

2020 - 2021

# ANNUAL REPORT





# OUR JOURNEY OF GROWTH

## Improving the quality of care for mothers and babies each year

Dear Friends,

It's been a privilege to watch our progress over the last few years - from our beginnings testing public sector innovations, to the package of equity-driven, affordable solutions we're now deploying to almost a million mums and their babies across 20 of Kenya's counties. As we grow our capacity to increase the number of mothers and babies receiving life-saving care from skilled providers, we've found ourselves well-positioned to address other health system bottlenecks, such as blood shortages for mums in need, lack of data on undervaccinated babies, or uncoordinated emergency and urgent transport systems that get mums to care.

Although COVID-19 wreaked widespread disruption on critical maternal health services, we're proud that our digitally-enabled tools and remote support systems have been able to assist the government in its response. Maternity nurses across the country continue to learn lifesaving emergency skills remotely, pregnant mums can be virtually triaged from their homes, and the data we collect through our platforms helps government health system managers easily identify critical shortages - of medicines, protective equipment, and now vaccines - in facilities. This crisis also deepened existing health inequities for Kenya's most vulnerable women and babies, yet - at Jacaranda - we're no stranger to adapting quickly to

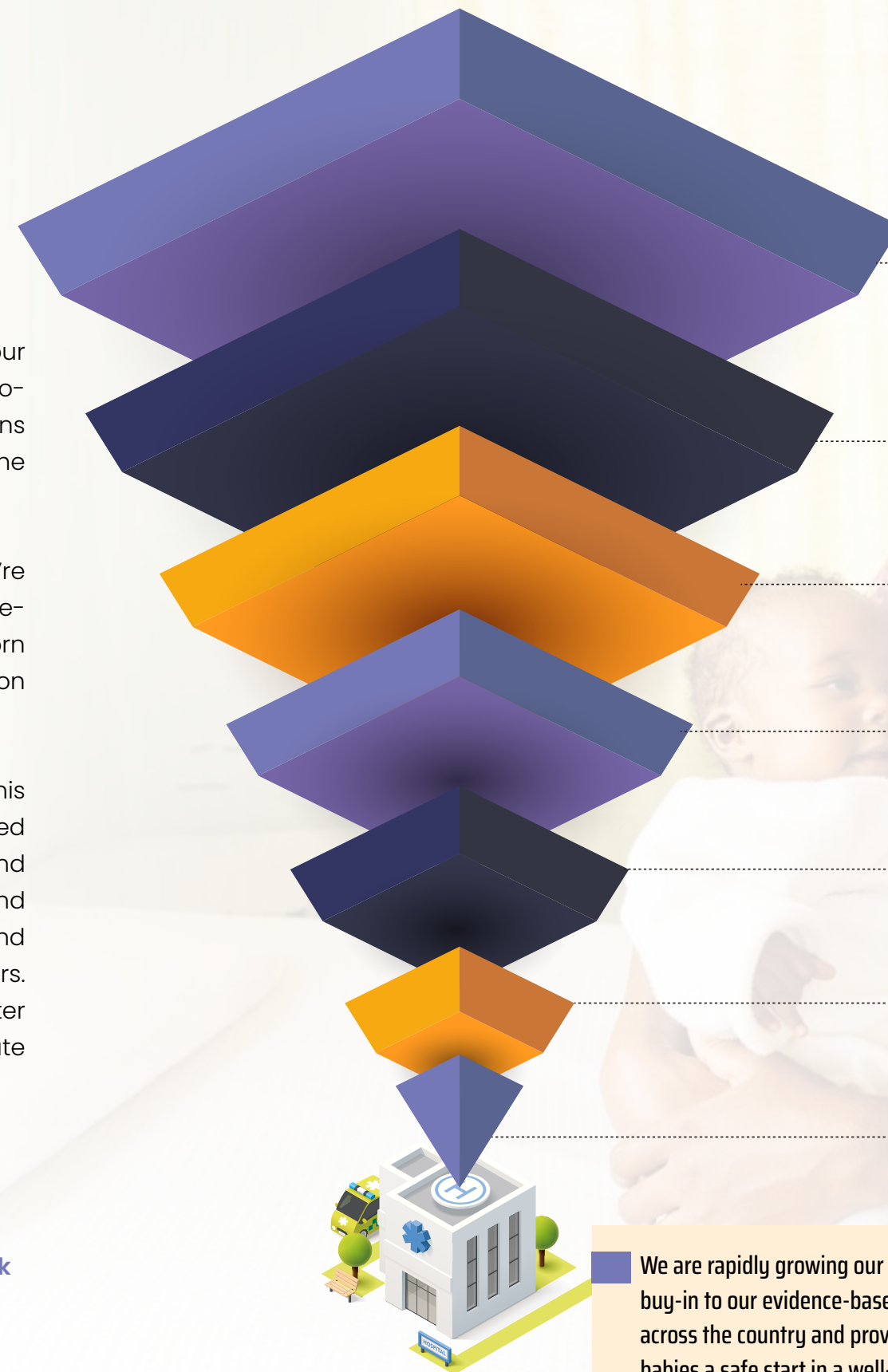
serve the urgent needs of mums. It's embedded in our mission to build, test, and roll-out solutions in hard-to-reach or underserved areas, and ensure our solutions are planned, developed, and scaled *with* and *for* the mums they serve - down to the last mile.

Now, looking ahead to a post-COVID era, we're embarking on an ambitious expansion of our evidence-based programs to improve maternal and newborn health in new countries globally - including expansion into new countries in 2022.

The transformative impact you'll read about in this report is thanks to a collective effort from our extended Jacaranda family - our program managers and mentors, researchers and nurses, data analysts and tech specialists, doctors and drivers, national and county governments, and our network of supporters. This diverse team is fundamental to our next chapter of ambitious development, and we deeply appreciate their support.

