

# Sample Dialogue Demonstrations

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This document showcases how our enhanced agent simulates conversations with different healthcare stakeholders, using the authentic speech patterns and concerns from the interview transcripts.

## Dialogue with Community Health Worker

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**Context:** CHPS compound, Central Region, Limited resources, Intermittent connectivity, Twi language (translated to English)

**User:** Good morning. I'm Maame Yaa from Care Across Borders. We're developing a mobile app to help with identifying skin conditions. Can you tell me about your typical day as a community health worker?

**Agent (CHW):** Hmm, a normal day... I wake up very early, around 5:30, and by 7 I am moving to the houses. I visit maybe 5 to 10 homes depending on how far they are. Some are very far ooo. I check on the pregnant women first, then newborns, and sometimes I follow up on someone with fever or skin rash from my last visit.

It can be tiring. By afternoon, sometimes my phone battery is already low, and in some areas, there is no network to call the nurse if I have questions. I write everything in my register and submit it to the health center at the end of month.

**User:** When you encounter someone with a skin problem, what do you typically do?

**Agent (CHW):** It depends on what I see. If it's just small rash or ringworm, I advise them to go to the clinic. Some will go right away. Others will ask if I have cream to give them.

But if it looks bad, like with sores or very swollen, I call my supervisor. Sometimes I take a picture with my phone and send it on WhatsApp to the nurse. But that one, I need network, and sometimes by afternoon the network is not good.

We are not supposed to diagnose ooo. We are trained just to observe and refer. But sometimes people expect you to tell them what the problem is since they know you have some training. I try to explain that the nurse at the clinic will examine them properly.

**User:** Do you think a mobile app that could help identify skin conditions would be useful for your work?

**Agent (CHW):** Hmm, that kind of app... it sounds good if it is simple to use. Sometimes even the app for malaria data is too complicated and takes too much time.

If it can work without network and tell me clearly if I should refer now or can monitor at home, that would help me. Also, if I can take a photo and save it until I get network to send. And maybe it can have voice too? Some of us are not fast readers. If it speaks the advice, I can understand faster.

But I will only use it if my supervisor says it's okay. If it comes from outside and the nurse doesn't know about it, I won't use. It can bring confusion.

And you know, when battery dies during rounds, there's no place to charge. You just manage until you go home. So the app should not make the battery finish quickly.

# Dialogue with Nurse

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**Context:** Health Center, Eastern Region, Limited resources, Stable but slow connectivity, English language

**User:** Thank you for meeting with me today. I'm researching how healthcare providers manage skin conditions. Can you walk me through how you handle a typical day at this facility?

**Agent (Nurse):** I start around 7:30 in the morning. By 8 o'clock, patients have already lined up outside. OPD runs till about 2pm, sometimes longer if we're very busy. I usually see between 40 to 50 clients a day, even more on market days when people come from surrounding villages.

The cases are mixed - children with fevers, pregnant women for antenatal care, minor injuries, and plenty of skin issues, especially during humid weather or rainy season. Fungal infections are very common here.

Time management is crucial because we're often understaffed. I have to prioritize cases while ensuring everyone receives proper care within our limited resources.

**User:** When someone presents with a skin condition, what's your process for assessment and management?

**Agent (Nurse):** First, I ask the basic questions: how long they've had it, any medication they've already used, whether anyone else in the family is affected. Then I examine the lesion myself.

If it's something clear like fungal infection, scabies, or basic dermatitis, I manage it right here at the facility. We have standard protocols from GHS for common conditions.

But if it's unusual, or I see ulcers, severe infections, anything looking necrotic or potentially cancerous, I refer immediately. I don't guess on complicated cases - it's not worth the risk. Patient safety comes first.

Sometimes when I'm unsure, I call a senior colleague or a doctor at the district hospital. I might send a picture on WhatsApp for a second opinion, though they're also busy and might not respond immediately.

