### JACARANDA HEALTH

## Q3 IMPACT REPORT

July - Sept 2023





A newborn baby in Kilifi County is supported by the nurse on-duty in the hospital maternity ward.

#### **A Word of Introduction...**

Q3 focussed on increasing the access, scope, and scale of our core solutions for mothers and providers. Over three months, the team explored how to expand 24/7 helpdesk support for mothers on PROMPTS (p2), adapt lifesaving information and referral support for mothers in the

Ghanaian context (p3), translate our accredited EmONC curricula to gamified digital formats (p4), and develop new content to better equip both mothers and providers to support small and sick newborns (p5). We hope you enjoy reading.

#### **Snapshot of Q3 Scale**





mentors trained in emergency maternal care (56 new in Q3)



1,000+ government health facilities partnered with Jacaranda (60 new in Q3)



911 72% county government cost share for Jacaranda's **MENTORS** program

A 24/7 Lifeline: Adapting the PROMPTS helpdesk to offer round-the-clock support and referral for mothers Nine weeks into pregnancy, Faith noticed dark red spots of blood. She sent a message to PROMPTS; 'There's a lot of blood. What do I do?'. Minutes later, she was connected to a clinical helpdesk agent, who advised referral to hospital. Faith's miscarriage was far from the outcome that she'd hoped for but, critically, it took place within a safe and dignified environment with skilled nurses on hand.

At Jacaranda, we understand that mothers' concerns don't follow business hours. Stories like Faith's highlight the importance of making rapid, personalized support and referral available to mothers - at any time of day or night.

In Q3, we expanded our PROMPTS helpdesk to offer round-the-clock support to mothers on the platform. Depending on the message urgency, when mothers send a question to PROMPTS during the day, they receive an instant response or have their question triaged to a clinical (human) agent to discuss referral options.

Previously at night, our AI system would read and respond to incoming messages and send a tailored response. More recently, this night service includes human helpdesk agents, meaning at-risk mothers receive personalized referral support whatever the hour.

38% of incoming questions are now sent during the night, a stark reminder of the importance of round-the-clock maternal health support. If it wasn't for PROMPTS, we might have waited to see the situation. It was a lifeline. We'll continue using it as we try for another baby.'

> **– Faith Asayo,** PROMPTS mother, Kakamega County





#### Piloting PROMPTS in Ghana:

Testing an mHealth approach to improve the quality of care for Ghana's mums and babies Our mission is to reach all mothers and babies and, more recently, our impact in Kenya has caught the attention of other country partners.

Since March this year, Jacaranda has worked with the Ghana Health Service and local research partners to test how PROMPTS, and the data it collects from mothers, could help cost-effectively improve quality of care in Ghana's maternal health system.

This quarter, our growing team of five on-theground have been busy adapting PROMPTS for the context, so that it adequately meets the needs of mothers in the country.

In August, the team completed a series of qualitative interviews with mothers to understand how PROMPTS could offer informational support during and after pregnancy, and plug identified knowledge gaps around labor and delivery. Back-end, our well-characterized database of Swahili messages are being translated to Twi (by the Ghana Bureau of Languages), which along with two new Twi-speaking recruits to our helpdesk, will ensure we can offer personalized support and referral to mums in a language they understand and act on.

A soft launch of the adapted platform is planned for late November in the country's regional capital Accra, with enrollments kicking off in January of the new year. Getting pregnancy information on your phone will be a very safe, convenient, and quick way to spot a problem - and get feedback.

– Pregnant Study Participant

A focus group discussion held in August with prenatal mothers at Tema General Hospital in the Greater Accra Region aimed at understanding the needs and knowledge gaps around pregnancy, and how PROMPTS could support. Image credit: Dodowa Health Research Centre.



#### **Digitizing EmONC learning** Gamifying remote learning to put real-time learning into the hands of frontline maternity nurses

Jacaranda's nurse mentorship program was built on the evidence that continuous training reinforces skills, which in turn improves outcomes for mothers and babies. While our focus is primarily on training providers in the wards, in Q3 we tested new approaches to translate our accredited curriculum online, helping nurses build lifesaving skills and knowledge – from anywhere, at any time.

Twelve learning modules were uploaded onto a simple online platform, supported by a new partnership with the World Continuing Education Alliance (WCEA). The platform, accessible by phone, tablet, or computer, is tailored to the context, and deliberately interactive.

Each module offers simulation-based exercises for providers to think through real-life emergency scenarios on the ward, like postpartum hemorrhage or birth asphyxia, and gamified features that incentivize progress through the curricula. It also incorporates new modules on prenatal and high risk newborn support, equipping frontline nurses with the requisite skills to support across the continuum of care.

The platform will be accessible to both Jacaranda's partner network of nurses, as well as more broadly to providers across the country through WCEA's affiliation with the Nursing Council of Kenya.