With Warm Regards,

**Sathy Rajasekharan, Cynthia Kahumbura, and Nick Pearson**  
Jacaranda's Leadership Team



## The Years in Review

2021	930+ health facilities conducting 299,000 deliveries
2020	590 health facilities conducting 135,000 deliveries
2019	210 health facilities conducting 87,000 deliveries
2018	50 health facilities conducting 60,000 deliveries
2017	15 health facilities conducting 17,000 deliveries
2016	8 health facilities conducting 8,000 deliveries
2015	3 health facilities conducting 3,000 deliveries

We are rapidly growing our footprint across Kenya as more and more county governments buy-in to our evidence-based solutions. We collect data on, and partner with health facilities across the country and provide mentorship in emergency care to health providers to give babies a safe start in a well-equipped hospital.

# THE CHALLENGE

## Improving quality of care for mums and babies

Health systems focused on improved quality of care - and better access to it - could prevent one million newborn deaths and half of all maternal deaths each year.

Over sixty percent of deliveries in Kenya take place at health facilities but the quality of maternal care mothers receive is inconsistent. Hospitals are often resource constrained, lacking in trained staff, or ill-equipped to deal with emergencies. Inequities in access also contribute to poor maternal and newborn health outcomes - only 8% of women in the lower wealth quintiles in Kenya are able to access quality maternal health services, and many don't have access to the right information to make informed choices about *where* to seek care, and *when*.

**+ 6,000**

women die each year during childbirth in Kenya.

**60%**

of global neonatal deaths and half of maternal deaths in health systems are caused by poor quality of care.



### The Double Burden of COVID-19 on mums and babies

**60%** of new and expectant mums reported that COVID has impacted their decision to seek care. (Jacaranda Health, 2020). **“I am worried because I’m not sure if I will find the facility open or if I will find nurses during delivery.”**

Providers reported transportation challenges to facilities during lockdown, limitations in PPE, staffing shortages and concerns about stigma against healthcare workers. **“Only one nurse is able to report to her shift and it’s overwhelming to manage obstetric emergencies alone.”**

By encouraging more mums to seek care safely, and increasing the quality of care they receive on arrival - we are helping mitigate the burden of COVID-19 on mums, and that of the health challenges we’ll inevitably face in the future.

# OUR SOLUTIONS

Integrated in government health systems across Kenya

Jacaranda Health partners with governments to deploy low-cost, innovative, and scalable solutions through public hospitals, where the majority of underserved mothers and babies receive care. In Kenya, we work with the Ministry of Health and with **20 Kenyan County Governments**, and our solutions have been deployed across **800+ hospitals and health centers**. With our government partners, we address the drivers of poor maternal and neonatal health (MNH) by...



#### Empowering Mums with Information:

Ensuring new and expectant mothers get care at the right time and place via our digital health solution PROMPTS.



#### Building Provider Capacity:

Equipping frontline nurses with life-saving skills to serve mothers and babies and sustainably improve quality of care in public facilities through EmONC Mentorship.



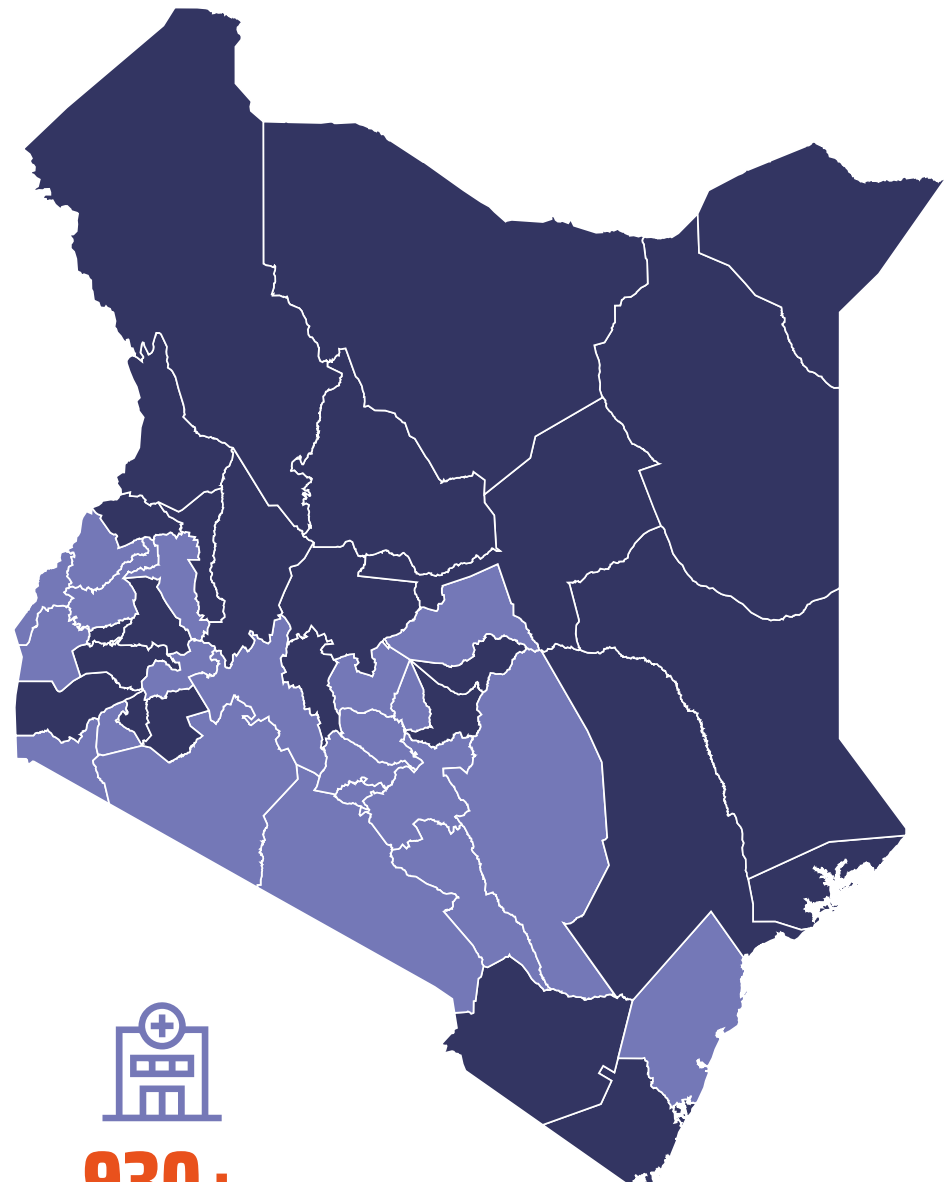
#### Partnering with Governments:

Co-designing solutions with national and county governments to ensure that solutions are context-specific and can be owned by government.



