

# your ED



---

PRE-HOSPITAL AND  
RETRIEVAL MEDICINE

GLOBAL EMERGENCY  
MEDICINE

*South Sudan, Bangladesh,  
Vietnam and Papua New Guinea*

AGENTS OF SOCIAL  
CHANGE *Nauru*

THE RIVERBED  
PROJECT *Mount Isa*



# The Road to Paradise

## Developing Emergency Medicine in the Highlands of Papua New Guinea

**Dr Rob Mitchell**

Dr Mitchell is an emergency physician at the Alfred Emergency and Trauma Centre in Melbourne and Project Lead for the Mount Hagen Emergency Department Triage Development Initiative.



**T**he potholes are a blessing in disguise. They pepper the road between Kagamuga Airport and Mount Hagen town centre, moderating the speed of traffic snaking its way along the Highlands Highway. The drivers of public motor vehicles (PMVs) – minibuses ferrying locals in and out of town – are expert at pothole avoidance. It's an essential skill for motorists in this part of the world.

The potholes – some inconspicuous divots, others vacuous pits – may slow the traffic, but they don't completely mitigate the risk of road trauma. In November, an open truck carrying 26 passengers drove off an embankment 10 kilometres out of town. There were multiple casualties, including several women and children. In the absence of a pre-hospital care system, patients found their way to Mount Hagen Provincial Hospital (MHPH) by whatever means they could – some in other PMVs, many in the trays of utility vehicles incidentally passing the scene.

'It was early in the morning and I saw trauma casualties lying all over the place, some bleeding, some in respiratory distress, with an unknown number still to arrive', says Dr Scotty Kandelyo, Deputy Chief of Emergency Medicine for the Highlands Region of Papua New Guinea.

'It was a mass casualty incident and the day staff had not yet arrived. It was really chaotic. We were overwhelmed and we activated our mass casualty response.'

Scotty was the first emergency physician to be employed at MHPH – the first, in fact, of any public hospital in the lush and remote Highlands region. Having grown up in neighbouring Enga Province, he had a strong desire to return when he completed his specialty training in 2016 through the University of Papua New Guinea.

'Trauma is an area of interest of mine. In Enga and Western Highlands there is a lot of trauma.'

Although he has enjoyed his work with Western Highlands Provincial Health Authority, it has been challenging. His wife – a paediatrician – and his children live in Port Moresby, and the intermittent commute between Mount Hagen and the capital is not an easy one. There is no road connection

and flight costs can be prohibitive. In a country with a gross national income per capita of AU\$3306, \$189 is an expensive starting point for a one-way ticket.

Scotty's new role will see him travel between Port Moresby, Mount Hagen and many of the smaller hospitals that litter the Highlands. He will have less time to work on the 'shop floor' in the MHPH ED, but he will be able to bring specialist expertise to other hospitals in the region, none of which has an emergency physician.

'I'm excited. It is easier to reach out and provide emergency services to hospitals that experience even more trauma and have even less resources, such as no proper emergency department and no emergency-trained staff.'

Fortunately for the Mount Hagen community, the void created through Scotty's promotion has been filled by another capable emergency physician. Dr John Junior McKup – known as 'JJ' to many – may have the figure of rugby player, but he is a softly spoken Highlander who cares deeply about improving healthcare in the region.

'I'm passionate about emergency medicine here, because I am from here', John says. 'I remember when the ED was staffed with the most junior doctors, the misfits and the renegades. There was no system. My people deserve better.'

John grew up in Mount Hagen and his return to the community has been eagerly awaited. Like Scotty, he has also faced barriers in his career. His wife and two of his children have, until recently, been living in Port Moresby, and he has still not been formally appointed (or paid) by the National Department of Health as a consultant, despite working as an emergency physician for 18 months.

John's circumstances are also unique for another reason: his mother is the Nurse Unit Manager of the ED. Although his family and professional lives are interconnected, he has quickly established his credibility as a capable and motivated emergency physician.

