+ times

Women who knew she should go to ANC at least 4 times during pregnancy were 2.1x more likely to attend ANC 4+ times

Women who knew to initiate ANC in the first trimester or once she thinks she is pregnant were 1.2x as likely to attend ANC 4+

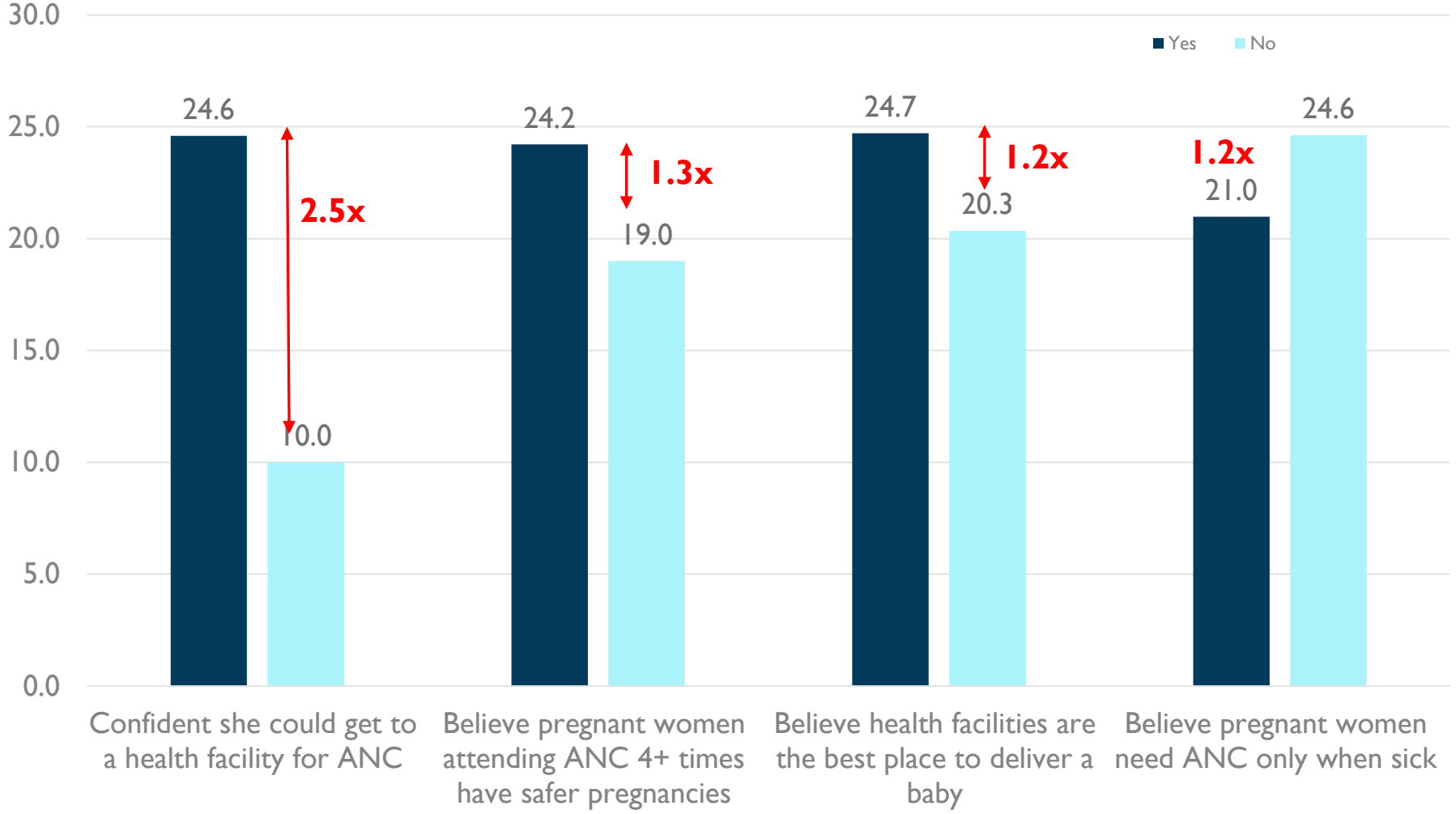


Differences in likelihood are statistically significant at <0.05 level in mixed-effects logistic regression analysis adjusted for ideational and sociodemographic variables, e.g. wealth, age, employment and education (respondent and spouse)