#### Leveraging Data & Insights:

Using dashboards and insights to provide 'finger on the pulse' health system insights and track the impact of our work.



930+

hospitals and health centers across the country.

Current Counties



# EMPOWERING

## MUMS WITH INFORMATION





# CONNECTING WOMEN TO CARE AT THE RIGHT PLACE, AND AT THE RIGHT TIME

**A**lmost a third of maternal deaths are caused by delays in women seeking life-saving care. PROMPTS is Jacaranda's AI-enabled digital health platform, empowering 850K+ new and expectant mothers across Kenya with information and knowledge, with plans to replicate the platform's success in other countries across Africa. For 0.74USD per mum, it improves care-seeking behavior at key moments during and after pregnancy.



## SMS "Nudge" messages

Influencing key behaviors linked with better outcomes, including antenatal visits, postnatal care, postpartum family planning, and breastfeeding.



## A Clinical Helpdesk

Responding to mothers' questions about pregnancy and the postpartum period, and referring urgent cases to life-saving care.



## Artificial Intelligence

Triaging and categorizing mothers' questions and flagging clinically urgent questions to the helpdesk for follow-up and referral.



## Data & Dashboards

Capturing data on mums' experience and clinical quality of care in facilities to help health management teams make targeted improvements to service delivery.

**33%**

of maternal deaths are caused by delays in care seeking. <sup>1</sup>

**91%**

of women would seek care at health facilities if they knew and recognized severe pregnancy and postpartum danger signs. <sup>2</sup>

Ref 1: Confidential enquiry into maternal deaths, Kenya 2017  
Ref 2: Mwilike et al, Knowledge of danger signs during pregnancy and subsequent healthcare seeking actions among women in Urban Tanzania: A cross-sectional study. *BMC Pregnancy and Childbirth*, 18 (1) (2018), p. 4

# PROMPTS IN ACTION



## Reaching more mums, faster

- **950,000+** mums enrolled to PROMPTS
- **<1hr**, response time to danger signs

## Promoting positive care seeking behavior

- **80%** of mums flagged for danger signs go to hospital
- **2x** increase in uptake of family planning
- **20%** increase in women seeking prenatal care

## A cost effective solution

- **0.74USD** lifetime cost of one mother on the platform (free for the mother)



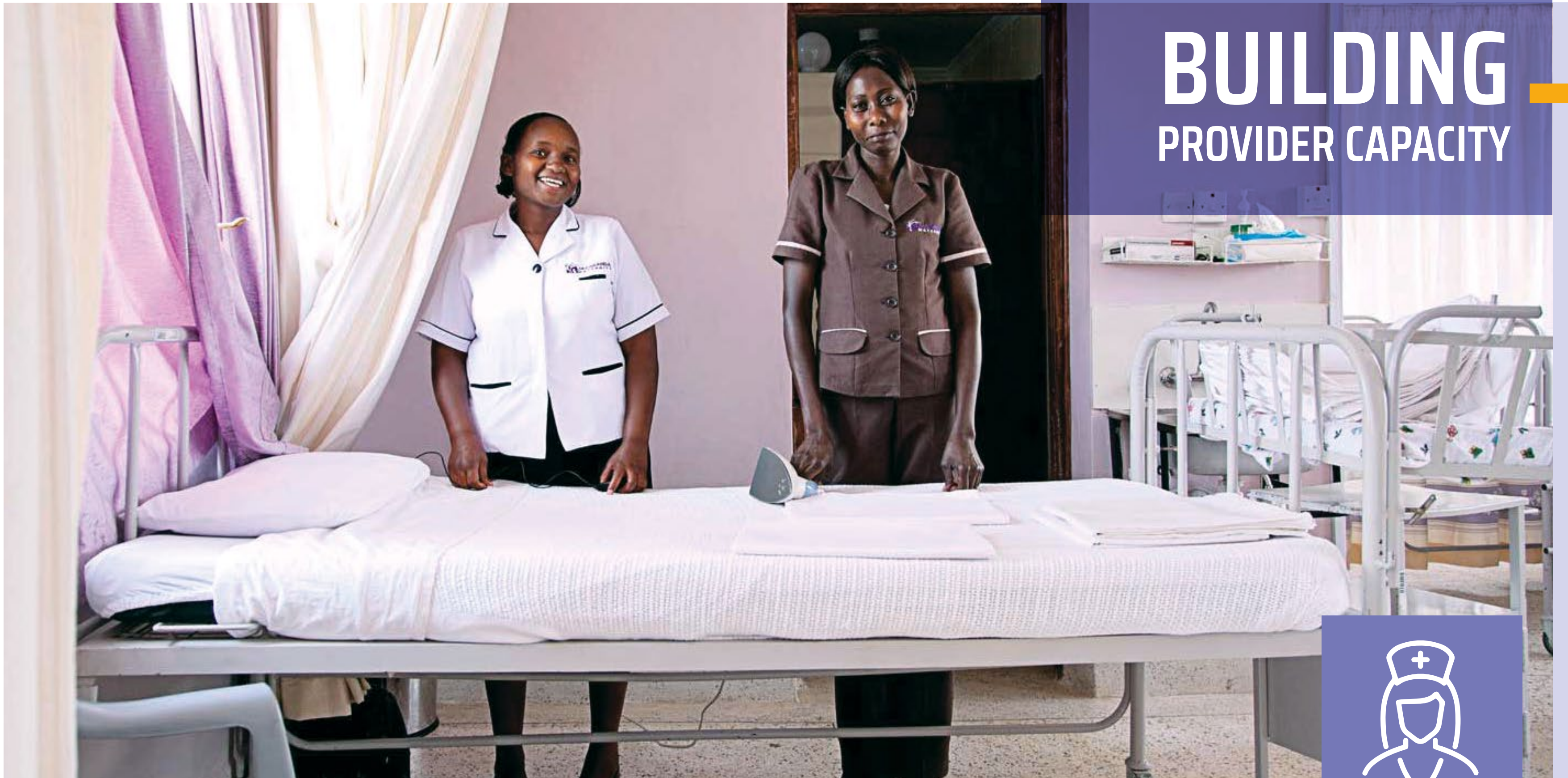
I'm so grateful to Jacaranda for sending these messages. Because of PROMPTS, I was able to recognize the pain I was feeling was not normal and I sought care at the hospital. I don't know what might have happened to me and the baby otherwise.

