Audience Segmentation for Malaria

Social and behavior change (SBC) strategies are critical for encouraging positive behaviors and addressing social and structural barriers around malaria prevention and case management. SBC can foster an increased utilization of health services, improved client-provider interactions, and the proper diagnosis and treatment for malaria.

To increase the effectiveness of SBC strategies, program planners need to understand the intended audience(s) of SBC efforts and the factors driving their behavior. Audience segmentation is a technique that divides a population into groups with similar characteristics related to a topic or behavior of interest, enabling a deeper understanding of the demographic factors, norms, and attitudes that drive malaria-related behavior among each group. The use of audience segmentation can help SBC practitioners develop interventions and messages tailored to each group's particular characteristics and needs.

This course is intended for use by social and behavior change (SBC) and service delivery professionals to encourage antimalarial acceptance and uptake by employing segmentation based on attitudes and behaviors of their intended audience(s).

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Session 1: Introduction

The purpose of this session is to audience segmentation and begin to describe how audience segmentation can be used in social and behavior change (SBC) for malaria. This session describes the potential utility of audience segmentation to improve malaria outcomes.

LEARNING OBJECTIVES

- Define segmentation, demonstrate different types of segmentation, and provide a high-level overview of the steps to create a segmentation.
- Describe how segmentation can be used to inform SBC programming.

Why Segmentation Matters for Malaria

According to WHO's World malaria report 2021, there were an estimated 241 million malaria cases and 627,000 malaria deaths worldwide in 2020. This represents about 14 million more cases in 2020 compared to 2019, and 69,000 more deaths. Approximately two thirds of these additional deaths (47,000) were linked to disruptions in the provision of malaria prevention, diagnosis, and treatment during the pandemic. Malaria burden was heaviest in the WHO African Region, with an estimated 95% of cases and 96% of deaths; 80% of all deaths in this region are among children aged under 5 years (WHO, 2022).

DEATH RATE FROM MALARIA, 2020

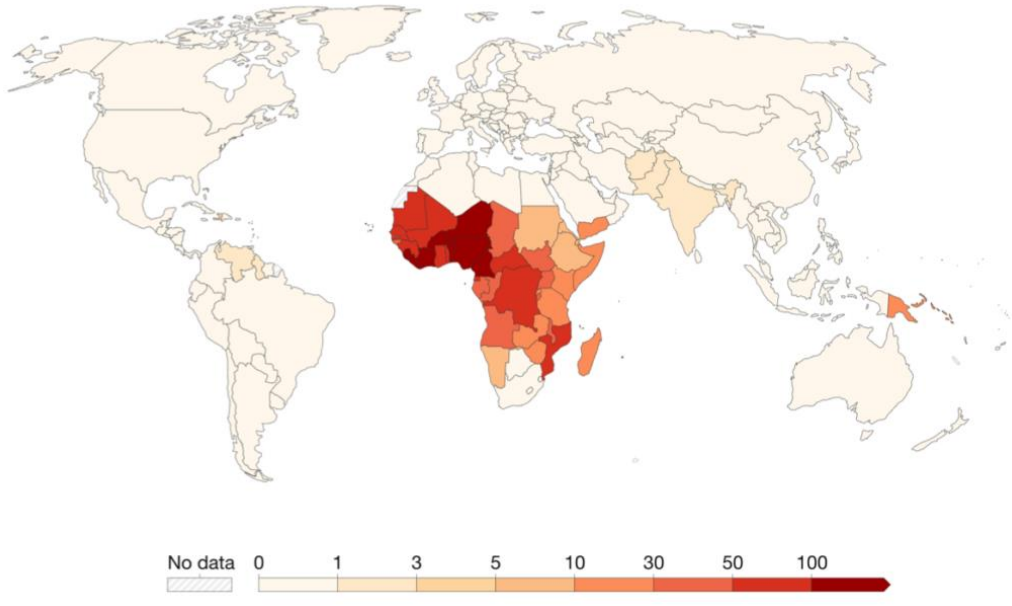

Figure 1. Global deaths due to malaria per 100,000 persons

The imperative to focus on malaria is clear, and in the past years, substantive investments in malaria programs, surveillance, and research have made great strides in the fight against the disease. Since 2000, there has been a 60% decrease in malaria mortality globally (RBM Partnership, 2017). However, funding remains insufficient and further work is needed. To quote Dr Tedros Adhanom Ghebreyesus, Director General of the WHO, "We face many challenges, but there are many reasons for hope. By strengthening the response, understanding and mitigating the risks, building resilience and accelerating research, there is every reason to dream of a malaria-free future."

While malaria programming can be strengthened at a systems level, human behavior plays a critical role in its prevention, control, and elimination. SBC initiatives can address the barriers and facilitators of malaria-related behaviors such as sleeping under an insecticide treated net (ITN) and taking preventative malaria treatment during pregnancy. Coalitions such as the RBM Partnership to End Malaria understand that evidence-based SBC interventions are a vital part of disease prevention and treatment, and must be integrated into malaria strategic plans to significantly improve behaviors.

To develop more targeted and effective SBC interventions, audience segmentation can be used to uncover the underlying attitudes and beliefs among population groups with regards to malaria-related behaviors.

In considering how to use audience segmentation findings to inform SBC and service delivery interventions, it is also important to take a systems approach and think about each interrelated component within a system that influences social and individual-level behavior change. The malaria service ecosystem model defines six interrelated, embedded components of a system: client, provider, facility level, community level, district/regional/national and the international level.

WHAT IS SEGMENTATION?

According to the Advanced Audience Segmentation for Social and Behavior Change How-to Guide, "segmentation divides a population or market into subgroups that have, or are perceived to have, meaningfully similar characteristics, and significant differences from other subgroups." Figure 2 is a simple illustration of how segmentation can help us to understand a heterogenous population by organizing them into subgroups based on various factors and commonalities. In this illustrative example, they are grouped by colors; however, an audience segmentation for malaria might include segments focused on the practice of prevention behaviors in pregnant women at risk of malaria, as highlighted in the case study presented in Session 2.

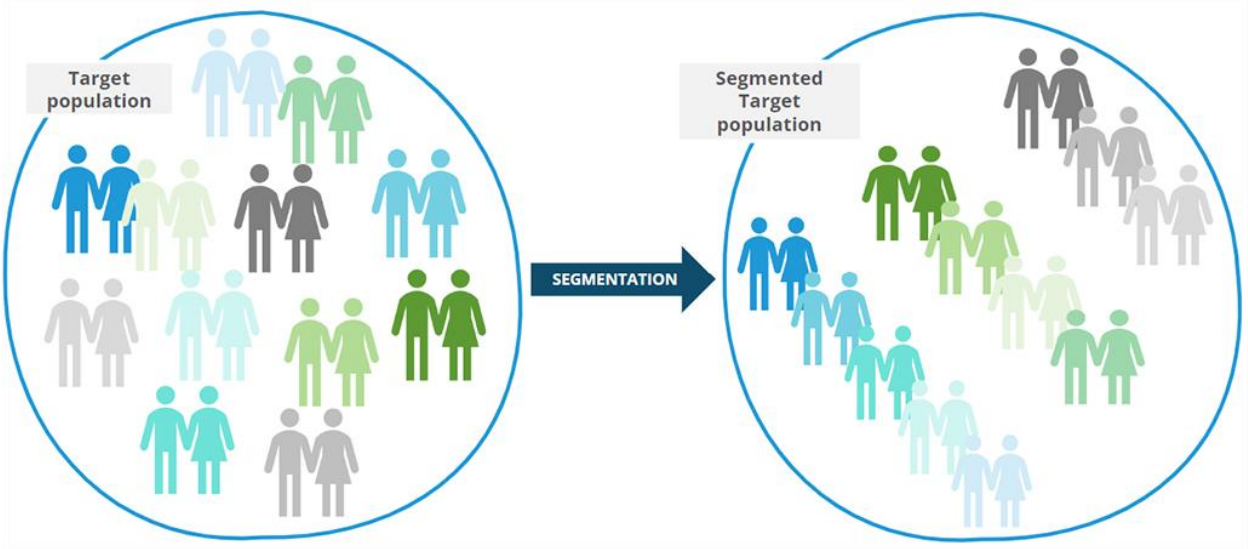

Figure 2. Visual representation of segmentation

Segmentation allows for a nuanced look at a population and a deep understanding of what holds value for each group. This in-depth understanding can help stakeholders, such as national malaria programs, community-based organizations, faith-based organizations, service delivery partners, private sector partners, and other implementing partners develop targeted SBC interventions and/or improve service delivery for every segment, to increase the adoption of positive health behaviors. Below are definitions for two terms that will arise throughout the rest of this course.