… self-efficacy and beliefs are also important

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

Beliefs: Women held certain beliefs about ANC efficacy or health services quality for childbirth were significantly more likely to attend ANC 4+ times



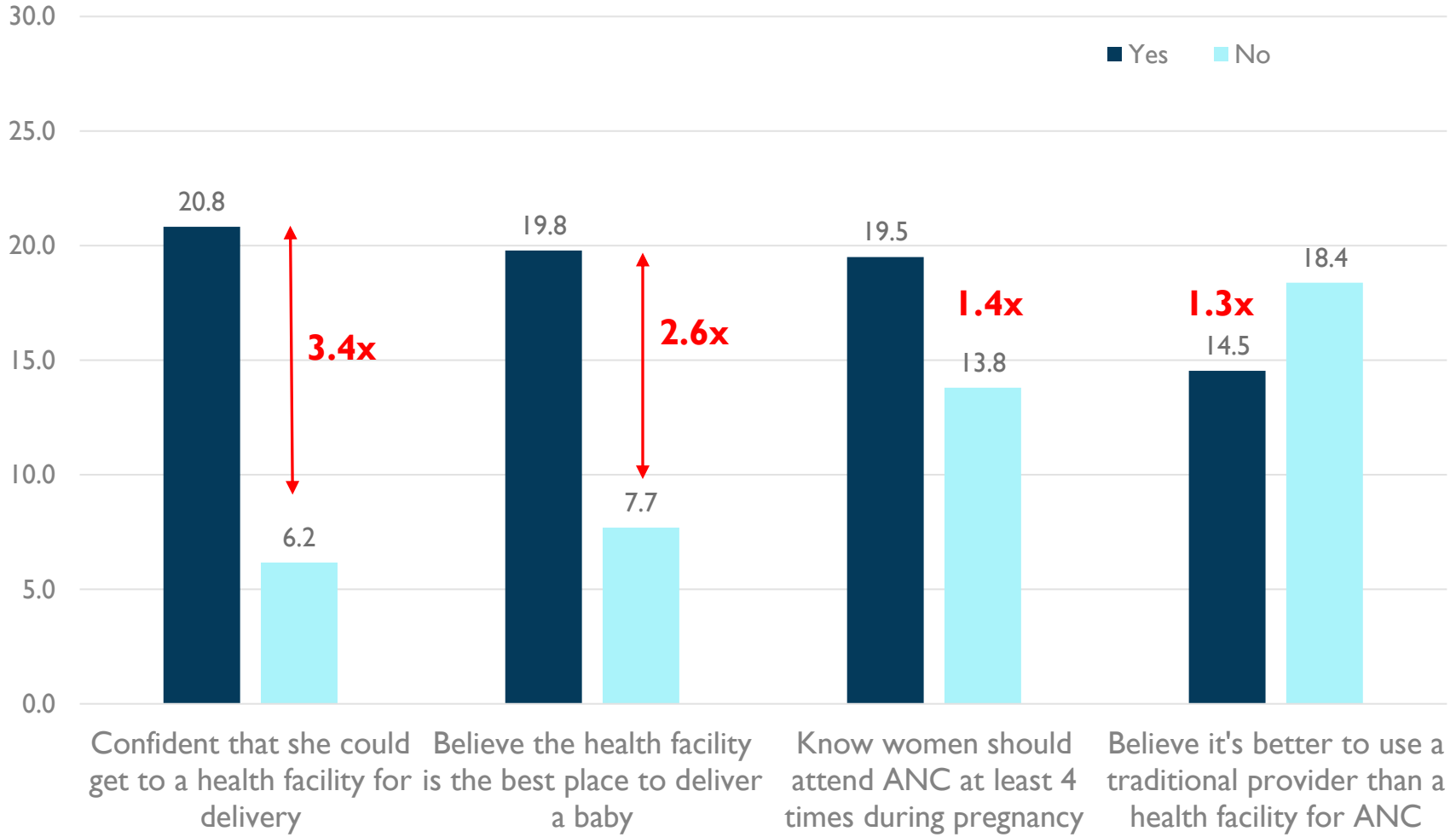
Differences in likelihood are statistically significant at <0.05 level in mixed-effects logistic regression analysis adjusted for ideational and sociodemographic variables, e.g. wealth, age, employment and education (respondent and spouse)

