

Antimicrobial Resistance Communications and Media Support Services Focus Group Guide for Providers on Antifungal Therapeutic Drug Monitoring *FINAL: January 16, 2024*

Introduction; approx. 10 minutes

1. Welcome! Thank you for joining today's discussion. My name is **NAME**. I'm an independent researcher and moderator with KRC Research.
2. The sole sponsor of today's focus group discussion is the Centers for Disease Control and Prevention—CDC. Our conversation today will focus on a health topic.
3. I'm a professional researcher, but not a CDC employee or a subject matter expert on health topics. My role is to facilitate our conversation for the next 90 minutes. Let me tell you a bit about it.
 - a. There are no wrong answers. You may have different opinions. That's OK—all of your experiences and opinions are important, and we want to hear from all of you.
 - b. Since we are having these groups online, we will need to talk one at a time and let everyone have time to speak. Not everyone has to answer each question, but it's important that everyone participates throughout this conversation.
 - c. If at any time you can't see the screen well or have difficulty hearing, let me know. We have a technician here who can help us.
 - d. Please silence your cell phones and put away portable devices.
 - e. If you need to step away from our discussion for any reason, you don't have to ask for my permission—just step away and come back when you finish.
4. Because privacy is important, I'm going to share our Privacy Policy.
 - a. We will protect your privacy for today's discussion, and nothing you say will be reported in association with your name. We will use first names only during the conversation. You may choose to use a nickname or any other name you prefer.
 - b. Your participation is voluntary—you do not have to answer anything you are uncomfortable with.

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- c. Like our technician who is with us today virtually but who you do not see, a few colleagues are also with me virtually today to watch quietly and take notes.
- d. We are audio- and videorecording for transcribing of today's discussion. Because we are speaking with many groups like this one, it is important for me to have an accurate record of today's conversation.
- e. We ask that you not share participants' comments or participants' identities with others outside of this group.

Warm-Up; approx. 5 minutes

- 5. Thanks again for joining me today. We are having discussions with **PHYSICIANS/PHARMACISTS** in a mix of locations. Let's go around the virtual room and introduce ourselves to one another. Tell us...
 - a. Your first name
 - b. Where you're located
 - c. What type of setting you work in
 - d. The types of health concerns or topics you find yourself dealing with in your work these days

Awareness and Experience; approx. 20 minutes

I said we'd talk about a health topic today. We're going to focus on fungal infections and the treatment of fungal infections. We'll get into specifics later.

- 6. **PHYSICIANS:** First, how often do you treat fungal infections?
PHARMACISTS: First, how often do you see patients being treated for fungal infections?
- 7. Is there anything unique or challenging about the treatment of fungal infections?
 - a. What makes the treatment of fungal infections unique or challenging, compared to other types of infections?
 - b. Are there any special considerations involved?
- 8. To get more specific, I'd like to focus on antifungal therapeutic drug monitoring, or antifungal TDM.
 - a. I'd like to take a quick anonymous poll. When you see the poll pop up, please rate whether you're very familiar, somewhat familiar, not very, or not at all familiar with this topic. **MODERATOR INITIATE POLL**
 - b. Thanks for sharing. It looks like this group is **[SUMMARY ASSESSMENT OF POLL RESULT]**.
 - c. Let's talk about this. What does anyone know about antifungal TDM?
- 9. What comes to mind when you think about antifungal therapeutic drug monitoring? Where does your mind go?

For our conversation, and so we're on the same page, I'll define antifungal therapeutic drug monitoring as testing that checks the amount of an antifungal drug in a patient's blood.

10. To your knowledge, when is it appropriate to perform antifungal TDM?
 - a. Under what circumstances?
 - b. With what types of drugs?
 - c. With what types of patients?
 - d. Which patients might be more in need of TDM? Which are at risk without it?
11. Conversely, when might it not be appropriate to perform TDM? Are there such situations?
 - a. Why would it not be appropriate in the situations you mentioned?
12. Have you been involved in performing antifungal TDM before? Recently?
 - a. What is your role in antifungal TDM?
 - b. **IF YES:** How often do you order this kind of testing and monitoring? Weekly, monthly?
13. For those who have performed antifungal TDM recently, what factors about the fungal disease, antifungal treatment, or patient caused you to perform antifungal TDM?
14. Walk me through the process of antifungal therapeutic drug monitoring briefly. Suppose you determine it's necessary for a patient. What happens next? What do you do, and who's involved?
15. Who else is involved, and what are their roles?
 - a. **ASK PHYSICIANS** What role do pharmacists play? How does that complement your role?
 - b. **ASK PHARMACISTS** What role do physicians play? How does that complement your role?
 - c. What role does the laboratory play? Is it easy to liaise with the laboratory?
 - d. Are there downsides of multiple roles being involved?
 - e. How could you be better supported in your role as it relates to antifungal TDM?
16. What has the experience of performing TDM been like for you? Positive, negative; straightforward, not straightforward? Why?

Perceptions and Benefits; approx. 15 minutes

Thanks for sharing your experiences. Now, I'd like to ask about your general perceptions of antifungal therapeutic drug monitoring. **THROUGHOUT SECTION: LISTEN FOR ANTIFUNGAL RESISTANCE, PROBE WHEN MENTIONED**

17. Let's start with words or phrases you'd use to characterize the practice of antifungal therapeutic drug monitoring. What comes to mind to describe it or your experience with it?
 - a. Does antifungal TDM seem...
 - Complicated?
 - Confusing?
 - Straightforward?