- A **segment** is a group of people with similar needs, values, or characteristics within a population, as identified through a segmentation analysis. Each segment has distinctive characteristics and is typically labeled with a name. Each segment has unique characteristics compared to other segments, meaning segments are both mutually exclusive and collectively exhaustive.
- A **segment persona** is a summary or description of the people who belong to each segment. It includes the key distinguishing factors that differentiate each segment and that are most relevant to carry out the desired social and behavior change(s). Segment personas help portray the derived segment as a real, tangible audience.

TYPES OF AUDIENCE SEGMENTATION

There are several types of audience segmentation: psychosocial, behavioral, psychographic, attributional, and demographic. Each type uses a different set of information to group a population into segments.

- **Psychosocial (needs, behaviors, and attitudes)** - Segmentation that identifies sub-groups within a population with **different needs, attitudes, and willingness to change behavior**. (*optimal segmentation*)

- **Behavioral** - Segmentation based on **observable behavior**, such as consumer activity or media use. This segmentation often relies on **self-reported or observed behaviors** related to the outcome variables.
- **Psychographic** - Segmentation based on broad **attitudes or personality traits**, such as introversion or values. Psychographic segmentation provides insights into the intrinsic drivers of behaviors (the why of one behavior).
- **Attributional** - Segmentation based on a **single attribute**, such as life-stage, or property status. Single attribute segmentation can be based on variables beyond demographics, thus providing more interpersonal insights than demographic segmentation.
- **Demographic** - Segmentation based on a **census or demographic factor**, such as gender, urban/rural, or age.

As illustrated in Figure 3, the simplest and most common method is **demographic** segmentation, which uses demographic data to create segments with different age groups, genders, or geographies. However, while individuals may be of the same demographic group, they likely still have significant differences requiring unique SBC approaches.

A more advanced audience segmentation method will be based on **psychographic** and **behavioral** variables (i.e., attitudes, beliefs, needs*, behaviors) but will typically require more in-depth research to create the segments, which in turn can provide important insight into those segments' potential for behavior change.

*Needs is related to individual willingness to access a specific service, product, or reported unmet need by the individuals in the audience.

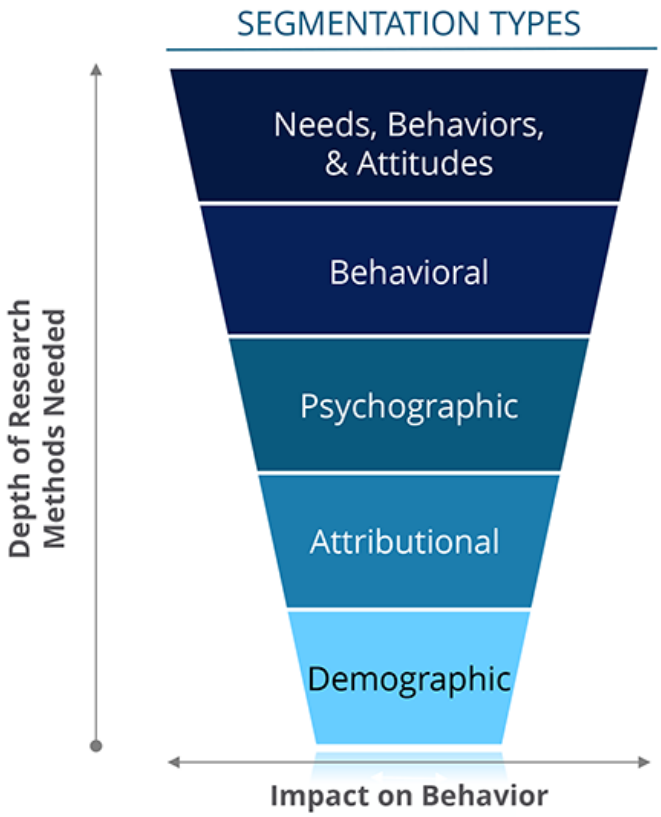

Figure 3. Segmentation types organized by depth of research methods needed and impact on behavior

In particular, a **psychosocial** segmentation (focusing on needs, behaviors, and attitudes) maximizes the opportunity for successful SBC and service delivery interventions. This type of segmentation can be used

to understand the unique individual, social, and structural factors that influence the practice of the key behavior by members of the segment. Knowledge of the behavioral drivers that influence each segment can be leveraged to develop more tailored and effective SBC interventions for each segment.

To provide a very simple example of how this type of segmentation might show up in data, consider the following table with hypothetical data. (Note that steps to conducting a segmentation will be covered in more detail in Session 2, this is meant to provide an illustrative example.)

	Performs positive health behavior (N=500)	**Does NOT perform positive health behavior** (N=500)
Women who believe X	85%	5%
Women who believe Y	5%	85%
Women influenced by Z	90%	10%

Table 1. Hypothetical illustrative example of analyzing data for segmentation

Based on the table above, we can see that women who "believe X" are significantly more likely to perform the positive health behavior. Women who "believe Y" are statistically more likely NOT to perform the positive health behavior and are less likely to be "influenced by Z". Given the large sample size (N=500) for each column, these differences are statistically significant (meaning not due to chance).

In the case of malaria, what this might look like is women who believe that malaria presents a high risk to their health (women who believe X) are more likely to take IPTp, whereas women who believe that most women in their community do not take IPTp (women who believe Y) are less likely to take it. And that women who trust health care providers for health information (women influenced by Z) are more likely to take IPTp. This is hypothetical data, but this example starts to lay out how analysis of data might lead to some initial hypotheses regarding segmentation.

OVERVIEW OF STEPS TO CREATE A SEGMENTATION

According to the Social and Behavior Change (SBC) Flow Chart, designed by Breakthrough ACTION, there are three main phases to developing effective SBC interventions while engaging end-users and stakeholders.

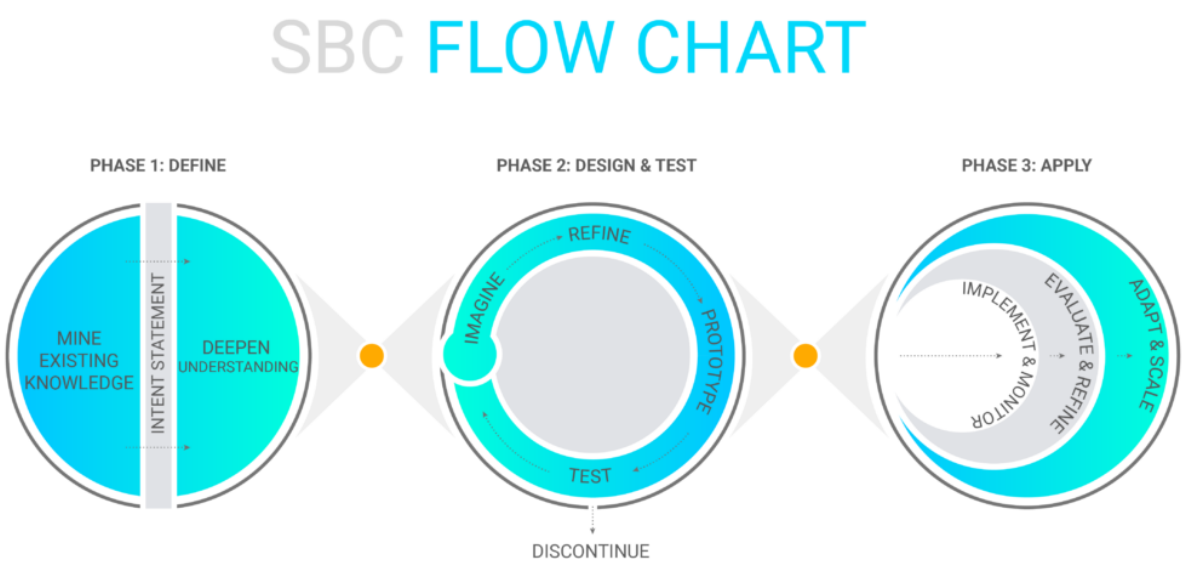

Figure 4. SBC Flow Chart

The steps for conducting a new audience segmentation can follow this phased structure to ensure a meaningful and thorough co-creation process. The following table provides more detail on these phases. The steps for audience segmentation will act as an outline for this session.