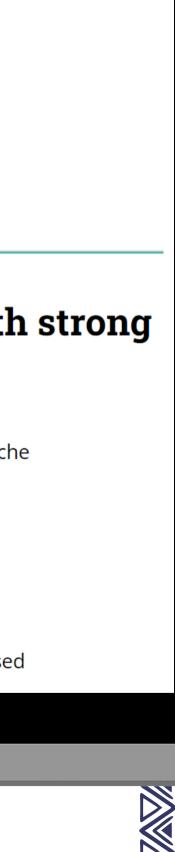
5 ~ 3		
Hypertensive Disorders in Pregnancy		Lesson 1 of 10 <b>A Case Study</b>
— A Case Study	•	Mum arrives at the facility wit contractions
Eearning Objectives		
The Facts		<ul> <li>34 yo G3P0+2 presents at 36 weeks with headac</li> </ul>
$\equiv$ Definitions	•	• OB hx: 2 prior FSBs at term via SVD
— Risk Factors	0	Medical history: HTN on aldomet
$\equiv$ Prevention		<ul> <li>Exam: baby longitudinal, vertex, SVE: cervix close</li> </ul>
	Hypertensive   Disorders in   pregnancy   90% COMPLETE = A Case Study = Learning Objectives = The Facts = Definitions = Risk Factors	Hypertensive   Disorders in   pregnancy     90% COMPLETE  <

An example of a simulation based exercise on hypertesive disorders in pregnancy, hosted on the WCEA platform.











in skills and knowledge surrounding taking care of newborns on the ward. And you can't afford to miss a step when managing a baby.









#### **High risk** newborn care: **Specialised support for** small and at-risk newborns at home and in hospital

The first few weeks of life can be a fragile time for babies, and a worrying time for mothers. High risk newborns need specialized support, but information and skills gaps mean newborn mortality remains an issue across Kenya.

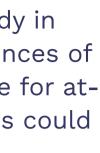
In Q3, Jacaranda initiated a pilot study in Kakamega to understand the experiences of mothers and nurses surrounding care for atrisk newborns, and how our programs could support.

Group discussions with mothers unearthed knowledge gaps around newborn danger signs, infection control, and feeding practices, while nurses voiced issues with identifying high risk cases and applying the right skills to handle them.

These qualitative insights will inform how our solutions adapt to better support vulnerable newborns. PROMPTS already sends postpartum mothers messages on early childhood development, breastfeeding, and infant immunization reminders, but will soon include guidance on caring for premature babies, and strategies to reduce infection, like Kangaroo mother care.

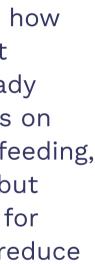
Meanwhile, our MENTORS curricula will include new learning content to upskill nurses on issues like sepsis, pneumonia, and jaundice, as well as management of preterm or HIV-exposed babies.

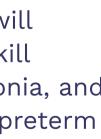
When mothers and providers are empowered to care for small and at-risk newborns, they stand an infinitely stronger chance of survival.













**Jacaranda wins Google funding** to advance AI-driven support for underserved women across **Sub Saharan Africa** 

Significant maternal and newborn health gaps could be addressed by AI, yet despite an evolving global landscape of AI health technologies, few have been adapted to our settings, and underserved populations in Africa are increasingly being left behind.

In August, Jacaranda received \$1.3 million in grant funding from Google to advance the field of generative AI, ensuring every mother accesses the right information and support during and after pregnancy.

The project capitalizes on seven years experience of building, iterating, and scaling the AI systems that underpin PROMPTS, and will be a springboard to making the platform more broadly accessible, efficient, and scalable within new areas. Over the next three years, Jacaranda's in-house technology team will develop, deploy and scale a firstin-kind generative AI model capable of offering context-sensitive information and referral support to women in multiple African languages and dialects.

Near-term, our ambition is that 3 million women across Sub Saharan Africa receive Al-driven support through PROMPTS. Longer-term, our plan is to open source the model, creating a blueprint for other organizations to harness the full potential of AI to improve their services for millions of mothers.

There is a clear need for AI models that local teams can cheaply and easily customize to their contexts to achieve maximum impact for mothers. We're excited to be working with Google to advance the field of generative AI, ensuring every mother accesses the right information and support during and after pregnancy.

> - Jay Patel, Head of Technology, Jacaranda Health

A PROMPTS user Lilian Nyamusi in Kitengela, Kajiado County, uses the SMS tool to get information and ask questions throughout her pregnancy.



