

## **Leadership in Action Project: Sweet Solutions; Rethinking Diabetes Care in Guangzhou**

I spent six weeks at Guangzhou First People's Hospital and the associated South China University of Technology (SCUT) School of Medicine for my Leadership in Action project. My goals were to volunteer across the hospital's wards, clinics and operating theatres; to understand how the Chinese healthcare system differs from that of the UK; and to contribute to a project that could improve care for patients with diabetes. By the end of the placement, I had done all three. It was truly a transformative learning experience.

I gained an appreciation of the differences between patient care in Guangzhou and the UK. It was startling to see how much bedside manner differed. One of the fundamentals I learnt at UCL Medical School was to be upfront: if you're uncertain, you tell the patient you're unsure; if there is more than one option, you give the patient all of them, even if you personally favour one; and if mistakes are made, you own up to them and tell the patient where necessary. This contrasted starkly with the bedside manner I saw in Guangzhou. Patients would often ask doctors whether they would be alright, and even when the doctor was unsure, they would insist, "Yes, of course you'll be alright, just trust me." Sometimes doctors didn't explain why they were prescribing a certain treatment; they simply expected the patient to go along with what had already been decided. This happened particularly during busier hours, when doctors were juggling multiple tasks at once.

I do not believe one approach is necessarily better than the other. I think it comes down to cultural values: the UK prioritises patient involvement, whereas doctors in Guangzhou prioritise efficiency. Cutting explanations and long conversations about patient concerns saves time. This was also evident in how doctors would interrupt patients and trainees when they felt they were waffling. Seeing this made me appreciate the time UCL gives us to practise communication, but it also made me realise how difficult it will be to protect that time when I am a busy doctor myself.

Something else that really stood out to me was that hospitals in China require patients to bring a family member if they are staying overnight. A doctor explained to me that this is partly due to a lack of trust: some patients fear that doctors may over-prescribe or run unnecessary tests to make more money, and having a family member present reassures them that they are not being taken advantage of. As a result, doctors often liaise with the family member rather than the patient. In contrast, at UCL we were taught to be mindful of family members, as they may pressure the patient into a certain decision. Some patients may not want their family involved in their care at all and would prefer to handle everything themselves. In China, this would be very difficult to navigate, since a family member must always be present. Interestingly, however, in both the UK and China, it is ultimately the patient, not the family member, who must consent and sign the form.

I had also not anticipated that I wouldn't be the only one facing a language barrier (my Mandarin is sufficient for everyday conversation but lacking in medical vocabulary). Guangzhou's local language is Cantonese. Most people in China speak Mandarin, as it is the national language and compulsory in schools, but this was not the case when the older generation was growing up. As a result, many older Guangzhou residents speak only Cantonese, and I couldn't understand many of the patients at all. Cantonese-speaking doctors conducted their consultations in Cantonese, but doctors from other provinces had to either guess what the patient wanted or discuss everything with the family member and trust them to translate accurately. Although most doctors consulted the family member anyway, the patient could usually still listen in and understand; where there was a Cantonese–Mandarin language barrier, even this was impossible.

It really brought to light the power of being understood in healthcare. Only through understanding can patients be fully informed and make the best decisions for themselves and their families.

What also intrigued me was China's hospital grading system, which heavily influences where people choose to seek care. Although UK hospitals are also rated, these ratings rarely inform a patient's choice of hospital; patients usually just go wherever their GP refers them. In China, grade 3A hospitals are mostly concentrated in large cities such as Guangzhou, while grade 1 hospitals are found in the countryside. 3A hospitals tend to follow international guidelines, whereas grade 1 hospitals may not follow them as closely. Those who can afford it travel to a 3A hospital, while those who cannot must rely on lower-grade hospitals, which can lead people to delay seeking care altogether. It highlighted the disparity between rich and poor, and the effects of a postcode lottery in healthcare.

Unlike in the UK, China does not require patients to see a primary care doctor first to be referred to a hospital. I found this an interesting concept to wrap my head around, because in the UK you can't really access hospital care without seeing a GP first, except in emergencies. As a result, many 3A hospitals are overcrowded; people trust them more and go there directly to receive what they see as the best care.

I was quite astonished to find a dedicated Traditional Chinese Medicine (TCM) department at the hospital. In the UK, herbal medicine tends to come up in medical school as a classic teaching example: a patient who prefers herbal remedies, and how to encourage them to stick to their prescribed treatment. In China, however, it is part of mainstream healthcare. There are entire universities dedicated to TCM, and I was told that TCM doctors are highly regarded. Even wandering the high streets of Guangzhou, I came across licensed practitioners offering their services. One that I remember used a stone scraping tool, a technique known as gua sha, which the practitioner claimed would clear the lymphatic vessels to prevent bloating and aching. I tried it, and afterwards my back did stop aching, although I couldn't tell whether that was the treatment itself, the placebo effect, or simply the effect of a good massage.