	Description	**Audience Segmentation Steps**
Phase 1: Define and understand the problem	This phase assesses the findings and insights that already exist and establishes mechanisms to deepen understanding of the problem. This is accomplished by establishing relationships with those familiar with the subject of interest with whom to work with and uncover new perspectives and insights to guide solutions.	1. Identify the priority behaviors 2. Define the target population 3. Enlist key stakeholders 4. Develop research questions 5. Select a dataset 6. Define segments 7. Refine your segments
Phase 2: Design and test potential solutions and concepts	Grounded in deeper understanding, this phase informs how social and behavior change will be addressed by involving end users in the solution ideation process.	8. Develop intervention elements
Phase 3: Apply successful prototypes as activities or interventions	Once testing feedback has been synthesized into a prioritized suite of solutions, this phase marks their progressive implementation and evaluation.	9. Pilot solution 10. Evaluate & Refine 11. Adapt & Scale

Table 2. SBC Flowchart phases and corresponding steps for audience segmentation

We will cover these steps in greater detail in Session 2.

LEVERAGING AUDIENCE SEGMENTATION

There are a number of ways that segmentation findings can be incorporated into the design of SBC interventions. Tailoring each aspect of an SBC intervention to the segment of interest can aid strategic resourcing for malaria initiatives, helping to minimize redundancies and reduce inefficiencies in SBC project design for maximum impact when limited resources are available.

Segmentation findings can be used in malaria programs to:

- **Improve understanding of segment's experiences**, desires, concerns, and behaviors
- **Identify and estimate** the potential for behavior change **among a specific segment**
- **Predict the most promising opportunities** for behavior change
- **Tailor** services, products, and interactions **to specific groups**
- Shape efforts to effectively create a conducive environment and **drive awareness, engagement, and mobilization of the positive behavior change**
- **Identify key influencers**

As noted above, segmentation findings can be used to determine which segments to prioritize. It may not always be feasible or necessary for a program to engage all segments; there may be situations in which a subset of the segments is strategically selected to optimally reach the program's objectives. In deciding which population segments to focus efforts on, one may consider the following: size, ease of access, likelihood to change, and potential impact.

- **Size** - *Size* of the segment
- **Ease of access** - *Ease of access* to reach the segments
- **Likelihood to change** - Segments with the *greatest likelihood to change their behavior*
- **Potential impact** - Segments with the *greatest potential impact* related to the outcome of interest

In this way, SBC programs can deliver highly tailored and targeted interventions that will best support audience segments to engage in the recommended behaviors.

The next session of this course presents an audience segmentation for malaria programming based on data from Cameroon, Côte d'Ivoire, and Malawi (Case study: Pregnant women at risk of malaria). The third session then describes how malaria SBC programming can be informed by audience segmentation.

KEY TAKEAWAYS

- Malaria is a major cause of mortality and morbidity in endemic countries. SBC programming can help to reduce this burden by understanding and addressing the human behavior, gender, and

social and structural factors that intersect to create both barriers and opportunities for malaria prevention, control, and elimination.

- Segmentation is a way to divide a population into groups with similar characteristics. It can be used to develop more informed, tailored SBC and service delivery interventions.
- Psychosocial segmentation is a powerful methodology for understanding and encouraging positive behavior change because it helps us to understand the many factors that shape behavior.
- Audience segmentation can be leveraged in designing SBC interventions and in determining what segments to prioritize for programming when resources are limited.

CHECK YOUR UNDERSTANDING

Thank you for completing the first session of *Audience Segmentation for Malaria*. Next is an ungraded quiz to test your understanding of Session 1.

1. What are some of the factors or variables that are used in a psychosocial segmentation approach?

a. Age and gender only

b. Psychographic or lifestyle variables only

c. Behavioral and psychographic (e.g., needs, attitudes, beliefs, and behaviors)

d. Behavioral variables only

Feedback: The combination of Behavioral and Psychographic characteristics enable a segmentation analysis to understand the behaviors of each segment as well as what attitudes and beliefs influence these behaviors.

2. Which of the following is a step in the segmentation process?

a. Identify the issue

b. Define the target population

c. Enlist key stakeholders

d. Refine your segments

e. All of the above

Feedback: Identifying the issue, defining the target population, enlisting key stakeholders, and refining your segments are all steps in the segmentation process.

3. In what ways can segmentation findings be incorporated into the design of SBC intervention? (Select all that apply)

a. Determining the religion of the population

b. Understanding where, and with whom, to administer interventions

c. Determining influencers in the population of interest

d. None of the above

Feedback: Segmentation analysis can be leveraged strategically to determine key people and places to direct resources for social and behavior change.

Session 2: Steps 1-7

The purpose of this session is to describe the steps of conducting audience segmentation in more detail and provide an example of a segmentation effort developed to inform malaria SBC programming. Through a case study of pregnant women at risk of malaria in Cameroon, Côte d'Ivoire, and Malawi, this session will describe the segments identified through a psychosocial (focusing on needs, behaviors, and attitudes), as well as the segments' defining characteristics and the factors influencing their behavior.

LEARNING OBJECTIVES

- List the steps and resources required to conduct an audience segmentation with a quantitative foundation and complementary qualitative research.
- Describe a psychosocial segmentation conducted among pregnant women at risk for malaria.
- List key distinguishing factors of each segment.
- Describe tools to segment members of a target population to tailor SBC interventions.

Conducting Audience Segmentation

STEPS TO CREATE A SEGMENTATION

Session 1 introduced the concept of audience segmentation, defined types of segmentation, described the role of audience segmentation in malaria SBC, and outlined the steps required to conduct an audience segmentation. Session 2 will describe the first seven steps required to conduct an audience segmentation in greater detail. (Steps 8-11 are covered in Session 3.)

1. Identify the priority behaviors
2. Define the target population
3. Enlist key stakeholders
4. Develop research questions
5. Select a dataset
6. Define segments
7. Refine your segments

8. Develop intervention elements
9. Pilot solution
10. Evaluate & Refine
11. Adapt & Scale

STEP 1. IDENTIFY THE PRIORITY BEHAVIORS

Audience segmentation provides great insight into how certain behaviors vary across a population and can be used to identify and prioritize groups for social and behavior change. To leverage audience segmentation, start by identifying the priority behaviors. For example, what malaria-related behavior needs to be addressed in your local context? What is the desired behavior change that will result in improving case management or reducing malaria incidence?

Below is a list of several malaria prevention and control priorities. Use these as a starting point for brainstorming the desired social or behavior change for your segmentation.

- Use an ITN correctly every night. / Increase correct and consistent use of ITNs
- Attend ANC early and frequently / Increase early and frequent ANC attendance
- Accept and use IPTp / Increase acceptance and use of IPTp
- Seek quality care for fever within the same day or next day of fever onset / Increase prompt seeking for fever
- Adhere to national malaria case management and malaria in pregnancy guidelines / Increase adherence to national malaria case management or malaria in pregnancy guidelines.

STEP 2. DEFINE THE TARGET POPULATION

Second, determine which population you want to encourage the desired behavior change within. Looking at DHS data, for example, we can determine which populations may be particularly vulnerable to malaria or impacted by malaria. Examples of populations of interest to focus on malaria behavior change include pregnant women, caregivers of children under 5, health providers, farming communities, and more. Priority populations for malaria interventions are most commonly pregnant women and caregivers of children under 5.

STEP 3. ENLIST KEY STAKEHOLDERS

Next, identify individuals, including experts in the research methods required to conduct segmentation analyses. It is important that stakeholders are aligned to the objective of the audience segmentation identified in steps 1 and 2, as they will be closely involved at different points in the process.

It is important to include a mix of stakeholders in the process, ensuring that they have an equal voice in providing feedback and decision-making. Ensuring a diversity of voices in the decision-making process is vital to designing inclusive solutions as they have direct impacts on people's lives. The boxes below lists

functional groups and their potential roles. Consider the functions that already exist on your own team, then fill in the gaps.

- **Knowledge** – *People with knowledge* of national malaria trends, data analysis, or primary data collection. Examples may include researchers, statisticians, vector-borne infectious disease experts, or malaria control experts.
- **Experience** – *People with experience* with in-country malaria control and elimination programs or in implementation and evaluation of interventions. Examples may include program implementers, staff from NGOs, or health personnel working directly with the population of interest.
- **Influence** – *People with influence* over policy and quality improvement efforts for health facilities or at the health system level. Examples may include policy makers, Ministry of Health officials, or individuals from the National Malaria Program (NMP).