#### **Data Snapshot:**

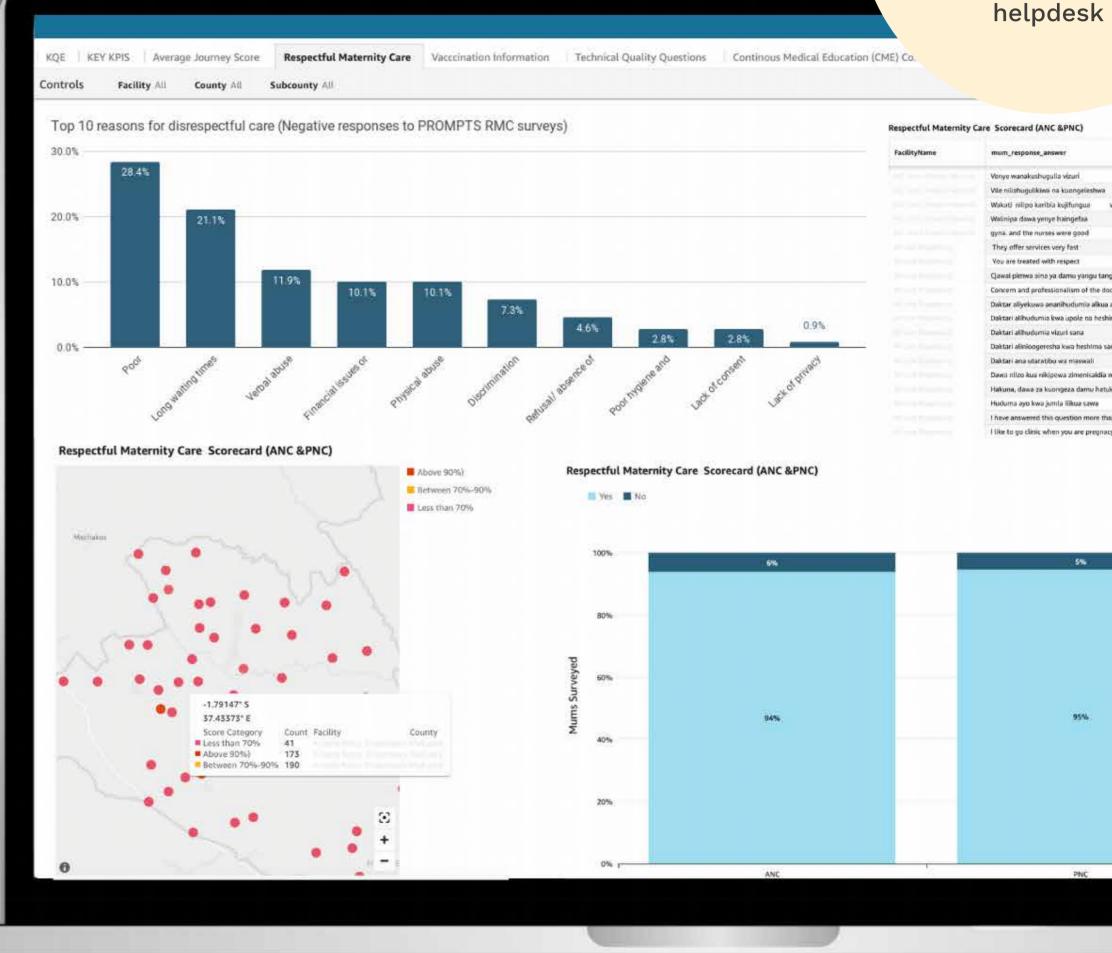
Creating a nuanced picture of respectful maternity care Respectful maternity care is a human right. Yet persistent issues of poor treatment continue to be a leading driver of poor outcomes for mums and babies across many countries, including Kenya. These issues are almost always "invisible". They are not reported in national informatics systems, and facilities and governments are increasingly looking to understand the real-time realities of how care is experienced in the wards.

**PROMPTS routinely nudges mothers to feedback on their experiences of care.** Previously, the resulting feedback has been manually labeled, producing facility level data on whether mums were treated with respect or not. More recently, we've been testing how machine learning could learn to judge the sentiment and severit of this feedback, and understand its nuances: ie. the subtle differences between stigma versus refusal of care. **Our hope is that this will result in:** 

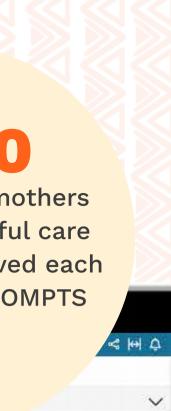
- Faster, more accurate identification of serious instances of abuse
- Better, more granular data on respectful care issues on the ward
- A more sustainable, scalable data collection and reporting system to support facilities and governments make targeted improvements.

Respectful care is a sensitive issue, which is why we'll also continue to maintain humans in the loop. Human clinical agents review and follow up on all concerning feedback, and it is directly fed back (in anonymized formats) with our facility and government partners to help them understand the nuanced issues surrounding respectful maternity care in their health systems. 5,000

messages from mothers detailing respectful care experiences received each month by the PROMPTS helpdesk



An example of Jacaranda's real time dashboards aggregating feedback from mothers on their experiences of respectful care and facilities.



	Group
	ANC
	ANC
wakanipima jia ni ndoko takin	ANC
	ANC
	ANC
	ANC
	ANC
ngu nianze kliniki	ANC
octors and nurses, they made sure th	ANC
a ananiacha na kuenda shughuli zake	ANC
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# JACARANDA HEALTH

✓ Read our 2025 Strategy www.jacarandahealth.org ▶ hello@jacarandahealth.org 🔰 @jacarandakenya f @jacarandahealth in @Jacaranda Health

Disclaimer: This report discusses pregnancy and motherhood. While we use the term "mother" throughout the piece to mirror the language of the community we are collaborating with; we also acknowledge that not all pregnant people identify as "mothers." We would like to recognize that pregnancy and motherhood can be experienced by people of all genders.

