



Jacaranda Health:
PROMPTS and EmONC Mentorship

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Organization	Jacaranda Health
Website	https://www.jacarandahealth.org/
Locations	Kenya
Year Founded	2010
Health Focus Areas	Maternal and Newborn Health, Human Resources for Health
Organization Type	Nonprofit
Innovation	PROMPTS and EmONC Mentorship Program



INTRODUCTION

Jacaranda Health works to **improve the quality of maternal health and newborn care services by introducing low-cost quality improvement solutions in collaboration with the public sector.**¹ This Kenyan-based nonprofit focuses its interventions in the public sector as data shows that 80% of Kenyan women who deliver in health facilities do so at facilities managed in the public sector. Jacaranda Health has two innovative flagship interventions: PROMPTS and Emergency Obstetric and Newborn Care (EmONC) mentorship. **PROMPTS is a digital platform that provides health information to expectant mothers with the aim of positively influencing health-seeking behavior. EmONC mentorship is an on-the-job-training program on essential elements of quality maternal and newborn care that Jacaranda Health has adapted for low-cost integration into the public sector. The organization collaborates with 15 counties in Kenya on this health worker mentorship program while PROMPTS has 750,000 users enrolled across Kenya.**²



PROBLEM

Close to 60% of deliveries in Kenya occur at health facilities,³ but the quality of maternal care in the country remains inconsistent.⁴ The impact of Kenya's low-quality maternal care is reflected in its maternal mortality ratio of 342 deaths per 100,000 live births.⁵ With over 6,000 women dying annually during childbirth, evidence shows that the low quality of clinical care provided to mothers in Kenya is a major driver of poor maternal and newborn health outcomes.⁶ There is also inequitable access to quality maternal healthcare, with only 8% of poor women able to access maternal health services of adequate quality.⁷ Newborn deaths contribute to almost half of all deaths of children aged 5 years and younger in Kenya,⁸ with data showing that newborn health outcomes are closely tied to the quality of maternal healthcare because most of these deaths are due to either preterm deliveries or complications occurring in childbirth (intrapartum).⁹ In an audit of deaths that occurred in 2014, a national committee identified that delays in care-seeking contributed to 30% of maternal deaths.¹⁰

Kenya has increased investments toward reducing maternal and child mortality in the past decade.¹¹ These investments have included rolling out free maternal care with the Linda Mama program and increasing coverage of key maternal and newborn services across the country. These investments have led to more women accessing care at health facilities, but there has not been an accompanying improvement in maternal and newborn health outcomes.¹² **This incongruence between increased access and sustained poor outcomes has been primarily attributed to the low quality of clinical services provided at facilities.**¹³

Maternal complications (such as hemorrhage or eclampsia) and neonatal complications (such as birth asphyxia) can be better managed or averted by providers with skills in emergency and obstetric newborn care (EmONC).¹⁴ Despite numerous efforts in classroom-based training programs in Kenya, providers consistently score an average of 50% on EmONC skills and knowledge,^{15,16} and there is a significant drop in knowledge and practice a few months after short, one-time training sessions.¹⁷ Concurrently, empowering women with knowledge about pregnancy complications is critical as studies have found that women seek appropriate healthcare when they know and recognize pregnancy and postpartum danger signs.¹⁸



SOLUTION

Against this context, Jacaranda Health's interventions focus on the public health system to improve clinical quality while also engaging with pregnant mothers to incentivize them to seek care at the right time.¹⁹ The organization has two complementary low-cost solutions that aim to solve delays in care-seeking and poor clinical quality of maternal health services.²⁰ **PROMPTS is a digital health platform offering free targeted two-way messaging and a help desk service to new and expectant mothers regarding pregnancy and newborn health-related questions.** The second solution, **the EmONC mentorship program, supports quality improvement of maternal health via a network of government nurse champions, or mentors, who build the capacity of their peer providers through a series of simulation drills, lectures, and one-to-one coaching.**²¹ Using this approach, Jacaranda Health seeks to seed a culture that sustains high-quality maternal and child health services in Kenya's public hospitals.