STEP 4. DEVELOP RESEARCH QUESTIONS

It is now time to develop 2-3 research questions to guide your audience segmentation. With your team, particularly those knowledgeable about national malaria trends, determine the main factors related to the objective that you want to better understand. It is helpful to conduct a search for peer-reviewed published articles and papers written on behaviors, beliefs, and attitudes towards malaria in your country to ensure your research questions are not duplicative and are driven by existing data of what is already known. Consider the following:

- Which factors influence the target population's practice of malaria-related behaviors?
- Among members of the target population, what are the characteristics of the individuals who are most likely to practice the priority malaria-related behavior? What are the characteristics of the individuals who are least likely to practice the priority malaria-related behavior?
- How can the factors that influence the target population's practice of the priority malaria-related behavior be addressed through SBC interventions?
- What is the likelihood that a member of the target population will adopt the practice of the priority malaria-related behavior?

Research questions should primarily be behavioral and will act as the outcome variables for your analysis. Examples of research questions from the case study presented in this course are listed in the next lesson under Key Questions & Analysis.

STEP 5. SELECT A DATASET

To conduct an audience segmentation using quantitative techniques, a survey dataset is required. At baseline, this dataset should have the following parameters:

- Come from a fairly recent survey, administered in the last 1-10 years, with a representative sample of the target population.

- Report data for each survey respondent individually, not in aggregate.
- Contain data on the factors that influence the practice of the priority malaria-related behavior among members of the target population.
- Contain data on individuals in the specific population identified in step 2 (i.e., age, gender, occupation, etc.).
- Contain variables that can be used as proxies for the outcome variables identified in step 4.

Because segmentation is intended to describe segments and identify the drivers or influencers of behavior, your chosen dataset should also contain variables that are related to the outcome variables you identified in step 4. The list below contains examples of variables that your chosen dataset may include. Each type of variable has a different purpose for your audience segmentation dataset.

- **Demographic factors** - Characteristics of a population that have been categorized by distinct criteria, typically a vital or social measure.
- **Behavioral factors** - The way in which someone behaves towards the identified objective.
- **Attitudinal factors** - A way of thinking or feeling about someone or something, that is sometimes reflected in a person's behavior.

For malaria, high quality datasets such as the Malaria Behavior Survey (MBS) or health facility survey datasets can be used. Both of which were utilized for the case study presented in this course. You may also consider exploring the Demographic & Health Surveys (DHS) datasets to see if they would work for your audience segmentation.

TYPES OF VARIABLES THAT MAY BE PRESENT IN DATASETS

	USE CASE	EXAMPLE CHARACTERISTICS
Demographic	Best for simple segmentation or when combined with other variables as an additional descriptor.	Age, location, gender, religion, number of children, rural/urban, literacy/numeracy, socio-economic status, household income, level of education, employment status or type, health history/risk factors, marriage status, etc.
Behavioral	Helpful for determining group actions and behaviors. Best when combined with attitudinal variables.	Seeks information regarding diseases through specific channels, uses social media, goes to health center for illness or for preventive treatment, seeks care with traditional practitioners, involved in community activities, uses certain tools or methods (e.g., bed nets, diagnostics), etc.
Attitudinal	Use when trying to understand rationale for behaviors. Best when combined with behavioral variables.	Trust in authority (government, health institutions, health care professionals) and perceived: access to resources, safety or effectiveness of treatment, consequences of disease, social norms (e.g., believes others practice certain health behaviors or not), role of fate/divine will, etc.

STEP 6. DEFINE SEGMENTS

At this point, it is time to analyze the data and define the segments. Quantitative segmentation analysis occurs in a 4-step process, which is described in greater detail below. It may be helpful to partner with your national statistical institute or a research firm to conduct these analyses.

Step 1. Identify factors that are the main influencers or drivers of the research questions.

Run a Chi-squared correlation analysis to identify which variables showed a strong correlation with your research questions. This will identify the key drivers of the behaviors described by your research questions. These key drivers will be your primary covariates in the analysis.

Step 2. Conduct a quantitative segmentation analysis and identify opportunities for positive behavior change.

Analyze the entire dataset using one of the standard statistical methods for segmentation, which include cluster analysis and latent class analysis. These techniques help identify commonalities and trends among groups based on the variables in the data and selected outcome variables. This analysis will produce different options of segments in your dataset.

Step 3. Review each segmentation model and determine the final model.

Review model results of the segments identified in your dataset. Use the Bayesian information Criterion (BiC) indicator, to determine which models are statistically significant, with a lower BiC indicating a better model. Additionally, try and aim for a model with three to six segments. Finally, consider other factors to choose the best model:

- How do the outcome variables and drivers of the outcome variables differ between various groups?
- Does each group have clear differences or are the differences barely noticeable between some of the groups?
- Does the model tell a strong story about different groups within the population and their attitudes, behaviors, and beliefs around malaria?

Step 4. Write a segment "persona" for each segment in the final model.

Once a viable segmentation has been chosen, write a "persona" for each segment that describes the key distinguishing characteristics of the segment identified in analysis. Choose a name for each segment as well. The descriptive personas should be brief and easily digestible for dissemination and feedback. It primarily describes the segment in terms of the outcome variables and/or drivers of outcome variables.

STEP 7. REFINE YOUR SEGMENTS

The segments identified through quantitative analysis can be further refined using qualitative data collection and by speaking directly with individuals from each segment to gather additional information about the factors that shape the behaviors most characteristic of their segments.

Segment Identification Questionnaire

First, use a segment identification questionnaire to determine how to categorize individuals in the target population into the different segments. This will enable you to recruit individuals to participate in interviews, focus groups, or workshops for their segment.

A segment identification questionnaire can be developed using a Chi-squared automatic interaction detector (CHAID) algorithm in the R Studio or SPSS programs. This algorithm considers each variable used in the segmentation analysis as well as the final determined segments and identifies the variables that were most influential in forming the segments. This set of statistically significant variables may be asked in a brief, ordered quiz to members of the target population to determine which segment they can be categorized as.

Complementary Qualitative Research

Finally, conduct qualitative research with members of each segment to develop a more comprehensive understanding of their behavioral drivers. Using the segment identification tool, invite members of the target population to participate in segment-specific focus groups or one-on-one interviews about behaviors and attitudes surrounding the identified objective. Consider partnering with a local research firm to recruit participants, facilitate the interviews or focus groups, and analyze the findings. Aim to have 5-15 research participants for each segment.

Now, let us put segmentation steps 1-7 into practice with the case study in the next lesson.

Case Study, Part 1: Segmentation of Pregnant Women at Risk of Malaria

Women waiting with their infants at the health facility (PMI)

CASE STUDY

Malaria in pregnancy remains a major health problem with critical risks for pregnant women and their babies. While antenatal care (ANC) services and trained personnel are vital for preventing and treating

malaria among pregnant women, counseling during ANC services does not always cater to the unique needs of the many different sub-groups of women who seek this care, including, for example, adolescent and/or single mothers. Often ANC counseling is seen as one size fits all, or at best, women are given varying levels or types of counseling based on their age. But a more precise and potentially impactful counseling will be tailored to the woman's actual beliefs, attitudes, and feelings towards pregnancy, malaria, ANC, intermittent preventive treatment during pregnancy (IPTp), whether she has had other pregnancies or if she feels supported by her community.

These are all examples of needs, beliefs, etc., attributes that can be used to develop a psychosocial segmentation of pregnant women. This audience segmentation can then guide more personalized counseling.

The following case study reviews the segments that emerged from an analysis of pregnant women at risk for malaria in Cameroon, Côte d'Ivoire, and Malawi. The insights presented serve as the foundation for tailored interventions and recommendations developed for each segment, which are described in detail in Session 3.

KEY QUESTIONS & ANALYSIS

The Breakthrough ACTION project utilized Malaria Behavior Survey datasets from Cameroon (2019), Côte d'Ivoire (2018), and Malawi (2020) to conduct a psychosocial segmentation analysis to understand pregnant women's ANC attendance and IPTp acceptance and use behaviors.

SCOPE OF THE MALARIA BEHAVIOR SURVEY DATA USED FOR THE ANC SEGMENTATION

CAMEROON	CÔTE D'IVOIRE	MALAWI
2019 survey	2018 survey	2021 survey
2 survey zones	4 survey zones	3 survey zones
2,756 households	5,969 households	3,862 households
4,514 respondents	8,675 respondents	5,485 respondents

FOCUS: Women with a live birth in the last two years = 4,646

Breakthrough ACTION reviewed the datasets and selected variables for the analysis that provided insights into three main research questions related to **pregnant women and women who had a live birth within the last two years:**

- How many times did women go for antenatal care during their pregnancy? (Outcome variable 1: ANC attendance)

- Do women believe that ANC service providers in their community generally treat pregnant women with respect? (Outcome variable 2: Perception of health providers)
- How many times did pregnant women take the medicine to prevent them from getting malaria during pregnancy? (Outcome variable 3: IPTp uptake)

APPROACH

The three-step process Breakthrough ACTION followed to conduct the analysis and determine the segment personas is described in detail below.