Josephine Mucoro,  
PROMPTS User,  
Bungoma County





# BUILDING PROVIDER CAPACITY





# MENTORSHIP

## TAKES THE CLASSROOM TO THE MATERNITY ROOM

**M**aternal and newborn health outcomes are closely tied to the quality of care mothers receive. Yet, in Kenya, there is a gap in cost-effective training to improve and sustain life-saving emergency obstetric and newborn care (EmONC) skills. Critically, this training takes place in the facility to ensure providers continue to improve their skills as they deliver services. Comprehensive training, supportive supervision, and coaching are effective in giving nurses and midwives the needed skills to avert or mitigate life-threatening pregnancy and postpartum complications, improve clinical performance, and motivate providers and managers.

Jacaranda is partnering with County governments and public hospitals to deploy EmONC Mentorship, a low-cost program focussed on sustainably improving the quality of maternal and neonatal care in facilities. Jacaranda Lead Mentors train and support a cohort of government nurse midwives to become maternal and newborn health quality of care champions in their own facilities. Our model combines;



**A training package with simulation-based training**



**In-facility coaching for skill improvement**



**Advisory Support helping facilities resolve the system-level bottlenecks hampering life-saving care delivery, and leverage data to identify skills gaps in frontline nurses.**

# IMPROVING EmONC KNOWLEDGE AND SKILLS ACROSS KENYA



I really want to appreciate Jacaranda Health for the introduction of the EmONC training drills. They have changed how knowledge is delivered and retained by health care providers, and helped them improve how they take care of the mothers during antenatal and postnatal care.

Catherine Gachanja  
Murang'a County  
Principal Nursing Office



**400+**

EmONC Mentors have been trained by Jacaranda.



**6,000**

healthcare providers have received mentorship.



**90%**

improvement in neonatal resuscitation skills amongst providers.



**91%**

of essential clinical steps now performed during delivery.

**A**t the beginning of 2020, Jacaranda's Mentorship Program was providing lifesaving skills to frontline health providers in six of Kenya's counties. By the year's end, this figure stands at thirteen, with four new counties - Kitui, Busia, Kakamega, and Siaya - now partnered with the program. Responding to increased demands on nurses and midwives during COVID-19, the EmONC team have also conducted 'refresher' training for some facilities, blending onsite and online learning to reinforce providers' expertise at a

time when their skills are needed most. Coverage of our Mentorship Program across Kenya has grown by 66%.

Jacaranda has mentored 6,000 frontline health providers to date, but the program's impact spreads far beyond this. EmONC mentees are empowered to share their new skills and know-how with colleagues in their respective facilities, and thousands of patients now receive better care at the hands of capable, confident nurses and midwives.



# SUPPORTING PROVIDERS VIRTUALLY THROUGH QUALITY LEARNING CONTENT AT THEIR FINGERTIPS



I provided my mentees really detailed feedback leveraging the aspects I'd been trained on. They took Jacaranda-run tests around enhancing safety care in obstetrics, and I could guide them where they went wrong, and motivate them to do better.

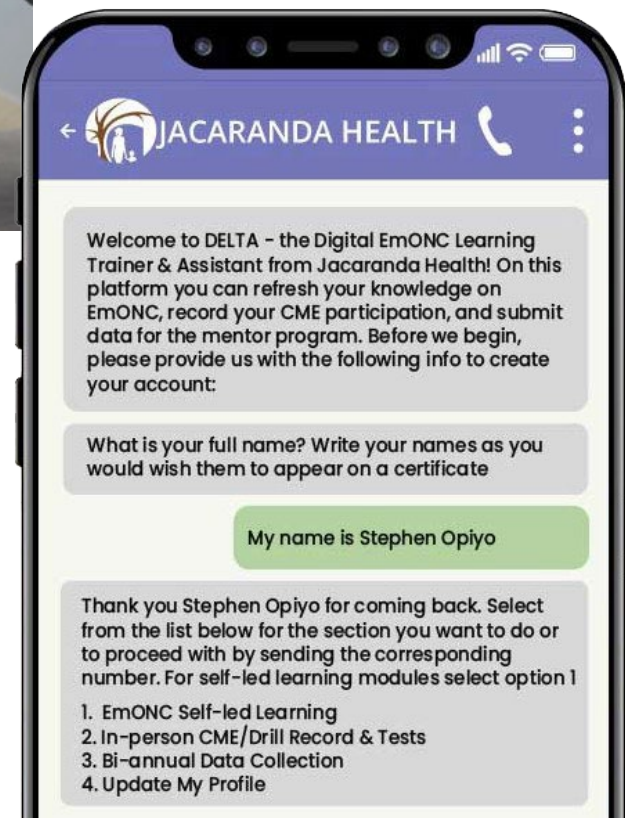
Stephen Opiyo,  
Akala Health Centre Nurse  
and DELTA User



**D**uring COVID-19, Jacaranda adapted its Mentorship curriculum onto a digital platform - the Digital EmONC Learning Trainer & Assistant (DELTA) - to enable health care providers to build and refresh their skills in emergency care remotely. Providers across Kenya now enroll through Whatsapp, to access a series of self-paced learning modules, with their progress virtually marked and validated by program mentors.