PROMPTS empowers women to seek care at the right time and place, with women receiving personalized health messaging via the platform at different stages of their pregnancies. These notifications include critical health information, tips on financial planning to prepare for delivery, and two additional messages in the early postpartum period concerning newborn nutrition, family planning, and immunization. A randomized controlled trial at three large public hospitals showed improved health-seeking behavior among pregnant women and improved uptake of postpartum family planning among the enrolled participants.²² Over the past five years, PROMPTS has evolved to become a two-way messaging digital health platform that triages questions from users by way of embedded artificial intelligence (AI).²³ The help desk is manned by health professionals who answer specific questions and refer high-risk patients to health facilities. To strengthen linkages to care, client experience and feedback is collected, anonymized, and shared with facility leadership as "scorecards" that identify improvement areas for health facilities. The onset of the COVID-19 pandemic in 2020 disrupted antenatal services, and the PROMPTS team integrated tele-triaging and virtual consultations to ensure continuity of care for pregnant women.²⁴

While PROMPTS addresses the demand side of maternal and newborn healthcare, EmONC mentorship seeks to improve the supply side by enhancing the knowledge and key lifesaving skills of service providers. The EmONC mentorship program, which runs over four to six months, provides continuous professional development for maternity teams. The training combines several evidence-based approaches, including Helping Babies Breathe, PRONTO International's low-tech simulation tools,²⁵ and Kenya's Ministry of Health (MOH) guidelines. A lead mentor from the Jacaranda Health team trains experienced nurses from public facilities, who in turn deliver a structured curriculum to build capacity among fellow frontline healthcare workers on critical maternal and newborn care skills.²⁶ The innovative aspects of this approach include developing integrated training materials adapted for the public facility context, creating a network of public sector nurse champions or mentors, moving training from classrooms to facilities where deliveries take place, and incorporating simulations to ensure that critical, practical lifesaving skills are correctly applied.²⁷ Additionally, the program has developed a standardized toolkit that enables the trained mentors to guide trainees at their assigned facilities toward continuous quality improvement.²⁸



IMPLEMENTATION AND INTEGRATION INTO THE PUBLIC HEALTHCARE SYSTEM

Jacaranda Health implements PROMPTS and the EmONC mentorship program as a package of complementary solutions. To ensure sustainability, both programs are incorporated into county annual work plans, with the goal that counties share the implementation costs by allocating budgets toward these programs' activities.²⁹ To date, counties have shared 50% of the implementation costs of the EmONC mentorship program. Under the leadership of Kenya's MOH, the Jacaranda Health mentorship team contributed to the development of a national EmONC mentorship package that incorporates learning from their innovative approach.



SCALABILITY

The total operating costs of PROMPTS—from pregnancy to 12 months postpartum—is 80 KES per mother enrolled, which includes the cost of bulk SMS, the cost of recruiting mothers, and the infrastructure costs of the help desk, help desk agents, and hosting services. PROMPTS is built on RapidPro, an open-source platform developed by UNICEF, to increase the support networks and sustainability of the platform at national scale. According to Jacaranda Health’s data, the EmONC mentorship program is cheaper per health provider than a five-day classroom training on similar skills.³⁰ The growth of the PROMPTS platform has been spurred by increased demand from counties for partnership. The COVID-19 pandemic also provided opportunities to explore additional uses for PROMPTS, such as tele-triage, which led to a surge in new users.³¹

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As part of its scaling strategy, the EmONC mentorship program made additional investments by launching a Nurse Mentor Training Center (NMTC) in June 2019. The NMTC serves to deepen the practical skills of nurse mentors, which allows them to improve the quality of training they provide to frontline health workers.³² In 2020, to support continued training of participants and mentors, Jacaranda Health launched DELTA (Digital EmONC Learning Trainer & Assistant), a self-guided learning platform.^{33,34} The team hopes to have the courses on DELTA accredited by professional regulatory bodies in order to allow learners to use the content to meet annual continuous medical education requirements. By 2022, Jacaranda Health plans to be working in 20 Kenyan counties that account for two out of every five births in the country.³⁵ In addition, the

team hopes to serve 1.5 million Kenyan women and babies through their package of services.³⁶