Phase I - Identify factors that influence ANC attendance and IPTp acceptance and uptake

Identify factors that influence ANC services, experience, and IPTp uptake among pregnant women and women who had a live birth within the last two years.

Women's responses were analyzed across the three MBS datasets in Cameroon, Côte d'Ivoire, and Malawi through a Chi2 correlation analysis to identify which factors showed a strong correlation with the three research questions. This resulted in uncovering five key drivers of attendance to ANC and IPTp uptake.

1. Perception of providers
2. Trust in malaria treatment and insecticide treated nets (ITNs)
3. Spouse/partner discussion
4. Social norms
5. Perception of the risk of malaria

A description of each key driver is presented in the section titled, Factors Influencing ANC Attendance & IPTp Uptake.

Phase II - Conduct a quantitative analysis and identify opportunities

Conduct a quantitative segmentation analysis and identify opportunities for positive behavior change.

Then, a psychosocial segmentation analysis was conducted using a latent-class analysis (see Introduction to latent class analysis to learn more). Five segments emerged from the analysis and are presented below in the section titled, Meet the Segments.

Once the segments were finalized, we then developed the segment identification tool. More information is presented below in the section title, How to Identify Segments in a Given Population.

Phase III - Develop a malaria-focused ANC counseling tool for health providers

Develop a malaria-focused ANC counseling tool for health providers.

Following that, a pretest of the Malaria ANC counseling tool was conducted in Malawi. The pretest workshop uncovered additional insights into the behavior of the segments regarding ANC and helped refine the design and messages of the tool. More information regarding the counseling tool is available in Session 3.

FACTORS INFLUENCING ANC ATTENDANCE & IPTP UPTAKE

5 Factors

The five key factors associated with women's ANC attendance and IPTp uptake are: perception of providers, trust in ITNs & treatment, partner/family discussion, social norms, and risk perception.

- **Perception of Providers** - Women's *perception of providers and how she believes she will be treated* by the provider (e.g., if she thinks she will be treated with respect, or sent away if she arrives without her husband).
- **Trust in ITNs & Treatment** - The *level of trust pregnant women and women with a live birth in the last two years have regarding insecticide treated nets (ITNs) and malaria treatment* obtained at the health facility.
- **Partner/Family Discussion** - The frequency that each segment *spoke with their spouse or family member* about attending ANC, and their involvement in the decision to attend ANC visits.
- **Social Norms** - Whether women *believe that other women in the community also attend ANC and take IPTp*.
- **Risk Perception** - How each segment *perceives the threat of contracting malaria during pregnancy*, whether it is of little, moderate, or of great concern.

MEET THE SEGMENTS

Five segments of pregnant women at risk of malaria emerged across Cameroon, Côte d'Ivoire, and Malawi. Each segment differs in their level of ANC attendance and IPTp uptake, as well as the 5 factors described above, which help us understand what drives those behaviors. This section summarizes the key characteristics of each ANC client segments personas (downloadable table).

Segment 1 – Active Modernists

- **ANC Attendance**: 5+ visits
- **IPTp Adherence**: Uptake is moderate
- **Perception of Providers**: Mostly positive
- **Trust in ITNs & Treatment**: High
- **Partner/Family Discussion**: Discuss ANC with spouse
- **Social Norms**: Believes other women go to 4+ ANC visits
- **Risk Perception**: Believes malaria is a moderate threat

Segment 2 – Unhurried Informed

- **ANC Attendance**: 1-4 visits
- **IPTp Adherence**: Uptake remains low to moderate
- **Perception of Providers**: Mostly positive
- **Trust in ITNs & Treatment**: High
- **Partner/Family Discussion**: Sporadically discusses ANC with spouse
- **Social Norms**: Believes women should wait before going to ANC visits
- **Risk Perception**: Believes malaria is a moderate threat

Segment 3 – Cautious Moderates

- **ANC Attendance**: 1-4 visits
- **IPTp Adherence**: Uptake remains low to moderate
- **Perception of Providers**: Believes she will be sent away without spouse
- **Trust in ITNs & Treatment**: High
- **Partner/Family Discussion**: Extensively discusses ANC and jointly decides with spouse
- **Social Norms**: Believes few women go to 4+ ANC visits
- **Risk Perception**: Believes malaria is easy to treat and not a threat

Segment 4 – Uncertain New Mothers

- **ANC Attendance**: 0-4 visits
- **IPTp Adherence**: Uptake remains low to moderate
- **Perception of Providers**: Believes she will not be treated with respect
- **Trust in ITNs & Treatment**: Moderately high
- **Partner/Family Discussion**: Decides alone or is influenced by a family member
- **Social Norms**: Believes other women go to 4+ ANC visits
- **Risk Perception**: Believes malaria is a moderate threat

Segment 5 – Seldom Adopters

- **ANC Attendance**: Rarely attends ANC
- **IPTp Adherence**: Unlikely to receive or to take IPTp
- **Perception of Providers**: Neutral
- **Trust in ITNs & Treatment**: Moderate trust in ITNs and malaria treatment
- **Partner/Family Discussion**: Least likely to discuss ANC with spouse
- **Social Norms**: Believes few women go to 4+ ANC visits
- **Risk Perception**: Believes malaria is a moderate threat

Representative Quotes

The following quotes were developed based on the key factors, beliefs, and behaviors of each segment. These stories were refined based on stakeholder experiences during workshops in Malawi.

Active Modernists

"My spouse and I are aware of ANC benefits during my pregnancy. I go to ANC early and as many times as I can, as do other women in my community."

Unhurried Informed

"I know ANC is useful but I'm not in a hurry to go to my first visit. I'm less convinced about IPTp."

Cautious Moderates

"I discuss key decisions with my spouse, such as going to ANC visits. I'm not too worried about malaria, and people in my community don't really go to ANC visits."

Uncertain New Mothers

"I'm a single mother. i don't have much experience with ANC providers but I'm not sure they will treat me with respect."

Seldom Adopters

"My partner generally decides for me. I don't go to ANC visits or take IPTp."

Percentage of Segment Per Country

The same five segments exist across the two countries but with different distributions within the populations, reflecting each country's local context. The proportion of each segment across Cameroon, Côte d'Ivoire, and Malawi is found below.

Some segments comprise a smaller percentage in some countries (e.g., Cautious Moderates in Côte d'Ivoire (1%) and Malawi (3%). When developing programs and interventions, it is important to account for the size of the segment in the country and prioritize segments not only based on the opportunity to improve specific behaviors (e.g., IPTp uptake), but also the size of the segment in the population and how easy it will be to reach them and change behavior. **Click the figure for a downloadable PDF**.

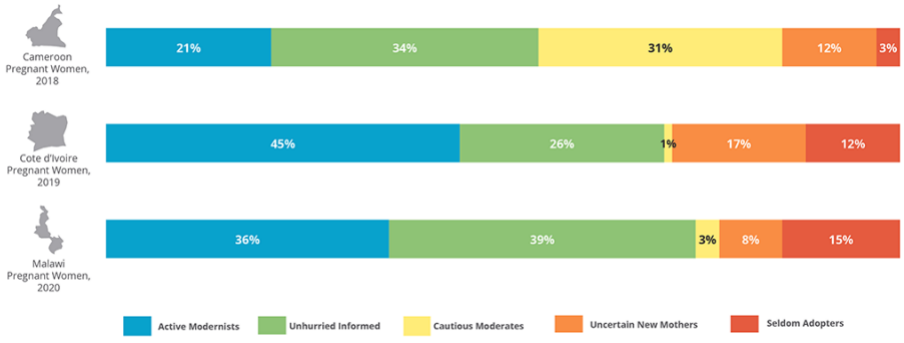

Figure 5. ANC clients segment representation per country

Key Parameters by Segment

Below you see a visual representation of the segment across the five key factors influencing the behavior of pregnant women and women who had a live birth in the last 2 years. Each segment is mapped across the five axes in the spider-chart below and represented by their name and their color. The spider chart enables us to visually identify areas of strengths and weaknesses for each segment and is complementary to the text description provided above on each segment. For example, the Cautious Moderates (yellow), have a good perception of health workers and high trust in ITNs, as represented by their high score on the chart below. However, they have a low score on "Risk Perception" of malaria (severity) and "Social Norms" reflecting their underestimation of the risk of malaria and their perception that other women in the community do not go to ANC visits. For more details on each axis you can refer to the text on the left side of the spider-chart. **Click the figure for a downloadable PDF**.