**1,200+**  
health providers

learnt critical emergency care skills through DELTA, with modules covering subjects like neonatal resuscitation, postpartum hemorrhage (excessive bleeding after pregnancy), respectful maternity care, infection prevention, and post-abortion care.





# BUILDING PARTNERSHIPS WITH NATIONAL AND COUNTY GOVERNMENTS



Representatives from Jacaranda Health attend a Council of Governors meeting in March 2021 to ensure our solutions offer support to advance county health priorities, and influence county policy towards equitable maternal and newborn care.





# HAND IN HAND WITH NATIONAL AND COUNTY GOVERNMENTS

Co-designing solutions with governments to ensure sustainable integration in health systems.

**W**e leverage our expertise in maternal and newborn health and the data collected through our platforms to help Kenya's national and county governments make targeted health system improvements, and inform policies that advance equity in care delivery.



county governments are cost-sharing over 50% of our EmONC Mentorship Program

**Our solutions are designed with government ownership in mind.** Our PROMPTS platform is built on open source tools to give our government partners comfort over its sustainability and integration with existing national data systems. Learnings from our EmONC mentorship program are also informing a National EmONC Mentorship Package, aimed at upskilling nurses across the country. **We also ensure their cost-effectiveness.** This year, our county partners embraced the opportunity to cost share PROMPTS as a high impact innovation at less than 0.80USD per mum. 13 counties are contributing 50% of EmONC costs - a solution proven to be 40% cheaper per health provider than a five day classroom training.



Representatives from Jacaranda Health attend a Kiambu Stakeholders Meeting in November alongside the county's Deputy Governor, Chief Officer of Health, county representatives, and 18 other health sector partners to collaborate on solutions to support county health priorities.

# WORKING WITH COUNTY GOVERNMENTS TO RETHINK HEALTH SERVICE DELIVERY IN KAKAMEGA

While in many low-middle-income countries, more mothers are giving birth in facilities than ever before, maternal mortality continues to rise. In Kakamega, one of Kenya's most populous counties, **only 37% of deliveries take place in a facility equipped to deal with maternal complications** like caesarean sections, blood transfusion, and care for sick mothers and newborns. Other births happen at home or in primary care facilities which lack the basic equipment (such as blood pressure machines) or trained providers to avert emergencies when they happen.

Under Kakamega's County leadership, Jacaranda is working to **reorganize maternal care so that all women in the county deliver in advanced facilities that offer definitive care for complications.** Through a coalition of partners, our Service Delivery Redesign project aims to address the bottlenecks driving poor maternal and newborn outcomes, such as shortages of available and affordable emergency transport and lack of opportunities for nurses and health providers to refresh and improve their clinical skills. We are also working with county health managers to ensure

that these solutions are sustainable by helping them identify existing health system gaps, and make smarter, evidence-based investments in quality of care and equitable access to it. move the needle on maternal and newborn health indicators in the county, and improve overall health system efficiency.

Successful redesign in Kakamega will not only lead to better health outcomes for women and newborns in the county, but also overall health system efficiency by concentrating obstetric and neonatal services in fewer facilities, and offering more opportunities for providers' continuous learning.



### Improving Access to Care

Introducing low-cost transport options to get mums to care faster.



### Expanding Hospital Capacity

building better infrastructure, equipment and therapies to ensure mums deliver in well-functioning hospitals.



### Increasing Human Resources

Ensuring there are enough specialized, well-trained clinicians to deliver timely, advanced, and dignified care to mothers.



### Ensuring Community Acceptance

Taking a participatory approach where communities inform and play a role in making the health system fit for purpose.



