

# Integrating digital self-care and clinical care for improved health outcomes: Lessons and insights from the design of an AI health coach in South Africa

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Supporting Person-Centred Approaches to Retention in Care (SPARC)  
Population Services International (PSI)



# Health systems are under more strain than ever. Digital self-care solutions may be able to help.

## Client pain points

Waiting time during clinic visits is unproductive.

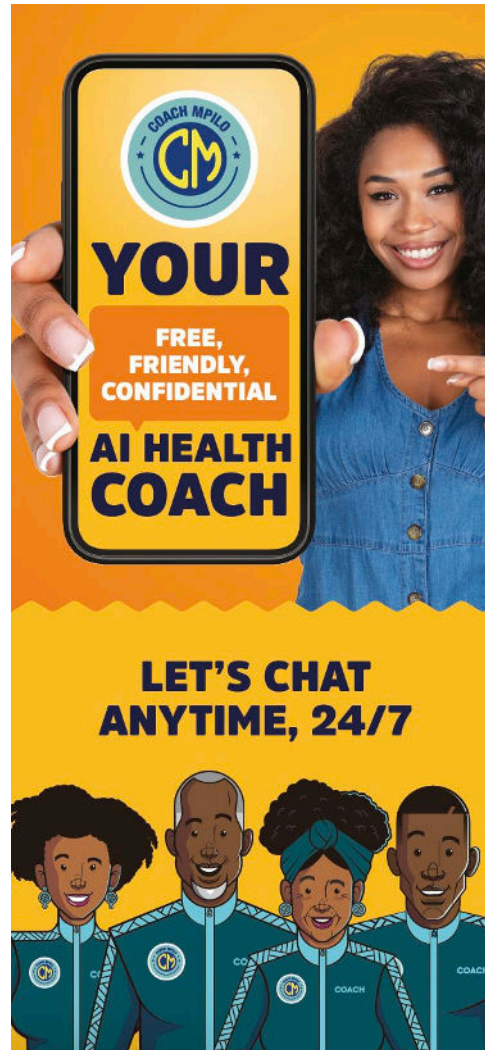
Consultations are too rushed for questions and concerns to be raised and addressed.

Privacy and confidentiality are not always assured.

Questions and concerns are not always addressed empathetically.

Options for advice and support between clinic visits are lacking.

The transition to decentralized meds collection can be daunting and confusing.



## Provider pain points

Time pressure to provide information and support within a brief consultation

Lack of skills and confidence in counselling clients

Clients who will not 'open up' about their concerns or challenges

Concerns about clients remaining in care when frequency of clinic visits decreases

## System-level pain points

Healthcare budgets are stretched, and healthcare providers are scarce

# An AI-enabled health chatbot can help to address these pain points

Helps patients arrive for their clinic visit more informed and engaged.

Takes off pressure to cover everything in a brief consultation.

Gives patients a productive way to use waiting time.

Offers privacy, confidentiality, and even anonymity for sensitive questions that clients may otherwise hesitate to ask.

Allows patients to explore questions and concerns on their own time, in as much detail as they want, anytime 24/7.

Provides patients with an additional source of information and support between clinic visits.

Links users to in-person care and other sources of support

Provides reminders and nudges for clinic visits, medication, etc.

Lives on WhatsApp —no need to download anything.

**LET ME BE YOUR PERSONAL AI HEALTH COACH!**

CHOOSE YOUR COACH AND START CHATTING RIGHT AWAY.

FREE. CONFIDENTIAL. RELIABLE.

Ask me anything. I'm here for you.

Message 603 on WhatsApp 087 373 1634

Or scan the QR code to connect instantly.

**COACH MP/LO**  
www.coachinglo.co.za

QR code

Small text at bottom right: Download WhatsApp app message from app.

# AI Coach provides not just information but also advice, support, reminders, nudges, and linkage/referral to in-person services

## Health information

“They said I’m not yet suppressed. I’m confused. What does that mean?”

”They told me I must start treatment, but I feel fine—why should I do that?”

## Psychosocial support

“I tested positive and I’m feeling so down.”

“I’m so scared to tell my partner that I have HIV.”

## Linkage and referral to other services and support

“I just moved to Durban for work. Where can I go for my HIV treatment?”

## Reminders and nudges

“Just a reminder that your next clinic visit is this coming Thursday.”

“When you go to the clinic, remind the nurse you’re due for a viral load test.”

“It’s almost December—if you’ll be traveling, make sure you have enough meds to get through the festive season. The clinic can help.”