**User:** We're developing a mobile app that would help identify skin conditions through photos and provide risk assessment. How would a tool like this fit into your district's healthcare system?

**Agent (DHO):** Such a tool would certainly be valuable if implemented properly. It must be simple, fast, and not create additional reporting burden. We already have issues with multiple data streams - DHIMS-2, NCD apps, maternal health apps - all operating in silos rather than as an integrated system.

The most necessary features would be offline functionality, as many of our facilities experience connectivity challenges. A triage risk assessment feature would be beneficial for guiding appropriate referrals and reducing unnecessary overload at higher facilities. The ability to store cases and sync later would serve our rural zones particularly well.

For district-level management, I would strongly recommend building dashboard access for the DHMT. We need to monitor case patterns and trends to inform planning and resource allocation. Even a simple district-level view would improve our surveillance capabilities.

Regarding skin conditions to prioritize, I would suggest focusing on tinea capitis, scabies, impetigo, Buruli ulcer in endemic areas, diabetic ulcers for referral, and minor burns from domestic injuries. These represent the bulk of cases our frontline workers encounter daily.

For successful implementation, the tool must be embedded into our training packages and aligned with GHS systems. My concerns would include data ownership - Ministry and GHS must retain control; sustainability - what happens when the project funding ends; and ensuring the tool supplements rather than attempts to replace clinical judgment.'re developing a mobile app that helps identify and triage skin conditions, even offline. What features would make this most valuable for you?

**Agent (Nurse):** If it's going to be useful here, it must be offline-first. Our network is unreliable, no excuses.

I'd need clear red flag alerts - if it sees something serious like necrosis or deep infection, it should make this very obvious. A photo timeline would help track healing progress without guessing.

The interface needs to be fast and simple. I don't have time during OPD for complicated forms and systems. And any treatment recommendations must align with GHS Standard Treatment Guidelines - if the app tells me one thing and the District Hospital expects another, it will cause problems.

Remember, apps are just tools. The final decision is always clinical judgment. And I've seen too many new tools introduced with short trainings and no follow-up. After two months, people stop using them. If you build something, you must walk with us, not throw it and disappear.

## Dialogue with District Health Officer

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**Context:** District Health Directorate, Volta Region, Moderate resources, Good connectivity, English language

**User:** Thank you for making time for this meeting. We're exploring ways to support frontline healthcare workers in managing skin conditions. Could you describe your role in the district health system?

**Agent (DHO):** I serve as the Deputy Director for Public Health in this district, overseeing several public health programs including disease surveillance, maternal and child health, school health initiatives, and community outreach activities.

My office supervises the CHOs, health centers, and coordinates with facility in-charges to implement Ministry of Health and Ghana Health Service programs. We're responsible for ensuring that healthcare delivery follows national protocols while addressing local needs.

My role involves both administrative oversight and technical guidance. I review health data from facilities, identify trends, and develop interventions where necessary. Additionally, I participate in capacity building for frontline staff and monitor program implementation.

**User:** How are skin conditions currently managed in your district, especially at the primary healthcare level?

**Agent (DHO):** Skin conditions are quite common in our district, particularly fungal infections, scabies outbreaks in schools, and burns from domestic accidents. We also see Buruli ulcer cases in certain endemic communities.

However, I must note that these conditions are often underreported because our system prioritizes malaria, TB, maternal deaths, and other high-profile indicators. Skin disease is quietly draining productivity, but it doesn't receive much programmatic attention in terms of dedicated resources.

At the primary level, our protocol is that CHWs should refer cases to nurses at health centers, as CHWs are not licensed to diagnose. Nurses can manage simple infections using the Standard Treatment Guidelines but should escalate complex cases to the district hospital.

The challenge we face is that documentation of these referrals is inconsistent. While formal referral forms exist, informal referrals via verbal communication or WhatsApp are common. This creates gaps in our monitoring and evaluation system.

**User:** We