HARVARD T.H. CHAN  
SCHOOL OF PUBLIC HEALTH

rescue.co

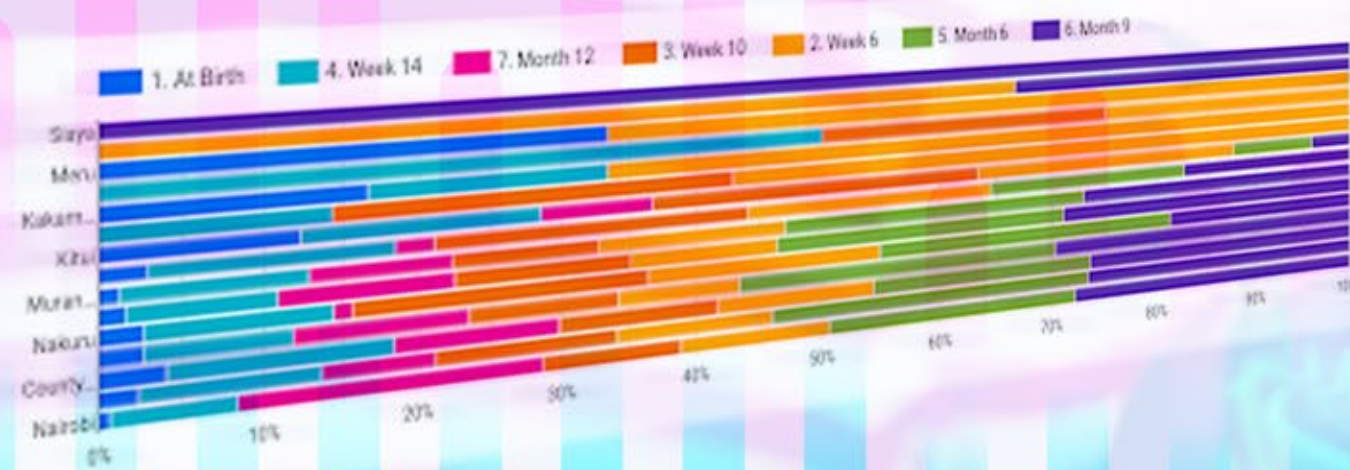
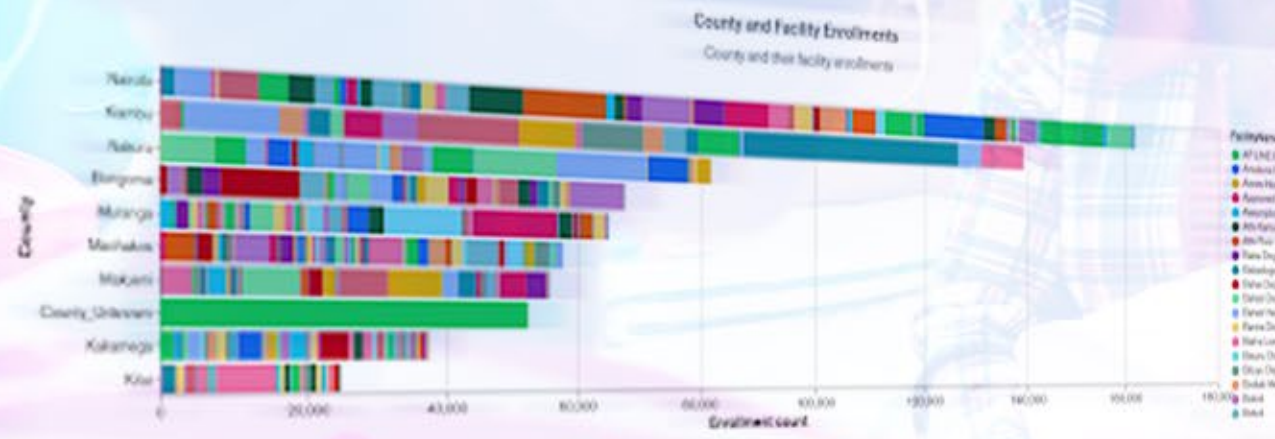
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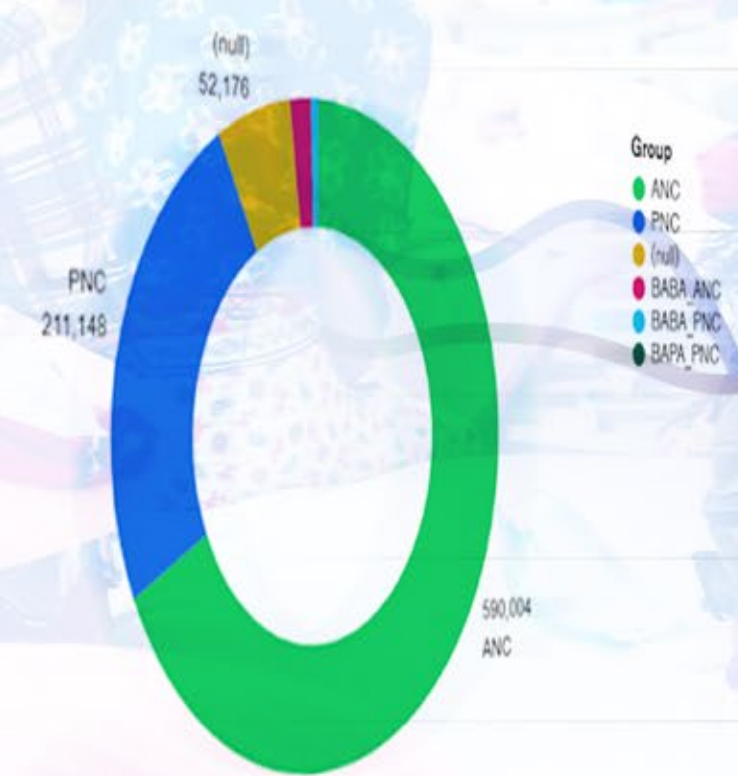
tutunze  
kakamega  
The World's Best Health System 2021