Knowledge, beliefs and self-efficacy are critical to increase facility-based delivery

Self-efficacy: Women who had confidence to get to a facility for delivery were 3.4x more likely to give birth there

Beliefs: Women who believed the facility was the best place to deliver a baby were 2.6x more likely to give birth there

Knowledge about total ANC visits needed in pregnancy and beliefs about health services quality for ANC were significant for facility delivery



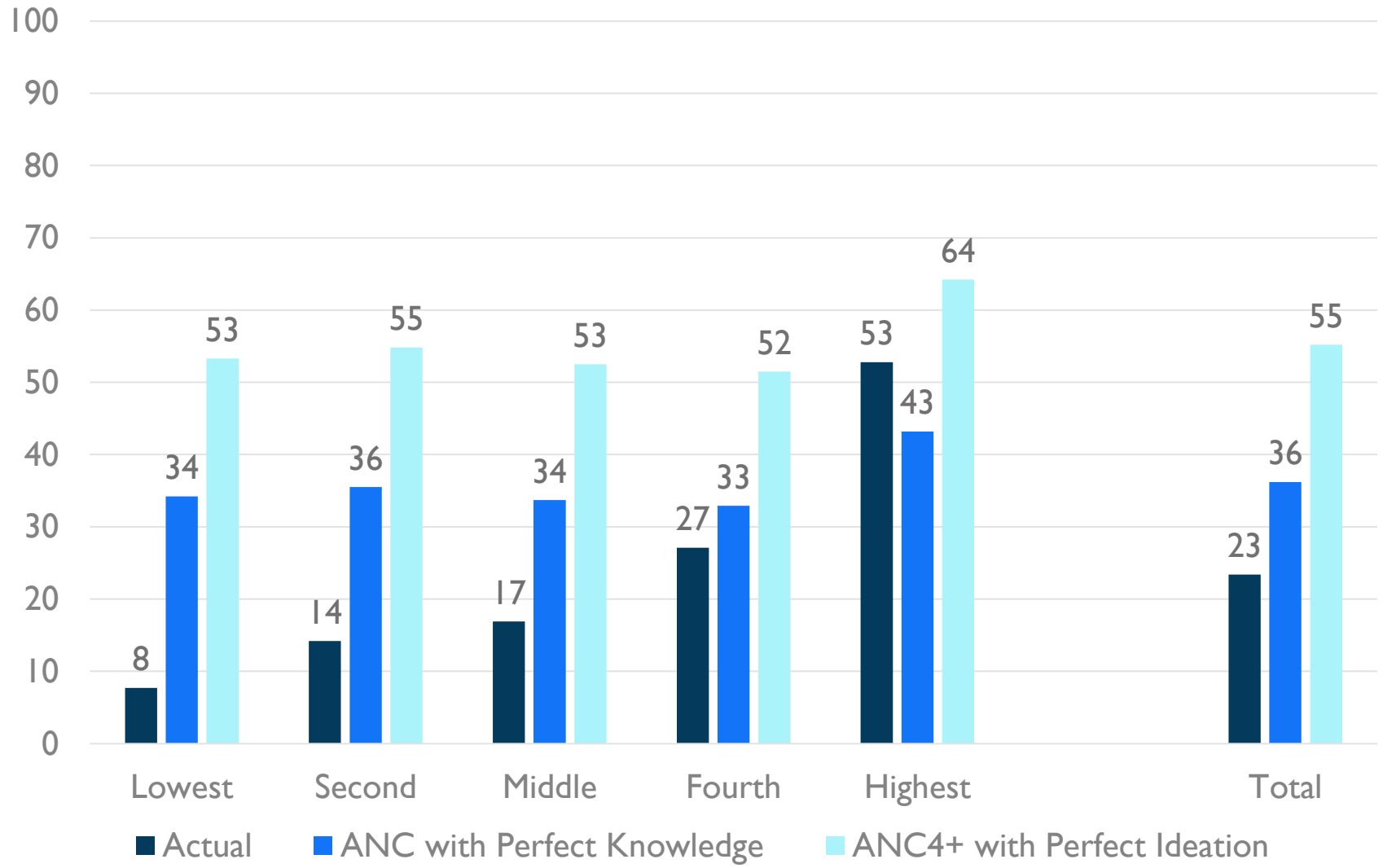
Differences in likelihood are statistically significant at <0.05 level in mixed-effects logistic regression analysis adjusted for ideational and sociodemographic variables, e.g. wealth, age, employment and education (respondent and spouse)

