DR ZAKARIYA BADAT

Rural Individual Fellowship Award

University of Kwa-Zulu Natal

Improving the management and outcomes of patients with acute myocardial infarction.

Growing up in the small rural farming town of Weenen, Kwa-Zulu Natal, where most people know one another, his local family physician was a real-life hero. Dr Zakariya Badat remembers with great clarity how his doctor fought, albeit unsuccessfully, to save the life of his trader-grandfather, shot three times while emerging from prayers at the local mosque in March 1998.

The Badat family patriarch was due to testify in a burglary trial. "I remember the local GP, Dr Khan, battling throughout the night to save my grandfather but he died at five in the morning. It was a very influential incident in my life. I'd already witnessed, first-hand, the many lives that our doctor had made a difference to, but this was profound," says Dr Badat, today a Family Medicine Registrar at Wentworth Hospital in Durban.

Dr Khan had unwittingly instilled in the teenage Zakariya a passion to learn and grow.

"I chose to go forward and make a difference," Zakariya adds.

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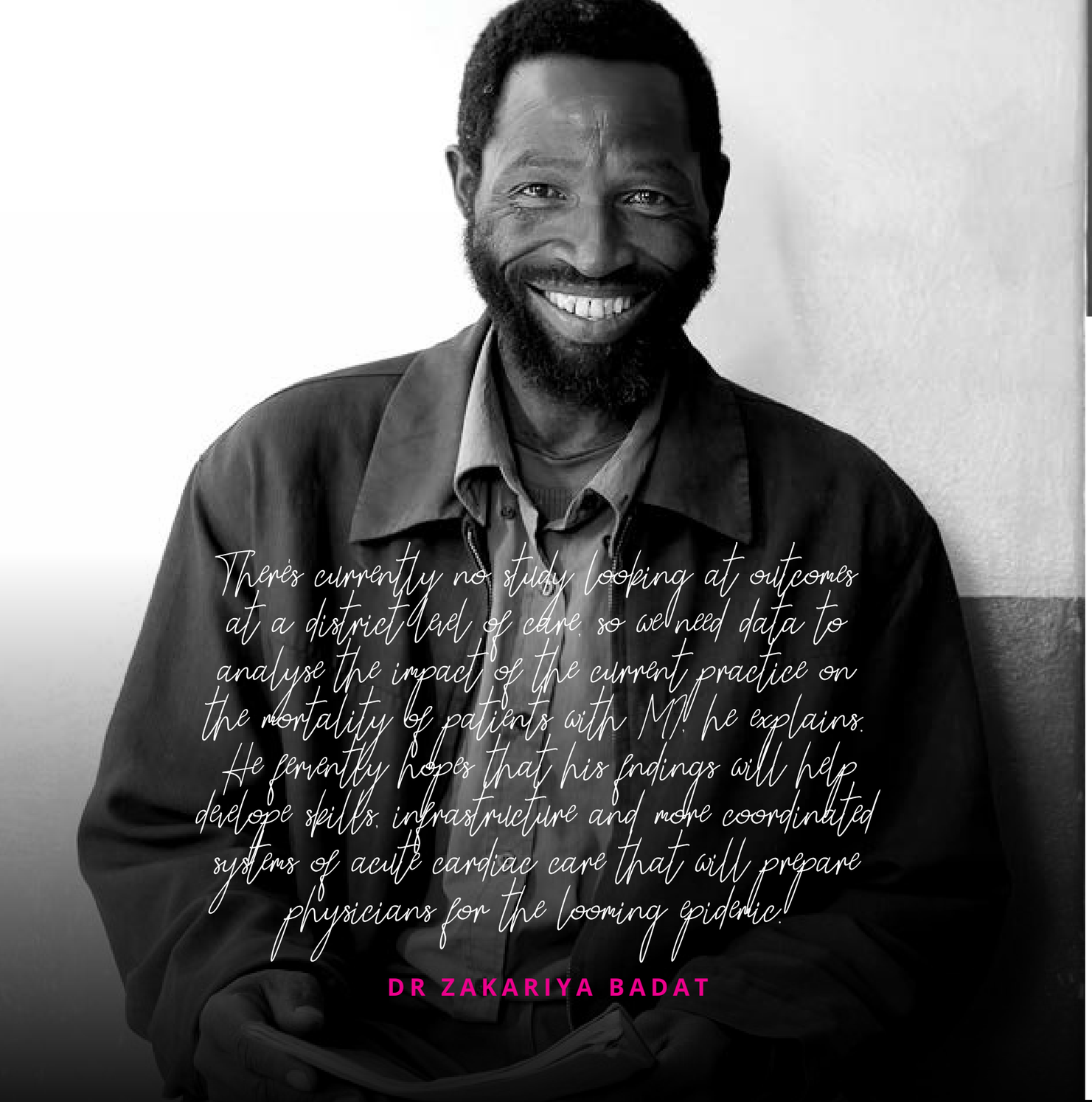
Non-stop achiever