# DATA & INSIGHTS



**Count By Group**  
Number of enrollees by group



**Group**

- ANC
- PNC
- (null)
- BABA ANC
- BABA PNC
- BABA PNC



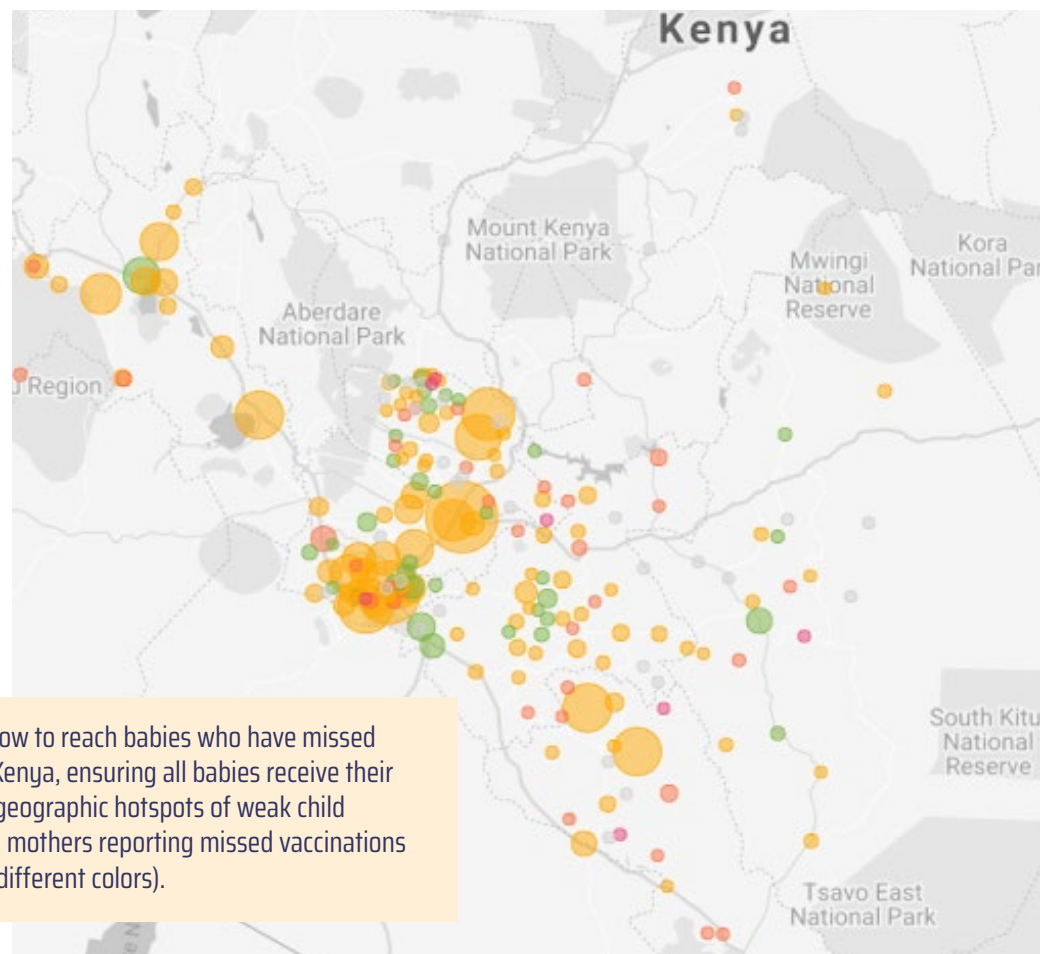
# LEVERAGING DATA & INSIGHTS

TO HELP GOVERNMENT PARTNERS DELIVER BETTER PATIENT CARE



We use data and insights to improve government decision making, identify challenges in real-time to rapidly deploy resources to specific places, and close a feedback loop within the government health system by bringing administrators closer to their clients

**D**igital health and data science holds promise for significant advances in health care access, quality and affordability. By leveraging innovations in technology, Jacaranda is able to track the impact of its solutions on mums around the country, and share this with our government partners to help them make targeted improvements at the health systems level. We use data and insights to improve government decision-making, identify challenges in real-time to rapidly deploy resources to specific places, and close a feedback loop within the government health system by bringing administrators closer to their clients.



Generating high-frequency, real-time data on where, when and how to reach babies who have missed vaccinations is one approach to closing the immunization gap in Kenya, ensuring all babies receive their full dose of vaccines as a basic human right. We are able to track geographic hotspots of weak child immunization through our PROMPTS dashboards, showing where mothers reporting missed vaccinations are, and numbers of basic vaccinations missed (identified by the different colors).

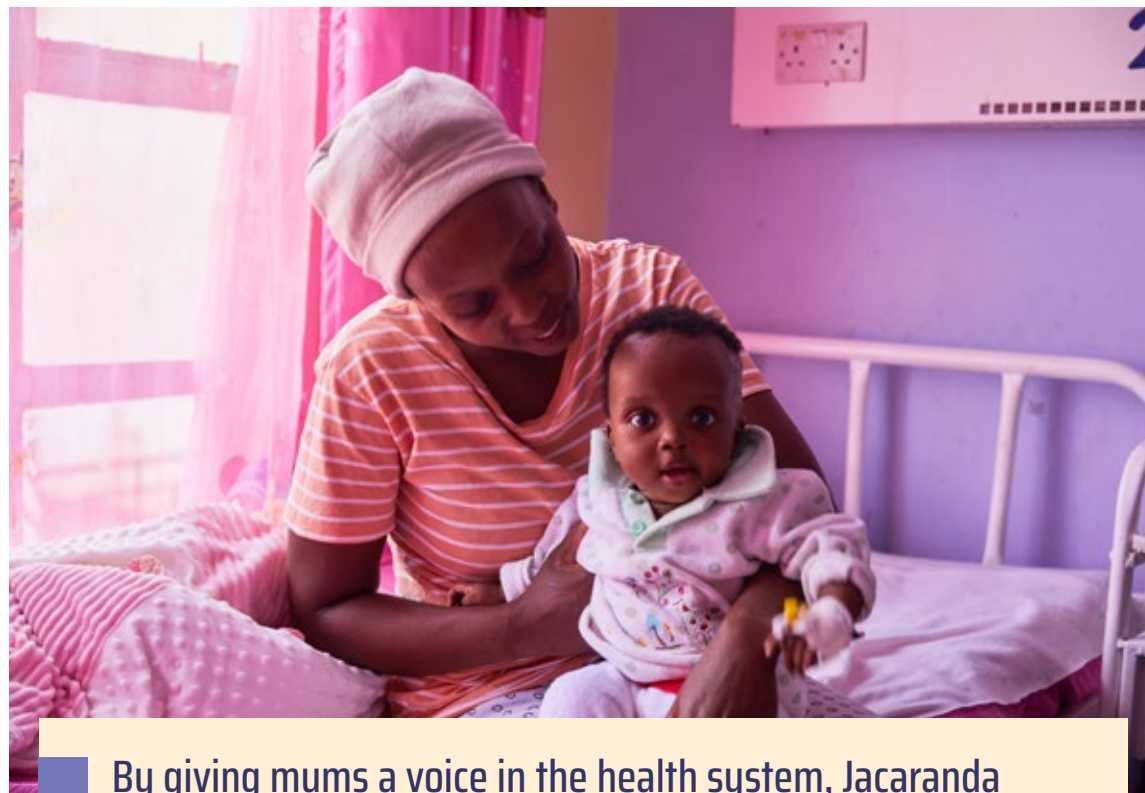


# PUTTING MUMS' VOICES FIRST TO DRIVE BETTER QUALITY CARE



## Bringing providers closer to their patients in Nakuru East.

It's impossible to improve health systems without first understanding the experiences of those they serve. Each month, PROMPTS mums **across 930+ facilities in Kenya** receive an SMS. It asks them to fill out a client experience survey, aimed at better understanding the quality of care they received in facilities. The data is collected in 'scorecards' that rate them on factors like respectful care. Nakuru County has seen a steady decline in maternal mortality, linked to health facility improvements. But there's still a lot to do. We identified reports of malpractice in some facilities in Nakuru's East, and saw the situation



Because of the feedback from PROMPTS, we're able to better understand our clients and their needs. Sometimes we receive feedback from patients saying they are grateful for our care - it really motivates us.

