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ANTIBIOTIC USE CAMPAIGN
ROUND 1 HEALTHCARE PROFESSIONAL (HCP) IN-DEPTH INTERVIEW GUIDE

Consistent with the CDC-approved formative research plan (FRP), the Persuasive Health Message Framework (PHM) serves as the theoretical framework guiding formative research to generate an effective campaign to raise knowledge and awareness about antibiotic use. This interview guide has been developed to gather information to answer the overarching research questions *and* provide data for PHM constructs to create viable campaign messages for healthcare professional audiences.

INTRODUCTION AND PROCEDURES (5 MIN)

Thank you for taking the time to join us for this online interview. My name is [INSERT NAME] and I work for ICF, a research and consulting firm in Atlanta, Georgia. I want to take a few minutes to tell you what to expect from our conversation and go over the informed consent. After that, you will introduce yourself and then we'll begin our discussion.

As you may recall from when you were recruited, we are conducting this study on behalf of the Centers for Disease Control and Prevention, or CDC, to learn about antibiotic prescribing by HCPs and to gather feedback on potential messages for an upcoming CDC communication campaign on antibiotic use. This information will be used to develop a CDC communication campaign for healthcare professionals and consumers on appropriate antibiotic prescribing and use, respectively.

Our discussion is private. We will not report your comments by name. I don't expect you to tell me anything that you would be uncomfortable sharing, but hope that you will be honest with your responses to the questions I ask.

Let's review the informed consent form. ***[Interviewer reads the form.]***

Remember your participation is voluntary. That means you can stop us at any time and if you are uncomfortable with a question, or if you simply don't have a response, it is fine to pass.

Please speak up *and* speak clearly. We are audiotaping the discussion so that we can have an accurate record of the discussion. Also we have observers from CDC and ICF in our online room, and on the phone line listening and taking notes during our discussion today. We also have an ICF technology support person to assist with any with any technical needs during our discussion.

Do you have any questions before we get started?

INTERVIEW QUESTIONS (50 MIN)

Section 1. General Knowledge, Beliefs, and Perceptions (10 min) (RQ1)

First, I would like to talk in general about current issues with antibiotic prescribing, antibiotic resistance, and the unintended consequences of antibiotic use.

Antibiotic Prescribing, Antibiotic Resistance, and Unintended Consequences

1. In your opinion, how serious of an issue is inappropriate **antibiotic prescribing**? Please describe.

a. For what conditions is inappropriate prescribing most problematic? Please describe.

b. In what healthcare settings would you say inappropriate antibiotic prescribing is most problematic? Please describe.

2. Do you believe that improving antibiotic prescribing **in general** can make a difference in preventing antibiotic resistance? Why or why not?

a. Do you believe that improving antibiotic prescribing in your practice can make a difference in preventing antibiotic resistance? Why or why not?

3. Do you believe that improving antibiotic prescribing **in general** can reduce adverse drug events? Why or why not?

a. Do you believe that improving antibiotic prescribing in your practice can reduce adverse drug events? Why or why not?

Section 2. Personal Prescribing Approach (10 min) (RQ2, 3)

Next, I would like to talk about antibiotic prescribing among other [insert HCP type], as well as your personal approach to antibiotic prescribing.

4. I'd like to share findings from a recent study and get your thoughts on them. Does that sound okay?

[Family Practitioners, NPs/PAs, EDPs, Urgent Care ONLY] A recent study found that at least 30% of antibiotics prescribed in outpatient settings are unnecessary, and that number increases when the wrong drug, dose, or duration are prescribed. What is your initial reaction to this finding?

a. In your opinion, what are some of the reasons [insert HCP type] might prescribe antibiotics when they are unnecessary?

b. What can [insert HCP type] do to reduce unnecessary antibiotic prescribing?

[Hospitalists] I'd like to share a finding from a recent study and get your thoughts on it. A recent study found that between 30 and 50% of antibiotics used in hospitals are inappropriate as prescribed. What is your initial reaction to that finding?

a. In your opinion, what are some of the reasons 30 to 50% of antibiotics used in hospitals are inappropriate?

b. What can hospitalists do to reduce inappropriate prescribing?

5. **[Family Practitioners, NPs/PAs, EDPs, Urgent Care ONLY]** Another recent study found that only 52% of patients receive first-line recommended therapy for three common conditions (acute otitis media, acute bacterial sinusitis, and group A Streptococcal pharyngitis). In your opinion, what are some of the reasons for this?

a. What can [insert HCP type] do to improve antibiotic selection?