6. SBC Program Potential

How much could SBC increase ANC4+ use?

By how much would ANC4+ use increase if SBC programs created "perfect knowledge" and "perfect ideation" (all significant ideations reached 100%)?

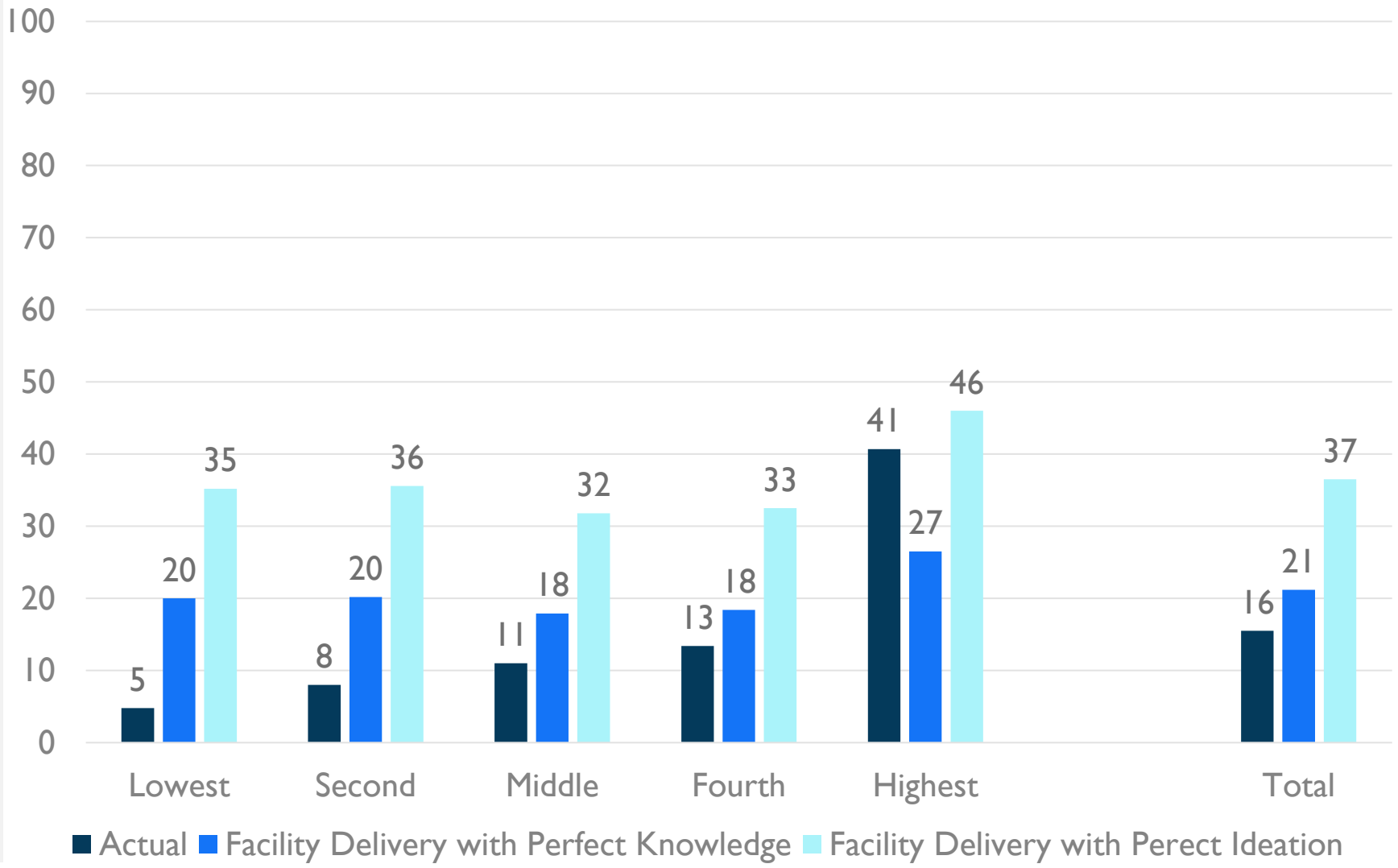
In the absence of other changes, ANC4+ use could double from 23% to 55% with 'perfect ideation'. The lowest quintile would have the greatest increase.