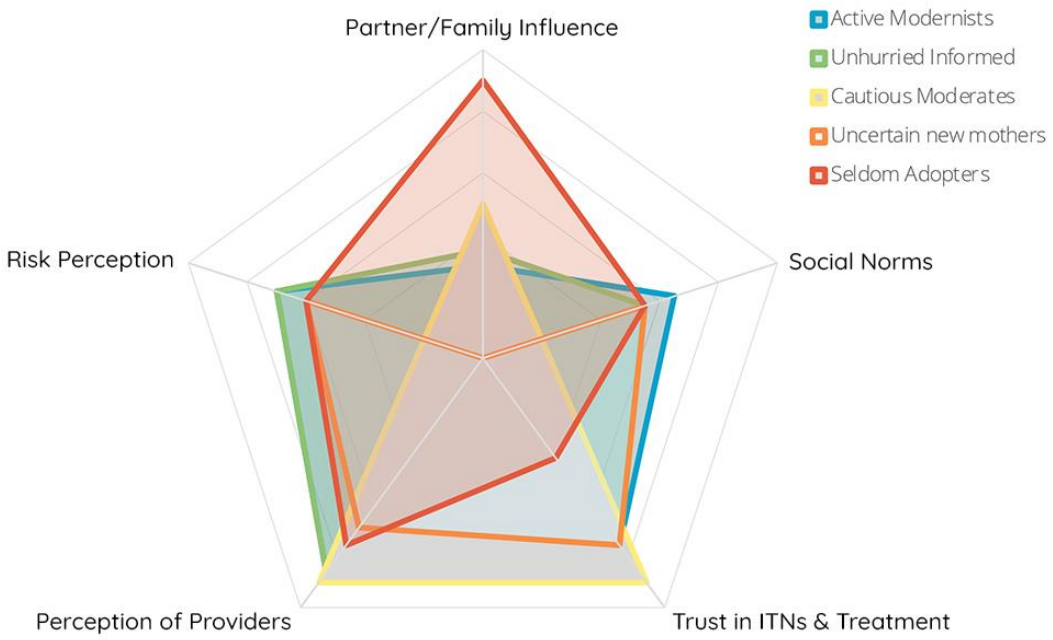

Figure 6. Relative performance on key characteristics for each segment

Partner/Family Influence

Represents spousal/family influence in decision-making regarding going to ANC visits (higher = less autonomy to make decision on her own)

Social Norms

Perception of how many women in the community take preventative care and go to at least 4 ANC visits (higher = believe more women goes to ANC and take IPTp)

Trust in ITNs & Treatment

Represents trust level in ITNs and preventive/treatment drugs coming from the health facility (higher = greater trust)

Perception of Providers

Represents the perception of health workers at the facility (higher = more positive perception of health workers)

Risk Perception

Represents perception of the gravity of malaria care and how easily it can be treated (higher = greater awareness of malaria risk)

HOW TO IDENTIFY THE SEGMENTS IN A GIVEN POPULATION

Now that we have identified segments, it is important to have a tool that can be used to identify them in a given population.

A segment identification questionnaire is a brief set of questions that allows us to determine what segment the ANC client is categorized. These questions were selected using the MBS datasets and a Chi-squared automatic interaction detector (CHAID) model. Download a more detailed PDF of the following segment identification questionnaire.

1.

How many ANC visits should a woman attend during their pregnancy?

How important is attending ANC during pregnancy?

Answers:

- 0-1 visits
- ANC is not important
- **Continue to 1a**

Answers:

- 5+ visits, as many as possible
- ANC is very important
- **Continue to 1b**

Answers:

- 4 or less visits, some visits
- ANC is somewhat important
- **Continue to 2**

1a.

Discuss ANC decision making with her spouse

- If there is little to no discussion, and her spouse largely makes the decision, confirmed *Seldom Adopter*.
- **Otherwise, go to 2**

SELDOM ADOPTER

1b.

Discuss ANC decision making with her spouse

- If there is some discussion & she has agency in decision-making, confirmed Active Modernist.

ACTIVE MODERNIST

2.

Who makes the decision to go to ANC in your household?

Yourself, your spouse, or another individual?

Answers:

- Myself
- Mother
- Another individual
- **Continue to 2a**

Answers:

- Myself and my spouse
- My spouse
- **Continue to 3**

2a.

Discuss her current marital status

- If she is widowed, separated, divorced, or single, confirmed *Uncertain New Mother*.
- I**f she has a partner, go to 3**

UNCERTAIN NEW MOTHER

3.

Have you ever seen or experienced a pregnant woman that has been sent away or reprimanded when she goes to the health facility without her husband/partner?

Answers:

- No, she has not
- Unlikely
- Doesn't know
- **Continue to 3a**

Answers:

- Yes, except in special circumstances
- Yes, at most facilities
- **Continue to 3b**

3a.

Discuss her perception of malarial threat level

- If she worries about malaria and thinks it is difficult to treat, confirmed *Unhurried Informed*.

UNHURRIED INFORMED

3b.

Discuss her perception of malarial threat level

- If she worries about malaria but thinks it can be easily treated, confirmed *Cautious Moderate*.

CAUTIOUS MODERATE

Using this tool allows SBC programmers, providers, or other stakeholders to identify client segments by asking a limited set of questions, with a high level of accuracy. In the next session, you will see how this tool was incorporated into segment-specific counseling cards for ANC clients.

KEY TAKEAWAYS

- It is vital to start any segmentation process by identifying the malaria-related issue and population of interest.
- A segmentation process has numerous aspects and requires a wide range of expertise. Having a strong team of diverse skills, experiences, and connections to the target population is essential for a successful segmentation process.
- Review existing research on the target population to gain a better understanding of what patterns and trends exist in the group, and what reasonable segments may look like. This background research will help inform the rest of the segmentation process, including developing research questions, determining the most viable segmentation model, and even brainstorming potential solutions for social and behavior change.
- While quantitative analysis helps uncover precise insights from existing data, qualitative research is beneficial for supplementing segment personas with a nuanced understanding of behavioral drivers.
- The behavior of ANC clients in Cameroon, Côte d'Ivoire, and Malawi is influenced by factors such as their trust in malaria treatment, their beliefs related to social norms, their perception of the risk of malaria (severity), the discussion with their spouse/partner or a family member, as well as their trust in insecticide-treated bed nets (ITNs).
- Five segments of pregnant women at risk of malaria emerged from our segmentation analysis in Cameroon, Côte d'Ivoire, and Malawi: 1) Active Modernists, 2) Unhurried Informed, 3) Cautious Moderates, 4) Uncertain New Mothers, 5) Seldom Adopters.
- All segments are found across the three countries where the study was conducted but in different proportions.

CHECK YOUR UNDERSTANDING

Thank you for completing the second session of *Audience Segmentation for Malaria*. Next is an ungraded quiz to test your understanding of Session 2.

1. Which surveys are good examples of datasets to explore using for a malaria segmentation analysis? (Select all that apply)

a. Elections polls
b. Health facility survey datasets
c. Malaria Behavior Surveys
d. National Census Surveys

e. Non-representative corporate surveys

Feedback: As discussed during the case studies, Malaria Behavior Surveys and health facility surveys are good examples of datasets offering a diverse set of questions including needs, beliefs, and behaviors. While both are high-quality surveys, elections polls, National Census surveys and non-representative corporate surveys do not offer the set of data related to malaria prevention and control, instead focusing on a variety of other important topics. At baseline, surveys used for a malaria segmentation analysis should have several variables inquiring about malaria behaviors to produce insights and segments that can be leveraged for malaria SBC initiatives.

2. Once a quantitative dataset is available, what first step should be conducted to identify factors influencing our research outcome variables?

a. A latent-class analysis
b. A Chi-2 correlation analysis
c. A qualitative focus groups discussion
d. None of the above

Feedback: Running a Chi2 correlation analysis enables us to identify which factors showed a strong correlation with our pre-defined research outcome variables.

Session 3: Steps 8-11

The purpose of this session is to discuss the development of tailored interventions, using the example of the segments introduced in Session 2. This session highlights opportunities to adapt these interventions for local country contexts.

LEARNING OBJECTIVES

- Understand when and how to adapt existing interventions and segment identification questionnaires for local contexts.
- Describe SBC interventions developed from the audience segmentation of women at risk for malaria during pregnancy and health providers delivering malaria services.