Zakariya attended Siraatul Haq Islamic School in nearby Estcourt and says he was privileged to have teachers who served as both mentors and friends. He defines all he has achieved as Grace from God. While excelling academically, he also committed time to his community, assisting the Al-Imdaad Foundation, the Muslim Students Association and the Islamic Medical Association in orphanages, circumcision clinics and community clinics. "I see myself as a life-long learner and strive to commit to the Batho Pele principles," says Zakariya.

While serving as a medical officer at the Inanda Community Health Centre in 2015, he helped develop and improve protocols on acute medical emergencies and chronic lifestyle diseases, continuing to support his peers by starting a fortnightly Journal Club.



Boosting district hospital cardiac care

Zakariya's research will focus on the quality of care that patients with myocardial infarction, (MI) receive at Wentworth District Hospital. Wentworth, a relocation area under the former Group Areas Act, is heavily industrialised, with concomitant pollution, and beset with unemployment, drug abuse and lack of recreational facilities. Lifestyle disease prevalence may well be higher than the national figure of 55.5%, while Ischaemic Heart Disease (IHD), reflects the national rating as among the top 10 leading causes of death.

Zakariya wants to produce a healthcare baseline that can change policy and guidelines and improve overall care of MI patients in district hospitals. Wentworth Hospital is not a designated cardiology facility. Its doctors cannot conduct invasive procedures like inserting stents or doing angiograms. There is no fluoroscopy, cardiac catheterisation facility or ICU.

"We offer 24-hour cardiac monitoring through our accident and emergency service and high-care unit. We do have some cardiac biomarker and thrombolytic capacity, but if you're ventilating someone, it's normally for transfer to King Edward VIII Hospital or Inkosi Albert Luthuli Central Hospital," he says, painting a picture typical of many district hospitals.

Study outline

Zakariya's study will analyse the management of patients presenting with STEMI (ST Elevation Myocardial Infarction) and NSTEMI, (Non-ST Elevation Myocardial Infarction).

A patient's mortality risk is gauged by using an electrocardiograph to discern which of these two conditions apply. Zakariya says the difference is important, as patients with STEMI tend to have a higher mortality than those with NSTEMI. Each requires different treatment approaches, but due to limited resources, the pharmaco-invasive strategy is used in the public sector. This usually requires clot-busting medicines upfront for those with STEMI, compared with the preferred inserting of stents upfront.

"We're going to look at patient demographics, risk factors for Ischaemic Heart Disease, (ISH), presentation symptoms, time to perform the ECG, time to fibrinolysis (administration of blood clot-busting medicines), time to follow up with cardiology, and 30-day mortality," he adds. He's begun collecting data from some 120 patients treated over one year in Wentworth Hospital's accident and emergency and high-care units, but hopes to cover even more, with records dating back to the inception of the unit in 2016.

As for the modifiable risk factors pushing the increase in noncommunicable diseases (NCDs), he wants to become more familiar with those that his patients are presenting. "Right now, we're mopping the floor and not addressing the tap that's leaking," he says quoting one of his mentors, Dr Gloria Mfeka-Nkabinde. He says Dr Selvandran Rangiah, his supervisor has ignited the flame and steered him to his passion and commitment to increasing available knowledge.