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.



Program Implications

Program implications

- **Target SBC programs to the poorest areas for greatest behavioral impact**
  - Identify the poorest LGAs/wards and target SBC programming in those areas
  - Radio programs may not fully reach the poorest areas – focus other SBC channels there (e.g. household visits and community events)
  - Research could further help to elucidate specific barriers among the poorest women

- **Tailor SBC messaging to address knowledge, beliefs and self-efficacy**
  - Ensure women know when, where and how many times to go for ANC during pregnancy
  - Emphasize ANC benefits for mothers and newborns especially during healthy pregnancies
  - Dispel misperceptions that *"It's not necessary to go"* to the facility for ANC or childbirth
  - Support women's confidence in accessing services through SBC and other interventions

Program implications

- **Improve perceived (and actual) health services quality**
  - Poor perceptions of health services quality persists
  - Prioritize improvements in pregnancy and childbirth services for their potential multiplier effects with downstream MNCH+N behaviors
  - Health provider support significantly influences facility delivery – ANC visits are an important opportunity to reinforce this support

- **Focus on the role of men in pregnancy and childbirth decisions**
  - Spousal support or opposition is a key driver of women's use of maternal health services
  - More research is needed to elucidate male ideations to further inform SBC programming
  - Local leaders, such as through the the Advocacy Core Group, could potentially play an important role to shift social norms and household decision-making dynamics

What's next?

Next steps

- Present BSS results for different health areas in a webinar series
  - Pregnancy and childbirth
  - Breastfeeding
  - Vaccination
  - Malaria
  - Family planning
  - Childhood illnesses, e.g. diarrhea, fever and cough with rapid breathing
- Conduct further BSS analyses to inform SBC programming
- Prepare manuscripts and research briefs to disseminate results
- Plan for the BSS midline survey planned for September-October 2020

Future work and significance

- BSS baseline results are a first step for assessing the effectiveness and cost-benefit of integrated versus malaria-only SBC programs in Nigeria
- Highlight ideations and behaviors during this baseline period to inform SBC program scale-up and adaption
- Present new ideational metrics across MNCH+N areas and quantify their relationship with behavioral outcomes to test behavioral change theories
- Link BSS results with routine program data or health facility records to examine impact of supply- and demand-side factors on service use

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