SUSTAINABILITY

Jacaranda Health has embedded sustainability in its innovations through several approaches. The EmONC mentorship program has lowered its costs by being run at public health facilities. As Jacaranda Health seeks to eventually transition its interventions to the public sector, partner counties take up an increasing proportion of the costs of the EmONC mentorship. In 2020 the program achieved an average 60% cost share. By optimizing operations for the PROMPTS platform such as by using artificial intelligence to triage questions and having a chatbot respond to routine questions, Jacaranda Health has lowered its unit costs to KES. 80 per enrolled user.

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CHALLENGES



Photo credit: Jacaranda Health

Both PROMPTS and EmONC mentorship have evolved and adapted in response to feedback and challenges; this has been a learning journey for the Jacaranda Health team since the programs’ inception. Given that Jacaranda Health implements its innovations in collaboration with the public sector, gaining trust from health facilities and counties is critical. Apart from relationship management, the team has faced some technical challenges in their growth path. For the PROMPTS platform, one important test was figuring out how to incorporate triaging through the AI tools on the platform and the help desk function.³⁷ The team integrated natural language processing to ensure that the triage function was able to adequately categorize high-priority questions. PROMPTS

also operates on the philosophy that AI augments and does not replace human health experts at the help desk. Regarding the EmONC mentorship program, the team initially analyzed performance data by manually pulling datasets from multiple sources, which was time-consuming.³⁸ With support from a partner, the team solved this challenge by developing a data analytics platform for the EmONC program.



IMPACT

At the end of 2020, Jacaranda Health's bundled innovations had been deployed in 15 counties.³⁹ The EmONC mentorship program had graduated 286 active mentors, who in turn trained 4,103 healthcare workers in public facilities.^{40,41,42} During follow-up by mentors, the trained workers correctly performed 9 out of 10 essential clinical skills for delivery, and 80% of trainees passed a skills test on neonatal resuscitation.⁴³ Internal assessments using national registry data have shown a decrease in postpartum hemorrhage and neonatal deaths in Jacaranda Health's partner mentor facilities compared to equivalent facilities without mentorship.⁴⁴

750K

pregnant women
and new mothers
enrolled

By May 2021, the PROMPTS platform had enrolled 750,000 pregnant women and new mothers.⁴⁵ Help desk agents answer 2,500 questions per day and refer approximately 500 mothers for care every month. A survey of PROMPTS users showed that 9 out of 10 women who were referred to a health facility in the last quarter of 2020 after indicating danger

signs ended up seeking medical attention.⁴⁶ The Jacaranda Health team is also using the PROMPTS platform to assess quality of care at different participating facilities. While the total number of respondents was relatively low, more than 85% of survey respondents in the last quarter of 2020 indicated that they were treated with respect at the facilities they attended.⁴⁷ Jacaranda Health has secured funding to conduct an independent impact evaluation of its programs in partnership with researchers from the Harvard University School of Public Health.⁴⁸



EmONC was deployed in **15** counties

Trainees performed **9 OUT OF 10** essential clinical skills for delivery

PROMPTS platform enrolled **750K** pregnant women & new mothers

Help desk agents answer **2,500** questions per day



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ACKNOWLEDGEMENTS

Special thanks to Jacaranda Health's Executive Director, Africa - Sathy Rajasekharan - for providing data and information and to Diana Silimperi, Krishna Udayakumar, and Sowmya Rajan for sharing their valuable expertise during the development of this case study.

The case studies in this series are informed by our research on adopting and scaling primary healthcare innovations in Kenya. The research was commissioned by Kenya's Ministry of Health and the UNSDG Partnership Platform and made possible by the generous funding from Takeda Pharmaceuticals, Inc. The views expressed here belong to the authors and do not represent the views of the funders, the UNSDG Partnership Platform, or the Kenyan Ministry of Health.





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