'My mum has been in the ED for my whole life. She actually said to me, "Why do you want to work here? Why not do surgery?" It is because here, I can make the most difference.'



Dr Colin Banks, Dr Scotty Kandelyo, Dr John Junior McKup and Dr Rob Mitchell outside Mount Hagen Provincial Hospital ED.

A lot has changed at MHPH since Scotty and John's arrival. In 2018, the ED was renovated to improve safety and functionality. The result is a more open department, with four dedicated resuscitation bays and a central fishbowl area. The pastel walls are stark, but, they signal a fresh, vibrant ED that is ready to embrace change. There's also a new short stay area, which is helping to improve flow through the department.

There are still plenty of challenges however. Staff shortages are chronic – the medical workforce consists of only three registrars, five health extension officers (HEOs) and five resident HEOs despite escalating demands for care (the department receives in excess of 150 patients per day). The casemix is diverse, from HIV-related presentations to exacerbations of non-communicable disease to trauma, compounded by a large burden of primary care patients who have nowhere else to turn. Equipment is limited – there is one cardiac monitor, the ultrasound machine is temperamental – and access block is the norm.

But the Executive is supportive and is keen to improve ED functioning however possible. As an indicator, the hospital has recently invested in additional clerical resources to register patients. This includes the use of biometric data – fingerprints – to record patient presentations. It is an inspired use of technology in an environment that is otherwise relatively free of it.

Overall, the signs are very positive for Mount Hagen ED. FACEM Dr Colin Banks, incoming Chair of the ACEM International Emergency Medicine Committee and long-standing supporter of EM training and development in Papua New Guinea, is impressed by the progress.

'I first came here in 2009 and there were no staff with emergency training, the department was poorly designed, and the result, not surprisingly, was chaotic. The transition now to a modern design, with trained staff and actual systems, is a huge leap forward.'

Among the long list of potential quality improvement projects, Scotty, John and their team have identified several key priorities. These include a triage system and a database of ED presentations that captures burden of disease and access block data. A small group of FACEMs has banded together to support MHPH ED with these activities.

“

*My mum has been in the ED for my whole life. She actually said to me, 'Why do you want to work here? Why not do surgery?' It is because here, I can make the most difference.*

The project will see the world's first testing and implementation of the World Health Organization Triage Scale (a three-tier system developed in collaboration with the International Committee of the Red Cross), as well as a presenting complaint coding tool specifically designed for resource-limited settings. A team of Australian emergency physicians and nurses will deliver training in the new system, modelled on an education program developed for the National Referral Hospital in Honiara, Solomon Islands. The project is being supported by the ACEM Foundation (through the International Development Fund) and the Australian Government Department of Foreign Affairs and Trade through its Australian Aid: Friendship Grants program.

Colin considers it an important step forward, which will not only deliver meaningful improvements in ED functioning, but yield useful data on the value of triage in resource-limited settings. 'The introduction of a triage system into a department that doesn't have one has not really been studied in this way. It should provide insights into the effect that we just assume is there.'

It may be the 'land of the unexpected', but a lot of positive change can occur in a short amount of time in Papua New Guinea. In only three years, MHPH has gone from an ED lacking systems, leadership and direction, to a department with all of the foundations for a promising future. Success is never guaranteed in Papua New Guinea – the sociopolitical context is complex, institutions are fragile and the threat of natural disasters is enduring – but there are lots of positive signals emanating from Mount Hagen.

'The future is bright for EM in Papua New Guinea, especially with skilled and capable emergency physicians like Scotty Kandelyo and John McKup leading the way', says Colin Banks.

'And that's particularly the case for MHPH. The Western Highlands Provincial Health Authority is really setting an example that other Pacific health services will be able to follow.'

It's an exciting time for EM in Mount Hagen. The road ahead may be long, but hopefully the potholes will be few and far between.

---

**i** Funding for the Mount Hagen Emergency Department Triage Development Initiative has been provided by a Friendship Grant from the Australian Government Department of Foreign Affairs and Trade and through the ACEM Foundation's International Development Fund.