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# PRE-HOSPITAL AND CRITICAL CARE MEDICINE IN POKHARA, NEPAL

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JAMES LAMBERT

BARTS & THE LONDON SCHOOL OF MEDICINE AND DENTISTRY

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## BACKGROUND

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Nepal is a spectacular country, ranging from sweltering jungle to the Himalayan plateau. Less than 20% of the population live in urban areas, leaving over 22 million people in isolated communities, often inaccessible by road.(1) I spent six weeks at two hospitals in Pokhara, Nepal's second largest city.

## PRE-HOSPITAL MEDICINE

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Beyond services provided for expensive Himalayan expeditions, pre-hospital medicine is significantly lacking in Nepal. Only since 2011 has Kathmandu been home to the Nepal Ambulance Service (NAS), the first comprehensive not-for-profit Emergency Medical Service (EMS).(2) NAS ambulances are equipped similarly to those in the UK and are staffed by trained Emergency Medical Technicians. The prices for services are determined by Central Government, however the NAS aims to subsidise costs for those who cannot pay.

In 2007, Gongal et al showed only 10% of patients arrived at Patan Hospital Emergency Department (ED), near Kathmandu, by ambulance, with over half arriving by taxi.(3) At that time, ambulances would have been simply a jeep with a stretcher and possibly oxygen, but without medically trained personnel.

At Gandaki Medical College ED, Pokhara, I found similar proportions of patients arriving by ambulance, despite being a decade after Gongal's study. I was struck by both how far people had travelled to reach the hospital, and how sick they were. For each patient I saw, I calculated their UK National Early Warning Score (local hospitals do not utilise such a score) on arrival. Many scored over seven; some were even in double figures. Patients were hypoxic, bleeding and in pain, often falling out of the taxi as they arrived.

The lack of a professional EMS no doubt contributes in many cases to patients' poor clinical condition. The benefits of such a service would extend beyond clinical care; transporting patients to the most appropriate hospital from the scene is also key. I saw a number of secondary transfers that were very unwell, including a man that had fallen four metres, fractured his spine, femur and tibia, but had spent nine days in a hospital without any orthopaedic services.

Providing clinical care of patients in the pre-hospital phase, and taking patients to the most appropriate hospital are two of the NAS' top objectives. As they branch in to other urban

areas like Pokhara, more patients will benefit I'm sure. Though, it does still leave the question of how best to serve the millions living in remote communities.

## CRITICAL CARE

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Critical care departments are present in several hospitals in Nepal, although the services provided vary significantly. Those with the most extensive services are in Kathmandu and are aimed at the rich and tourists exploring the Himalayas. For the majority of the population, care at these hospitals is not affordable.

At Manipal Teaching Hospital, Pokhara, alongside neuro- and cardio-intensive care units (ICU), there is a unit which bridges basic ward care and high-dependency care. Beds here cost less than those on ICU, but come with less medical and nursing care accordingly. The complications that affordability create, only further enforce on me the importance of our NHS.

At both hospitals I investigated the care of the critically unwell outside of the ICU. Whilst nurses take observations regularly on wards, there is no formal process for escalating concerns about patients. There are no early warning scores. There are no critical care outreach teams. Patients rely on their doctors' clinical acumen to escalate their care appropriately. No matter how good this is, some patients are likely to slip through the net.

Both EDs were reasonably well equipped to manage the critically unwell, with monitoring, access to a blood bank and a range of drugs typically reserved for critical care. At one hospital, with one of the senior clinicians, we inspected the 'crash trolley' and found the box for airway equipment. I heard several anecdotes of staff struggling to find the correct equipment promptly. This was no great surprise, as this large box also had urinary catheters, slings and many other items not required for airway management. We discussed what the staff thought were the essentials for airway management and created and labelled a 'grab-bag' for use in an emergency. We hoped the bag would make at least a small improvement.

## SUMMARY

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Experiencing the sharp end of healthcare in Nepal was a most interesting experience, which opened my eyes to the wider range of difficulties encountered, beyond a lack of money. I am very grateful to the AAGBI for supporting my trip.

## REFERENCES

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1. Nepal: WHO Statistical Profile. World Health Organisation; 2015.
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3. Gongal R, Dhungana B, Regmi S, Nakarmi M, Yadav B. Need of improvement in emergency medical service in urban cities. Journal of the Nepal Medical Association. 2009;48(174):139-43.