When I asked the medical students and trainee doctors on the ward about the science behind these remedies, they admitted that much of it cannot yet be explained, but there seemed to be a general consensus that they work. This left me with mixed feelings. On one hand, some traditional remedies have gone on to transform modern medicine: artemisinin, now a frontline malaria treatment, was discovered in a herb used in TCM and earned Tu Youyou a Nobel Prize in 2015. On the other hand, some herbal products can cause real harm. Aristolochic acid, found in certain traditional herbs, can cause serious kidney damage. My experience taught me to stay open-minded, but also that the answer to "does it work?" should always come from evidence. As a future doctor, I would rather understand why my patients choose herbal remedies and talk openly with them about the risks and benefits than dismiss them outright.

These were the main lessons I took from my time on the wards. This brings me to the research project behind my title.

A professor on the ward who specialised in diabetic kidney disease told me she wanted a better way to monitor disease progression in her patients. I knew that diabetes is diagnosed by measuring HbA1c (the percentage of haemoglobin in red blood cells that has glucose attached). The professor explained that disease progression in diabetes is widely associated with HbA1c trajectory (how HbA1c levels change over time). This led me to ask whether HbA1c trajectory could also predict disease progression in patients with diabetic kidney disease.

I then joined the professor's research team at SCUT School of Medicine. I analysed a dataset of around 3,000 patients from Guangzhou First People's Hospital, some of whom I had met on the ward, covering ten years of HbA1c measurements.

The project was far from smooth. We originally planned to use group-based trajectory modelling to sort patients into HbA1c trajectory groups. However, we had to abandon this approach because it does not account for temporality. In other words, we would not be able to tell whether a patient's HbA1c trajectory was driving the outcome, or whether developing the outcome was changing their trajectory. Determined to find a way around this, I researched alternative methods and came across joint latent class modelling, which analyses the HbA1c trajectories and the outcomes together rather than separately.

The only way to carry out this analysis accurately was in R, a statistical programming language. As a medical student with no coding background, I had to learn it from scratch. It took a while to get used to how a programming language works, and there were plenty of error messages along the way, but each problem I solved made the next one a little easier. Looking back, this was one of the most rewarding parts of the project. It taught me that a setback in research is not a dead end but a prompt to find a better approach, and that I am capable of learning far more outside my comfort zone than I expected.

Eventually, I identified four main trajectories: most patients remained stable, while others rose, declined, or followed a U-shaped pattern. We are now investigating how these trajectories relate to whether patients developed end-stage kidney failure or cardiovascular disease or died. If these associations are confirmed, doctors could watch for "red flag" trajectories and intervene early, before patients reach any of these outcomes. Because all the patients came from a single hospital, an important next step will be testing whether these patterns hold in other populations.

I also learnt a great deal from the work ethic of the research group. We met twice a week, on Thursdays and Sundays, and not only did we meet at the weekend, but the meetings ran from 8 to 10 p.m. In the UK, evenings and weekends are generally treated as protected time, so this came as quite a surprise. Yet I was inspired by how hard the students and the professor worked, and it clearly paid off: I later found out that the professor's team had the highest research output in the medical school. Since returning to the UK, I have taken a page from their book. Whenever I feel like giving up on a task, I try to push myself a little harder.

Looking back, the common thread running through my time in Guangzhou was the gap between what patients need and what they receive, whether that gap comes from communication, trust, language or access. Seeing a different healthcare system up close made me question many things I had taken for granted in the UK, from how we talk to patients to how easily we can reach a hospital, and even what counts as medicine. It also showed me that neither system has all the answers. The UK could learn from the efficiency and drive I saw in Guangzhou, while the emphasis on honesty and patient involvement I was taught at UCL is something I would never want to lose.

My research project was one small attempt to close part of that gap by helping doctors spot patients at risk before it is too late. Along the way, I learnt to code from scratch, to adapt when a plan fails, and to push myself further than I thought I could. Perhaps most importantly, I learnt that leadership in medicine is not only about having answers, but about asking the right questions and having the persistence to follow them through.

I return to UCL more aware that good care depends not only on medical knowledge, but on making sure every patient is understood. That is the kind of doctor I hope to become.