Kwesinye isikhathi kudingeka nje umuntu ongakhuluma naye ngendlela engekho nengcindezi, ngaphandle kokwesatshiswa. Lapho uthola izeluleko ezinhle, uyazizwa uphumule.

# Demand generation happens both in the clinic and in the community

Posters in key areas within the clinic

Brochures and postcards provided by clinic staff

Roving health promoter engaging patients in the waiting area

Proactive messages to patients who have missed a clinic visit

Referral by a community health worker during a home visit

Referral by a friend or family member

Referral by another AI Coach user

**YONKE INTO IZOLUNGA**

COACH MPILO UNALO LONKE ULWAZI.

Ngolwazi olufanele, ungazigcina uphilile futhi unamandla. 😊

Xoxa no-coach wezeMpilo we-AI nganoma yini oyifunayo, uthole izeluleko ongazethemba eziyimfihlo, nezimahhala. Noma nini, usuku lonke, 24/7.

Xhumana noCoach ku-WhatsApp. Thumela u-602 ku-087 373 1634 uqale manje. 🙌

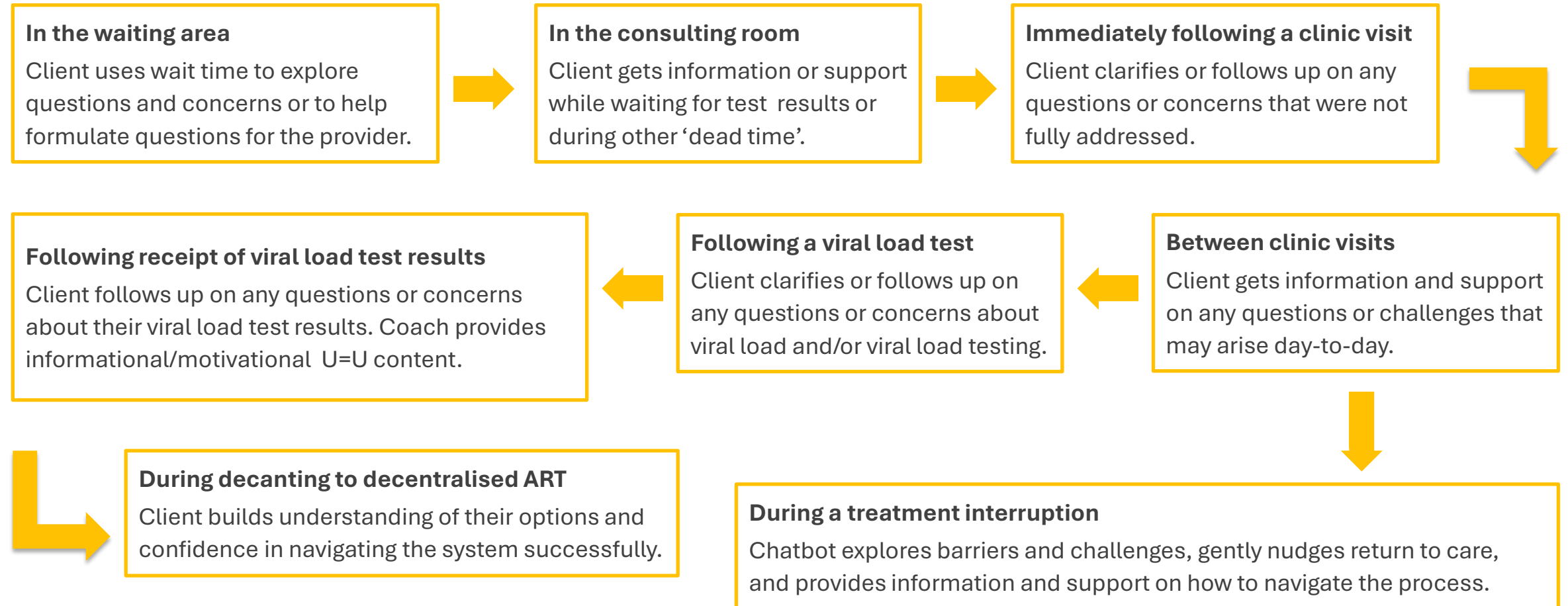
**KuMAHHALA. KuYIMFILHO. KuTHEMBEKILE.**

Scan ukuze uxhumane no Coach ngokushesha.

www.coachmpilo.co.za

Standard WhatsApp logo

# AI Coach provides information, guidance, and support throughout a user's health journey



# We've taken various steps to ensure that the tool is safe, private and reliable

**Users and others want to know that AI Coach can be trusted. We're addressing that through:**

## **Stakeholder and community engagement**

The design and testing of the tool has been guided by a stakeholder advisory council and a coach advisory group as well as feedback from real-life users.