- Important?
18. You may have mentioned some of this already, but I'd like to learn about benefits of performing antifungal TDM. What are the most important benefits, in your mind?
 - a. What are the most important benefits to patients?
 - b. How do you, or how would you, describe the benefits to a patient?
 19. Speaking of patients, what's most important for those undergoing antifungal TDM to know about it?
 - a. Do you talk with the patient about it? If so, how do you explain it to patients? What do you share with them? Do you feel like you need to simplify it for them?
 - b. What reactions do patients have when you discuss this with them?
 - c. What questions do patients have?
 20. Here are a couple ways to think about some potential benefits. Which of these seems most central to the decision to perform antifungal TDM?
 - a. Preventing toxicity
 - b. Preventing antifungal resistance
 - c. Addressing variability in pharmacokinetics (how drugs are absorbed, distributed, metabolized, etc.)
 - d. Managing complex drug regimens
 - e. Improving treatment outcomes
 21. Now let's think again about this same list of benefits. This time, which of these seems least central to the decision to perform antifungal TDM?
 - a. Preventing toxicity
 - b. Preventing antifungal resistance
 - c. Addressing variability in pharmacokinetics (how drugs are absorbed, distributed, metabolized, etc.)
 - d. Managing complex drug regimens
 - e. Improving treatment outcomes
 22. Regarding preventing antifungal resistance, where does that sit within your list of reasons to perform antifungal TDM? Why?
 - a. When is antifungal resistance important to think about?
 - b. Have you had experience with antifungal resistance before? What happened?
 23. Anything else to share about benefits?

Barriers and Challenges; approx. 18 minutes

We've talked about benefits of antifungal therapeutic drug monitoring, but there may be some factors that make it difficult to perform in practice.

24. **IF NOT ALREADY CLEAR** First, *is* antifungal therapeutic drug monitoring challenging for you to perform? Are there obvious barriers to doing so effectively?

25. What, if anything, is challenging about antifungal TDM? What's top of mind?
- Is there anything uniquely challenging about your situation—including your practice setting, your awareness and resources, your patients? If so, what?
26. For some healthcare professionals, there might be challenges related to knowledge, information and resources, and structural barriers. Where do the greatest challenges lie for you if there are any?
27. I'm going to share some possible barriers to performing antifungal TDM. I'm curious whether any of these stand out as particularly challenging for you or your practice. If so, please share! This may also cause you to think of something not included here. **SHARE AND PROBE AS NEEDED**
- Patient resistance
 - Lack of time or competing priorities
 - Access to tests **PROBE IF MENTIONED** Do you use send-out tests or in-house testing? What's challenging about that?
 - Coordination and logistics
 - Long turnaround times for results
 - Uncertainty of when to perform
 - Uncertainty on what tests to perform
 - Interpreting results
 - Actions to take after getting a result back (e.g., how to modify dose)
 - Payment or reimbursement
 - Uncertainty of best procedure
 - Uncertainty around TDM benefits
 - Infrastructure needs
 - Records and record-keeping
28. Do you feel your practice or setting is well-equipped to perform antifungal TDM? What makes you say that?
- Do you feel well-informed?
 - Do you have colleagues you can consult with?
29. Given all you shared, what are some of the first, most important ways to start to address these barriers you've shared?
- Which barriers seem most solvable? Which seem least solvable?
30. What kinds of solutions do you see as most helpful to increase the rate of antifungal TDM?

Questions and Needs; approx. 18 minutes

This has been a great discussion. One topic we haven't focused on yet is your own questions. Maybe this conversation has sparked some new ones.

31. What questions do you have about antifungal therapeutic drug monitoring? What do you want to know more about? What would be helpful to learn?
32. Where do you get information about antifungal TDM these days, to the extent that you do at all?

- a. Where have you actively looked?
 - b. What have you seen, read, or heard, even if not looking specifically?
 - c. **IF SEEN, READ, HEARD:** Where did you come across that information?
 - d. Does it ever come up in conversations with colleagues? What topics?
33. Where would you look for more information on this topic?
- a. Who has good information you'd trust?
34. What specific resources do you currently use on this topic? It's possible there are none—but I'm curious about what some of you do use.
- a. Are there any datasets, educational materials, diagnostic checklists, prompts you use or refer to? Something else?
 - b. What makes them useful? The content, the format, the way you access them?
35. What resources, information, data, or materials do you recall being particularly useful on this topic?
- a. What makes it particularly helpful?
 - b. What does it do well?
36. Are there other resources available that you haven't used much yet? What else could you turn to if you needed it?
- a. Is there anything about these resources you don't use that makes it seem less than useful? What?
37. Finally, I'd like to know about what other resources you need on this topic. What would be useful in equipping you to perform antifungal therapeutic drug monitoring?
- a. Are there data you'd want to see?
 - b. Are there materials, information, or guidance?
38. What about resource needs related to...
- a. Specific antifungals?
 - b. Specific disease states?
 - c. Helping with patient understanding?
 - d. Addressing resistance?
 - e. Improving adherence?

Wrap Up; approx. 4 minutes

Thank you for your insights over the last hour-plus. We're going to wrap up in a moment. Before we do, a couple of important closing questions.

39. Given all we've discussed, what needs to happen for more clinicians like yourselves to be aware of antifungal therapeutic drug monitoring and to put it into practice?
40. What advice would you give CDC as it continues to work toward developing and disseminating information and resources on this topic?

MODERATOR THANK AND DISMISS



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