Christine Nowerukoi,  
Nurse Midwife,  
Lanet Health Center, Nakuru East



By giving mums a voice in the health system, Jacaranda is able to close the feedback loop between patients, providers, and health system managers and drive targeted improvements in care quality.

**205,000**  
**PROMPTS**

users across Kenya have shared feedback on their experience of care.

could be reversed by providing direct feedback from mums. Weekly scorecards shared with providers and their managers, helped identify health system gaps. Within a month, Nakuru East was the highest performing sub-county.

# LOOKING FORWARD



## Driving a Better Future for Mums & Babies in Kenya, and Beyond...



Our impact to date would not be possible without our partners. By working hand-in-hand with county and national governments, alongside implementing, research, and financial partners, Jacaranda have been able to bridge gaps in health access and care quality for nearly a million women across Kenya. Over the next two years, we aim to scale up to a critical mass of public hospitals, setting the stage to make sustained improvements in maternal and newborn outcomes, strengthen Kenya's health system, and expand our model to serve mums in new countries.

By the end of **2023**, we will be directly improving the quality of care for over **1.5 million** mothers and babies by rolling out PROMPTS at a national level in Kenya, and deploying our mentorship solutions in over **200** high-volume public hospitals to **8,000** frontline nurses as a national standard of care.





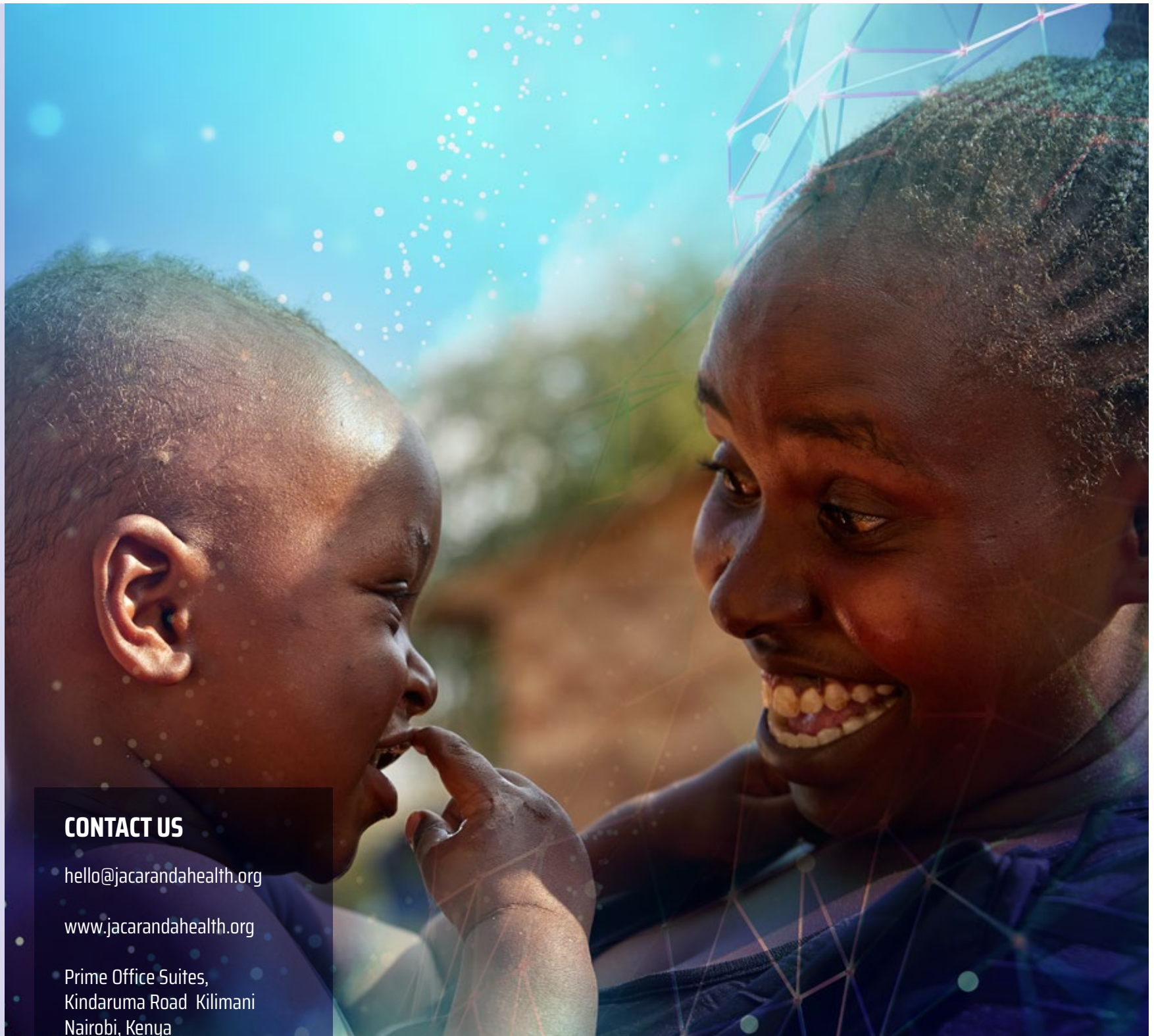
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