

Real-time data monitoring drives superior hospital-at-home care

 By [Katja Hamilton](#)

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Necessity is the mother of invention, and for Dr Carolyn Chinsinga, medical director of operations at Quro Medical this most certainly was the driving factor behind joining Africa's first tech-driven hospital at home.



Source: Dr Carolyn Chinsinga.

Chinsinga has worked as a senior doctor in emergency rooms across South Africa and Malawi, and she has lectured family nurse practitioners in Botswana. Her decade-long experience working as a medical doctor in some of SADC's best - and worst - hospitals, has developed in her a passion for inculcating a culture of excellence in patient care for her clinical team.

"I worked as a trauma doctor for about 10 years, and during the height of Covid it was particularly brutal. I saw all the deaths and the devastation, and we couldn't fit patients anywhere.

"The casualty departments were full the entire time. We turned our parking lots into ICUs, and still we'd send somebody home because there was a sicker person waiting to take up that space," Chisinga said.

It was during this time, while pregnant with her second child, that Chisinga launched her own GP practice and started doing home visits.

"I could treat patients who got mild to moderate symptoms of Covid in the comfort of their own home, and if their symptoms escalated we could take them through to the hospital."

It's within this space that Chisinga met the Quro team and referred some of her patients to them for the hospital at home service, and the remote patient monitoring and clinical oversight solution.

Keeping families together

Quro's service lessened the burden on, and the congestion experienced in hospitals, and furthermore kept families together and in touch with their loved ones, some of whom were sick for up to weeks on end.

"One huge success story was a husband who worked in the Phillipines whose wife lived in SA. She contracted Covid, but she didn't want to go to the hospital because she had no one to look after her two young children.

"Quro was called in and the husband had the peace of mind knowing his wife's health was being taken care of, while his children still had their mother at home," Chisinga said.

Today, Quro treats patients at home instead of in a general hospital ward. It includes patients needing post-surgical care and suffering from conditions such as pneumonia, bladder and kidney infections, asthma and heart failure, across the socio-economic scale.

And it saves lives.

But how exactly does Quro work?

At its heart, it uses health technology to analyse real-time data to monitor patients' health, explains Chisinga.

"The service utilises easy-to-use devices that currently include a chest patch that enables continuous vital-sign monitoring, and additional hardware for real-time, intermittent monitoring of patients' oxygen and sugar levels.

"The chest patch is a discreet biosensor that monitors your heart rate, ECG, respiratory rate and core body temperature – the same as in hospital – but also measures patient movements, like steps taken, body position and includes fall detection."

It sounds simple right?

But to truly understand how remarkable this is, let's benchmark this against the degree of monitoring patients receive in hospital.

"If you are admitted in a hospital, the general ward sister will come around to measure your vital signs every four hours. Yes, that's correct. Every four hours. With Quro your vital signs are monitored 24/7."

A central command centre

All the data is relayed to a central command centre and that is backed by an ever-growing community of more than 350 signed-up doctors as well as a team of medical professionals and nurses.

"When there is a sudden change in health data such as heart rate or temperature, or a change in body position such as when a patient has fallen, it is picked up by the patch, the system alerts us and the command centre immediately informs the in-care clinical team to follow up on your wellbeing," says Chinsinga.

Chinsinga adds that not only does the monitoring system capture your minute-by-minute vitals around the clock but that it has already been able to pick up emergency medical conditions - such as a heart attack - hours before a patient experiences symptoms.

"The vitals data we receive enables us to see trends that help inform the management of patients' chronic diseases, which is truly revolutionary," she says.

"The patient's doctor will always be in the know and has access to this monitoring platform so that he or she can easily manage the treatment plan."

All medication is delivered directly to the patient's door, and if a medical condition escalates, contingency plans are made to immediately transport patients to the hospital.



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One can't underestimate the hugely transformative nature of looking after a patient at home.

"The impact of being at home, eating the food that you're used to, having your pets there, and having your children encourage you to get better, makes a big difference.

"In addition, recovering at home lowers the risk of secondary infections. In hospitals you get superbugs - these are bugs that move from one patient to the next and they change as they go from patient to patient. By the time the bug has moved to the sixth person, it's mutated and changed so much that none of the antibiotics on the market work to get rid of it and that is what kills patients, especially in your ICUs which is where you find your critically ill patients.

"In a home setting you can never ever get a superbug."

Furthermore, with clinicians able to care for patients at home, they are able to see the impact the patient's personal ecosystem has on their health.

"In the case of a diabetic, for example, they're able to pick up that a fridge setting at home may be too low and may be impacting how they store their insulin and hence its efficacy. They're also able to see what the patient is and isn't eating which could be impacting their blood-sugar levels and they're able to see the level and quality care from family members at

home.

"The end result is that the holistic care of the patient is taken into account - all of which impacts on a reduction of repeat emergency hospital admissions and his or her overall wellbeing.

"This cuts hospital-level care costs for consumers by up to half compared to regular hospital admission costs.

"We see a 60% reduction in the length of stay in hospital."



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Already Quro has averted over 700 hospital beds, managed over 20 medical conditions and managed over 2,000 virtual beds.

Quro offers its services in Johannesburg, Pretoria, Cape Town and East London. More recently Bloemfontein's service went live a month ago.

Adds Chinsinga: "Our aim is to build the largest virtual hospital on the continent offering world-class healthcare at much lower costs."

Chinsinga has studied a BSc-pre-med at the University of Namibia and completed her medical degree at the University of Pretoria in 2010. Chinsinga is an MBA candidate at the University of East London.

ABOUT KATJA HAMILTON

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