Developing Tailored Interventions

GUIDANCE ON USING SEGMENTATION

In Session 2, we went over steps 1-7 in creating a segmentation:

1. Identify the issue
2. Define the target population
3. Enlist key stakeholders
4. Develop research questions
5. Select a dataset
6. Define segments
7. Refine your segments

Now we will cover the remaining steps 8-11.

STEP 8. DEVELOP INTERVENTION ELEMENTS

With the research completed, it is time to brainstorm ideas and approaches which can inform the design of programmatic solutions or interventions. It is vital to collaborate with a variety of stakeholders during solution development. Individuals may include:

- End users from each segment and individuals that interact closely with them are experts in their local contexts and are best placed to design approaches that are relevant and engaging. Utilizing principles of human-centered design when developing solutions increases the likelihood that interventions are effective, because the interventions are generated by the audience themselves.
- In-country leadership from the National Malaria Program are aware of existing programs and policies that may help facilitate uptake of proposed interventions or that must be considered when developing interventions. Their leadership in the process helps identify areas to pilot, and if promising, to scale the solution(s).

Using insights gained from quantitative analysis and qualitative research as a starting point, invite representatives from the following groups to come together for a workshop and generate a broad array of ideas for possible solutions and intervention opportunities that work for each segment in the population of interest. Key stakeholders include the following, some of which you may have enlisted in step 3:

- National Malaria Program
- Other Ministry of Health officials
- Malaria experts
- Members of the population of interest
- Experts in designing SBC and service delivery programs

During the workshop, make sure to refine the expansive set of ideas generated into a smaller subset of promising ideas for further development. To refine the ideas, prioritize impact, feasibility, and scalability.

If a strong solution has already been discussed and developed among the team conducting the segmentation analysis, you may also use the workshop as an opportunity to test the developed programmatic interventions with key stakeholders and gain feedback to improve the solution.

Step 8 in Action – ANC Clients Case Study

A workshop was held in Malawi with key malaria stakeholders. During the workshop, extensive feedback was discussed related to the segments themselves and the development of a malaria ANC counseling tool. More details about this tool are described in the next lesson, Case Study, Part 2.

Participants included representatives from:

- National Malaria Control Program
- Ministry of Health Reproductive Health Directorate
- ANC health providers, including midwives, nurses, health service assistants, and a health promotion officer
- Members of the population of interest (e.g., pregnant women)

STEP 9. PILOT SOLUTION

Determine how the intervention will be implemented. If needed, translate the intervention into local language(s) to ensure accessibility to all members of the population. Additionally, collaborate with stakeholders to agree on which parties will support each aspect of implementation.

Then, proceed with the following:

- Define a training and supervision process to introduce the intervention. During the pilot phase, training and supervision is needed to ensure that the intervention is well-explained and smoothly integrated by implementing parties.
- Pilot the intervention for 3-6 months. This will enable users of the intervention to become accustomed to it and provide useful feedback that may eventually be used for scaling up.

STEP 10. EVALUATE & REFINE

It is critical to assess whether the intervention is contributing to the intermediate and long-term behavior change outcomes. Construct an evaluation framework to describe whether results are being achieved, and for which individuals or segments within the population of interest. Utilize insights from the evaluation to improve aspects of the intervention.

STEP 11. ADAPT & SCALE

Finally, if evaluation data of the pilot suggest that the intervention has been effective, consider scaling the intervention for use in additional geographic areas, or with new audiences within the same

geographic area. When scaling, consider ways to adapt the intervention so that it remains effective and sustainable.

Now, let us put segmentation steps 8-11 into practice with the case study in the next lesson.

Case Study, Part 2: Malaria Segmentation-Informed SBC Programming

CASE STUDY

As described in Session 2, the segmentation analysis of Malaria Behavior Survey (MBS) data from Cameroon, Côte d'Ivoire, and Malawi revealed five segments of pregnant women with differing attitudes and beliefs towards ANC attendance and IPTp uptake: Active Modernists, Unhurried Informed, Cautious Moderates, Uncertain New Mothers, and Seldon Adopters.

Refer back to the Case Study lesson in Session 2 for a description of each segment.

MALARIA ANC COUNSELING TOOL FOR PREGNANT WOMEN

The findings from the segmentation analysis were utilized to develop a malaria-focused counseling tool for integration into ANC visits for use by health providers at health facilities. This tool improves counseling by focusing directly on a particular segment's needs, ensuring counseling is more streamlined and efficient.

ANC utilization is a global priority given evidence that it leads to improved pregnancy and birth outcomes. Pregnant women are encouraged to access ANC services regularly though many do not come early in their pregnancy nor frequently enough to benefit from ANC services throughout their pregnancy. The World Health Organization recommends eight touch points during pregnancy. Tailored counseling during ANC visits can further IPTp uptake and encourage women to return for follow-up ANC visits that are beneficial to the pregnant woman and her baby.

How the Tool Works

The malaria-focused ANC counseling tool enables providers to identify the segment a pregnant woman is best categorized as and to tailor service communication and counseling to the pregnant woman's needs based on her segment. Knowing the segment the pregnant woman is classified as allows the provider to tailor service communication and counseling in a way that enables the provider to address the factors that may limit ANC attendance and IPTp acceptance and uptake. The tool can also be used at subsequent ANC visits, though it is likely most impactful during the first ANC interaction.

COMPONENT 1. SEGMENT IDENTIFICATION QUESTIONNAIRE

The **segment identification questionnaire** (described in Session 2) Detailed instructions on how to use the questionnaire are in the full version of the malaria ANC counseling tool.

COMPONENT 2. GENERAL ANC COUNSELING SECTION

A **general ANC counseling section** is included with information beneficial for all pregnant women. This section ensures that the health provider covers the critical points relevant for all ANC clients, regardless of segment.

For example, some general malaria messages include:

- Reminding clients of the reasons for attending ANC. Share the recommended number of ANC visits and set a goal of attending regular ANC consultations during their pregnancy.
- Briefly speak with clients about their beliefs or fears about IPTp. Acknowledge their concerns. Reassure them about IPTp benefits for them and their baby.
- Remind clients to consistently sleep under an insecticide-treated net before, during, and after the pregnancy.
- Instruct clients to seek care at a health facility when they experience fever or feel other malaria symptoms and list the common symptoms of malaria. Remind them that malaria, when left untreated, can harm the pregnancy.
- After discussing the general points, the health provider will go directly to the counseling section relevant to the client's segment and engage the client in a discussion around the key points for that segment.

COMPONENT 3. SEGMENT-SPECIFIC COUNSELING SECTION

A **segment-specific counseling section**, including a high-level descriptive summary of the segment characteristics as well as segment specific messages and discussion prompts. For illustrative purposes the Cautious Moderates counseling section is presented below in Figure 7. Out of the five segments, this segment is showcased because there is much to celebrate about their behaviors towards IPTp uptake and ANC attendance, as well as much to be improved, with great potential to shift the attitudes and beliefs of this segment towards behavior change. All five segment counseling sections with detailed instructions on delivering segment-specific counseling can be found in the full version of the malaria ANC counseling tool.

CAUTIOUS MODERATES

ANTENATAL CARE & MALARIA IN PREGNANCY CHARACTERISTICS

(For provider only. Do not share with client.)

Relevant Behaviors, Attitudes, & Beliefs	• These women **often attend only 1 ANC visit** and occasionally attend more than once. • They believe that **other women also do not go for ANC visits**.

	• They are **most likely of all the segments to discuss attending ANC with their partner**. • They are not too worried about malaria and believe it's easy to treat.
Key Opportunities	• Highlight the benefits of ANC attendance and malaria prevention, including IPTp and ITNs, for the health of the entire family, including the partner.

COUNSELING DISCUSSION WITH CLIENT

(ANC1 Only)

Affirm	• Celebrate client's attendance at ANC, especially if early in pregnancy! Continue to congratulate them at future visits. • Ask the client about **what role their partner plays in going to ANC** and incorporate their answer into the discussion. • Encourage them to **continue communicating with their partner** about the importance of attending ANC and taking 3 or more doses of IPTp for a safe pregnancy and healthy baby.
Educate & Encourage Behavior Change	• Share **positive stories of other families in which the pregnant women attended regular ANC visits and took IPTp**. • Remind her that pregnant women are more **vulnerable to malaria**. • If a partner is not attending the ANC visit, encourage the pregnant woman to **invite their partner for the follow-up visit**, noting that **it is not a requirement and acceptable if she comes alone**. • If a partner is attending, **encourage them to support their spouse in attending regular ANC visits** and taking at least 3 doses of IPTp to benefit the pregnant woman and baby.