Antibiotic Prescribing Approach

6. Now, please take a moment to think about your use of **broad-spectrum antibiotics versus narrow-spectrum antibiotics**. When the guidelines for recommended therapy include the use of a narrow-spectrum antibiotic, why might you choose a broad-spectrum antibiotic instead?

7. Do you try, or have you ever tried, to avoid prescribing **fluoroquinolones** because of the risks?

Why or why not?

a. Who or what—if at all—influenced your decision to avoid prescribing fluoroquinolones?

b. Did you hear about the recent FDA warning against use of fluoroquinolones for common conditions like sinusitis? If so, what do you think about it?

8. **[Hospitalists ONLY]** I'd like to touch briefly on the use of **antibiotic time outs**. Do you or your hospital implement antibiotic time outs on most patients?

a. Who specifically reviews your antibiotic orders to determine if they are necessary and appropriate?

b. At what point in the patient's admission does this occur?

9. Thinking about your day-to-day practice, do you believe that at times you inappropriately prescribe antibiotics? Why or why not?

a. How serious of a concern is this for you?

Section 3. Consumer Profiles (10 min) (RQ1)

Now I'd like to talk about patients that request and/or expect antibiotics.

Demanders and Expectors

10. **[Family Practitioners, NPs/PAs, EDPs, Urgent Care ONLY]** Thinking about your day-to-day practice, how often do you encounter patients who request antibiotics for themselves or a family member?

a. What do these patients say to let you know they want an antibiotic?

b. Do patients who request antibiotics share any common characteristics (e.g., demographics, illness, or family role)?

c. What do you typically tell these patients when you decide not to prescribe an antibiotic?

   i. How comfortable are you saying, "no" to these patients when antibiotics aren't appropriate?

d. In your experience, are these patients likely to seek antibiotics from another source?

11. **[Family Practitioners, NPs/PAs, EDPs, Urgent Care ONLY]** How often do you encounter patients who expect, but do not outright request, antibiotics for themselves or a family member?

a. What do these patients say or do that lets you know they expect an antibiotic?

b. Do patients who expect antibiotics share any common characteristics (e.g., demographics, illness, or familial role)?

c. What do you typically tell these patients when you decide not to prescribe an antibiotic?

   i. How comfortable are you saying, "no" to these patients when antibiotics aren't appropriate?

d. In your experience, are these patients likely to seek antibiotics from another source?

Section 4. Influencers, Facilitators, and Barriers (10 min) (RQ1, 4)

Next, I'd like to discuss the primary influencers on your antibiotic prescribing approach, as well as the facilitators and barriers to prescribing appropriately.

Influencers

12. What resources and individuals, such as supervising physicians or colleagues, are the primary influencers on your antibiotic prescribing approach?

a. [If physicians or colleagues] What do you think about their approach to prescribing antibiotics?

13. How confident are you that you would be able to implement a new or different approach to prescribing in your current setting?

Facilitators and Barriers

14. Thinking about your current practice or setting, do factors—such as the concerns about patient satisfaction, desire to retain patients, treating patients with life-threatening illnesses, or the possibility of litigation—pose challenges to appropriate prescribing? Please describe.

a. What would help you overcome these barriers to proper antibiotic prescribing? *Probe barriers respondent described.*

Section 5. Message Set Testing (10 minutes) (RQ5)

Next, I am going to show you some informational messages and calls to action that may or may not be used in the upcoming antibiotic use communications campaign. Informational messages are the key points that CDC wants to convey to its audiences. Calls-to-action are the behaviors, or actions, that CDC wants people to take.

I would like to get your honest thoughts and opinions about these, so please speak freely.

Informational Message Testing

15. First, I am going to show you some informational messages developed for [HCP type] about antibiotic prescribing. I will show you one message at a time and ask you a series of questions about each.

[Moderator shows appropriate message on slide and reads. Table is for purposes of moderator guide ONLY.]

Audience	Information Messages
Family practitioners	1. You can keep your patients [satisfied/happy/safe] without prescribing antibiotics when they aren't needed. 2. **Alt:** You can help your patients be satisfied without prescribing antibiotics when they aren't necessary by helping them feel better. 3. **Alt:** You know what your patients need most. By helping them alleviate their symptoms, you can keep your patients happy even if you don't prescribe an antibiotic. 4. **Alt:** You can do more harm than good by prescribing antibiotics that aren't needed.
NPs/PAs	1. You can keep your patients [satisfied/happy/safe] without prescribing antibiotics when they aren't needed. 2. **Alt:** You know what your patients need most. By helping patients alleviate their symptoms, you can keep them happy even if you don't prescribe an antibiotic. 3. **Alt:** You can do more harm than good by prescribing antibiotics that aren't needed.
Urgent care	1. You can keep your patients [satisfied/happy/safe] without prescribing antibiotics when they aren't needed. 2. **Alt:** You can keep your patients satisfied without prescribing antibiotics when they aren't needed by helping your patients feel better. 3. **Alt:** You know what your patients need most. By helping them alleviate their symptoms, you can keep your patients happy even if you don't prescribe an antibiotic.
ED physicians	1. You can keep your patients [satisfied/happy/safe] without prescribing antibiotics when they aren't needed. 2. **Alt:** You can keep your patients satisfied without prescribing antibiotics when they