## **Knowledge base**

The AI Coach draws first from approved NDOH and WHO guidelines in responding to any clinical questions.

## **Rigorous testing before deployment**

The AI Coach tool has been tested first in a controlled setting and then at small scale in a real-world clinic setting, before being rolled out more widely.

## **Data privacy and security**

All data sent via the AI Coach is encrypted and stored securely. The menu also offers users tips on how to further secure chats.

## **Evaluation of response quality**

We developed a list of 200+ anticipated questions, drafted 'ideal responses', and then compared those responses to the ones generated by the AI Coach.

## **Real-time automated monitoring**

The system automatically detects triggers indicating the need for human intervention and flags chats for review and follow-up.

## **Informed consent**

On accessing the AI Coach, users are immediately asked to review and accept the terms and conditions, to facilitate an informed decision on use.

## **Ability to be connected to a real person**

Users can also proactively ask to chat with a real health worker at any time via the main menu or by asking directly in the chat itself.

# We have involved recipients of care in the testing and refining of the tool

**None of this matters if we develop a tool that people do not find useful and user-friendly.**

We conducted two rounds of usability testing in July and November 2025 in-depth interviews, focus group discussions, and hands-on design activities, with a total of 60 participants (33 men, employing guided use and observation, in-depth interviews, focus group discussions, and hands-on design activities, with a total of 60 participants (33 men, 27 women).

We also administered three quantitative measures:

## **System Usability Scale**

“How easy is it to use?”

Score: 84.3

(>80 indicating excellent usability)

## **Acceptability of Intervention Measure**

“Do users actually like it?”

Comfort: 79.3% strongly agree

Truthfulness: 79.3% strongly agree

Usefulness: 82.8% strongly agree

## **Intervention Appropriateness Measure**

“Does it seem like a good fit here?”

Good fit: 62.1% strongly agree

Suitable: 72.4% strongly agree

Applicable: 79.3% strongly agree

Good match: 72.4% strongly agree

# We are evaluating outcomes of interest among both clients and providers

## Do clients...

Become **more comfortable** exploring potentially sensitive health issues (particularly HIV and TB)?

Become **more knowledgeable** about sexual health (especially HIV/TB)?

Experience **improved psychosocial wellbeing** in relation to HIV and TB?

Develop **more motivation** to manage their health/engage in care?

Develop **more confidence** in managing their health/engaging in care?

**Engage or re-engage** in care?

**Remain in care** over time?

Become **virologically suppressed**?

## Do providers...

Find it **feasible** to integrate AI Coach referral into their normal routine?

Consider the AI Coach to be a **trustworthy** source of information and support for referring clients?

Perceive the AI Coach to be **helpful** in supporting client engagement and retention?

Find that the AI Coach **reduces pressure** to identify and respond to all client questions and concerns during a brief consultation?

# What issues and challenges should we be wrestling with as we develop, adapt and scale these types of tools?

Designing for users, not for ourselves, and iterating in response to user feedback

Making digital health tools feasible and appealing for providers, not just end users

Identifying the appropriate metrics and indicators and processes for tracking these

Making these tools versatile and/or prioritizing key segments, given users' diverse needs and preferences

Determining the appropriate scope for a given tool—specific population and/or health issue vs more general

Considering from the outset how digital self-care tools can complement and be integrated with in-person clinical care

Giving users choice and agency—allowing them to engage on their terms, not ours

Balancing user experience with stakeholder needs, particularly in relation to data collection

Balancing features and functionality with affordability and sustainability

# Recommendations for countries interested in adapting and implementing AI-enabled, client-facing digital health tools

Develop a digital health framework addressing ownership, governance, accountability, and privacy.

Consider how best to integrate digital health tools into routine service delivery.

Assess and plan for technical assistance and capacity strengthening needs.

Set out a medium-term strategy for transition of tools to government, including skills and resource implications.

Identify all eventual target groups and use cases even if starting with a tool that is more focused/targeted.

Determine what type of data collection and analysis is necessary and feasible.

Design for 'humans in the loop' and build in monitoring and escalation protocols.

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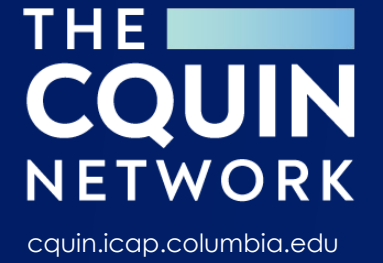


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Thank you!