ABBREVIATED COUNSELING DISCUSSION

(Follow-up ANC Visits Only)

Follow-up ANC Visits	• Celebrate client's attendance at ANC, especially if early in pregnancy! • Ask the client if they've been communicating with their spouse about ANC, and if so, how it has gone. Incorporate their answer into discussion and encourage them to continue communicating

	with their spouse about the benefits of attending ANC often during pregnancy. • Remind her again that pregnant women are more vulnerable to malaria. Note that taking 3 or more doses of IPTp can help prevent malaria for a safe pregnancy and healthy baby. Ask if they would like to confirm when they to return for their next visit and dose of IPTp.

Figure 7. Segment specific counseling section for Cautious Moderates segment

Card Version of the Malaria ANC Counseling Tool

Of note, a simple card version of the malaria ANC counseling tool was also developed for use by Community Health Workers based on a request from the National Malaria Program in Malawi. It contains similar counseling to the full, original version, but in a more portable and concise format. This version enables simple use of the tool by Community Health Workers. An illustration of the segment-specific counseling section card format is presented in Figure 8.

The card version of the tool is also beneficial for reaching two segments that rarely attend ANC visits, namely the Uncertain New Mother and Seldom Adopter segments. Because the card version is optimized for use beyond health facilities, it enables delivery of the intervention and its key messages to the hardest to reach segments in communities to encourage early ANC attendance among groups of pregnant women who may not typically seek such services.

CAUTIOUS MODERATES
RELEVANT CHARACTERISTICS (Do not share with client) • These women often attend only 1 ANC visit and only occasionally attend more than once. • They believe that other women also do not attend ANC visit. • They are most likely to discuss attending ANC with their partner. • They are not too worried about malaria and believe it's easy to treat. OPPORTUNITIES • Elevate the benefits of ANC attendance and malaria prevention for the health of the entire family, including the partner.
ASK & ENCOURAGE – ANC1

• Ask how their partner plays a role in their decision to attend ANC. • Encourage client to continue communicating with their spouse/partner about how ANC contributes to a healthy baby.
EDUCATE & ACTIVATE – ANC1 • Remind client of the increased risk of poor outcomes for pregnant women with malaria. • Share positive stories of other women who attend ANC visits and take IPTp. • Encourage clients to ask their partners to attend ANC with them, noting that solo attendance still works well.

Figure 8. Card version of segment specific counseling section for Cautious Moderates segment

GUIDANCE FOR ADAPTATION OF TOOLS

The interventions for pregnant women at risk of malaria and for health providers were developed using data and insights from specific country contexts, though can be adapted for local contexts throughout Sub-Saharan Africa. Before implementing either of these sets of interventions and tools, consider how well they apply to your local context.

First, there must be interest in implementing interventions for either population on the part of the National Malaria Program (NMP) and other Ministry of Health counterparts working in maternal and child health. Start by determining whether these tools might benefit pregnant women or health providers within your country.

Then, review the characteristics of each segment in the chosen population with the NMP and other malaria stakeholders to leverage their knowledge of factors influencing key behaviors for the population in your country. This step assesses if the factors influencing segment behaviors resonate with malaria stakeholders. If many or all of the characteristics of the segmentation are applicable and there is a desire to see if additional country-specific factors arise, then conduct qualitative research (i.e., focus groups or individual interviews) with individuals categorized into each segment by utilizing the segment identification questionnaire before adapting the tools outlined in the course or others you may be interested in developing. Please see the table below for more detailed instructions. There are three steps in the process to adapt segmentation findings and interventions for local contexts.

Step 1. Bring together malaria stakeholders

Identify and bring together malaria stakeholders to discuss how this segmentation applies to the context and determine interest in piloting an intervention.

Description

To assess the relevance of these segments in your country, share the chosen segmentation with the following entities to gather their inputs based on their experience in the country.

- NMP/malaria professionals
- Maternal and child health professionals
- Local Implementing partners

This step assesses if the factors influencing segment behaviors resonate with teams working on malaria in the country.

Step 2. Explore country-specific nuances through qualitative research

Explore country-specific nuances through qualitative research.

- Use the segment identification questionnaire to identify individuals from the population for focus groups and in-depth interviews across each segment.
- Analyze the outputs of the focus groups and identify common themes between the segmentation and any country-specific factors.
- Adjust the intervention to reflect your segments better.

Description

Conducting qualitative research is an important step before using the segmentation to confirm the factors influencing each segment behavior and uncover any country-specific factors.

- Conduct dedicated focus groups with selected individuals to discover new segment-specific characteristics in your country. Recruit individuals from each segment and conduct at least one focus group per segment.
- Recruitment of individuals across each segment can be done using the segment identification questionnaire.
- Test if the factors driving the segment's behavior are similar in your country and explore if other factors exist.
- Update each segment description and reflect the change in the counseling tool or the intervention opportunities to account for additional country-specific factors.

Step 3. Roll out

Roll out within Health Facilities, Communities, or Training Centers, depending on the intervention selected.

Description

Once you've gathered additional evidence about country-specific characteristics, updated the intervention, and have the buy-in of critical stakeholders, you can use the segmentation and tools in your country through the following process.

- If needed, translate the tools into the local language(s) for each geography to ensure it is accessible.
- From there, pretest the intervention with 6-10 individuals of the community of interest (e.g., clients or providers) to collect feedback and identify gaps.
- Following the pretest, pilot the intervention for 3-6 months in a subset of health facilities. This will enable providers to get used to the intervention and be able to measure its impact prior to scaling it up.
- Before launching the pilot, it is critical to define a monitoring and evaluation framework and a training process to introduce the tools. The intervention should ideally be embedded in existing processes. During the pilot phase, supervision is needed to assess the intervention through frequent feedback and discussion.
- If successful, consider scaling the tool for use in additional locations in the larger geographic zone based on the results of the pilot.

If very few of the segments resonate with NMP, you may consider conducting a new qualitative or quantitative segmentation analysis.

KEY TAKEAWAYS

- It is important to collaborate with a diverse team of stakeholders to develop SBC solutions that are engaging, relevant, and impactful.
- When piloting the intervention, make sure to assign roles and responsibilities for the intervention to the appropriate parties. It is critical to include training, monitoring, and evaluation strategies that ensure a smooth implementation of the pilot, enable an understanding of how to refine and improve the tool, and assess the effectiveness of the intervention for potential scale-up.
- The malaria ANC counseling tool was developed to provide responsive and tailored counseling for pregnant women at risk of malaria. It enables health providers to identify the segment a pregnant woman can be categorized as and focused counseling on the barriers she experiences in seeking ANC and IPTp during pregnancy.
- A set of intervention opportunities were identified for facility-based health providers as well to improve malaria service delivery and adherence to clinical guidelines.
- Segment identification questionnaires are important for determining what segment an individual can be categorized into, in order to deliver the appropriate intervention.
- It is vital to adapt the interventions for use in local contexts. To do so, review the segmentation analyses and tools with local stakeholders and involve the target population in determining what additional contextual findings can be added to the segmentation analyses and interventions presented here.

CHECK YOUR UNDERSTANDING

Thank you for completing the third session of *Audience Segmentation for Malaria*. Next is an ungraded quiz to test your understanding of Session 3.

1. What is the purpose of the segment identification questionnaire used in the malaria counseling tool?

a. To have a good conversation with the ANC client or health provider.
b. To collect data for a completely new segmentation analysis.
c. To determine which segment an individual belongs to, in order to tailor the approaches and messages that most meet their needs.
d. It doesn't matter whether or not the segment identification questionnaire is used.

Feedback: Without the segment identification questionnaire, it is difficult to deliver the right intervention to the right group of people. Interventions based on a segmentation analysis should have a method for determining the segment in the population.

2. Why is it important to ensure the segments and corresponding interventions are relevant to or adapted for your local context? (Select all that apply)

a. Each local context has unique factors that can add a more nuanced understanding to the segment profile.
b. This is not necessary. These segments and interventions can be used for any population of pregnant women or health providers without further adaptation.
c. The segments were developed using data from countries across sub-Saharan Africa, though more country-specific data is beneficial.
d. Prior to investing time and resources into implementing the intervention, it is important to check that the approach is relevant in your local context.

Feedback: It is highly beneficial to ensure the chosen segmentation works well for your local context. Taking the time to do this upfront will aid in a smooth, effective, and well-informed application of the intervention.