Audience	Information Messages
	aren't needed by helping your patients feel better. 3. **Alt:** You know what your patients need most. By helping them alleviate their symptoms, you can keep your patients happy even if you don't prescribe an antibiotic. 4. **Alt:** You can do more harm than good by prescribing antibiotics that aren't needed.
Hospitalists	1. You can stop or change antibiotic orders as new information becomes available—a critical step in care. 2. **Alt:** You can take an antibiotic timeout and adjust treatment as new data becomes available—a critical step for patient safety. 3. **Alt:** You can determine whether your patient is taking the right antibiotic drug, dose, or duration—a critical step for patient safety.

a. What are your general thoughts about this message?
b. What feelings or emotions does this message evoke?
c. Would this message change what you typically think about when prescribing antibiotics?
d. What do you think about the specific words and phrasing used in this message?
   - **[All groups, Message #1]** What do you think of the phrase "keep your patients happy or safe" instead?
e. What tone would be most effective in prompting [HCP type] to consider reducing their antibiotic prescribing? Probe empowered, knowledgeable, action-oriented, trusted.

16. Of the messages I've shown you, which do you prefer? Why?

[Moderator shows slide with the two messages appropriate for each audience.]

Call to Action Testing

17. Now I would like to get your thoughts and opinions on a call to action about antibiotic use. I am going to show you some calls to action for [HCP type] about antibiotic prescribing. I will show you one message at a time and ask you a series of questions about each.

[Moderator shows appropriate message on slide and reads. Table is for purposes of moderator guide ONLY.]

Audience	Calls to Action
Family practitioners/ Urgent care	1. Give your patients the best care. Tell your patients why they don't need antibiotics, what to do to feel better, and what they should do if they don't feel better. 2. **Alt:** You know what your patients need most. You can tell them why they don't need antibiotics, what to do to feel better, and what they should do if they don't feel better. 3. **Alt**: Safeguard patient safety. Only prescribe antibiotics when they are needed, and if needed, prescribe the right drug, dose and duration.
NPs/PAs	1. Give your patients the best care. Tell your patients why they don't need antibiotics, what to do to feel better, and what they should do if they don't feel better. 2. **Alt:** You always give your patients the correct care. Give your patients antibiotics only when they are needed. 3. **Alt:** You always give your patients the safest care. Give your patients antibiotics only when they are needed. 4. **Alt:** Safeguard patient safety. Only prescribe antibiotics when they are needed, and if needed, give the right drug, dose and duration.
ED attending physicians	1. Give your patients the best care. Tell your patients why they don't need antibiotics, what to do to feel better, and what they should do if they don't feel better.

Audience	Calls to Action
	2. **Alt:** You always give your patients the correct care. Give your patients antibiotics only when they are needed. 3. **Alt:** You always give your patients the safest care. Give your patients antibiotics only when they are needed. 4. **Alt**: Safeguard patient safety. Only prescribe antibiotics when they are needed, and if needed, prescribe the right drug, dose and duration.
Hospitalists	1. Reassess antibiotic therapy after 48 hours and stop or adjust as necessary. 2. **Alt:** Re-evaluate your patient's antibiotic treatment and stop or adjust as necessary. 3. **Alt:** Safeguard patient safety. Reassess antibiotic therapy after 48 hours and stop or adjust as necessary.

a. What types of feelings or emotions does this call to action evoke?
b. What do you think about the specific words and phrasing used in this call to action?
c. What do you think about the tone of this call to action?
d. Do you believe this call to action is an appropriate request? Why or why not?
e. Does this call to action seem realistic? Is it feasible? Why or why not?
f. How would this call-to-action benefit you and your patients?
g. Can you envision yourself taking this action? Why or why not?
    - How confident are you that you would take this action if recommended?
h. What are the barriers, if any, to your taking this action?
i. What would make it easier for you to do this?

18. Of the messages I've shown you, which do you prefer? Why?

[Moderator shows slide with the messages appropriate for each audience.]

19. Is there anything else about these messages you would like to add?

Closing (5 min)

Well, that is the last of my questions. Do you have any questions for me?

Thank you again for taking the time to participate in this discussion. We sincerely appreciate and value your input!