



Putting online consultation at the heart of the teaching curriculum

University of Leicester's Medical School is putting online consultation at the heart of its teaching curriculum for first-year medical students – a first for any university in the UK.

From early October, the University's Department of Medical Education will be teaching all its first-year students how to hold online consultations using Patients Know Best, the world's first fully patient-controlled online medical records system.

176 of the University of Leicester's students of Medicine will be taught how to hold consultations online with 'virtual patients' – ordinary people who will simulate live consultation scenarios with the students. The University of Leicester was recently ranked as one of the country's top ten institutions for studying medicine*.

Dr. Ron Hsu, Innovation Lead and Senior Teaching Fellow at the Medical School said: "We see that technologies, such as Patients Know Best, that enable online consultation with patients are going to play an ever-increasing role in the careers of doctors. GPs and specialists alike are going to need to know how to communicate and interact with patients using these technologies. Our hope is that by putting online consultation early in our undergraduate teaching, we will not only prepare our students for the future but help them improve the level of care they provide patients."

The project will be closely evaluated by the University and medical students will develop a range of online consulting skills. For example, they will be taught how to garner information from patients online, how to deal with complex medical cases, how to respond to questions and follow-ups and what type of online consultation methods to choose. The University will be closely monitoring the language that junior doctors use in their online communications as this must be appropriate for a clinical setting.

Dr. Mohammad Al'Ubaydli, founder and CEO of Patients Know Best said: "The biggest barrier to doctors conducting online

consultations is that no-one taught them how to do so. Leicester's approach is world pioneering and we are proud to make Patients Know Best available to help train its students. Together we will create a curriculum and make it available to other medical schools through an open-access licence."



Dr Ron Hsu
Innovation Lead & Senior
Teaching Fellow

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About the University of Leicester

The University of Leicester is a leading UK University committed to international excellence through the creation of world-changing research and high quality, inspirational teaching. Leicester is the most socially inclusive of Britain's top-20 leading universities. It is also The Times/ Sunday Times 2014 'University of the Year' runner-up and THE 'University of the Year 2008-9'. Leicester is the only University to win seven consecutive awards from the Times Higher. In awarding the title the judges cited Leicester's ability to "evidence commitment to high quality, a belief in the synergy of teaching and research and a conviction that higher education is a power for good". Leicester was, said the judges, "elite without being elitist". Leicester is ranked 13th out of 119 institutions by The Guardian University Guide; 14th out of 121 institutions by The Times/Sunday Times and the University is ranked among the top two per cent in the world by the QS World University Rankings, Taiwan World University Rankings and THE World University Rankings.



University of
Leicester

School of Medicine

British Medical Association News coverage of University of Leicester

Instant education: virtual treatment for clinical practice (12 May 2014)

First years are getting an early taste of clinical practice thanks to a ground breaking scheme that allows them to treat 'virtual patients'

Medical schools across the UK are showing interest in a unique pilot project that has been teaching a batch of first-years to hold online consultations with 'virtual patients'.

For the past two semesters, 176 students at Leicester medical school have taken part in live virtual consultation scenarios using PKB (Patients Know Best) — an online, patient-controlled medical records system.

In this way, they can apply their academic learning to clinical situations and better develop their communication skills for future doctor-patient exchanges.

Working in small groups, students answer a weekly question sent from their assigned virtual patient via a password-protected online space that allows a private online exchange — which is monitored remotely by tutors.

The weekly question is developed by teaching staff and adapted by each 'patient', who is a volunteer chosen for their age, gender and background to establish an online character.

Learn from the young

Representatives from five UK medical schools, as well as students taking part in the pilot, attended a recent event where Leicester innovation lead and senior teaching fellow Ron Hsu explained why he took on the pilot.

Speaking at the Royal Society of Medicine in London, Dr Hsu said witnessing his own children's instant messaging conversations had shown him that teaching needed to reflect the changing nature of social interactions.

'I realised that the generation coming through are not only capable, but they will expect to be interacting in this way,' he said.

'We do not teach our students much other than face-to-face consultation, [nor] a huge amount on phone consultation.'

Dr Hsu wanted to see whether it was possible to get the fundamental sciences modules linked to clinical interaction without the



'paraphernalia' and cost of getting real people in for face-to-face consultations.

Bring on the trial

After gaining agreement from colleagues to trial the project — a process Dr Hsu said took around two years — all new medical students were given their own iPad and assigned small groups to work in.

According to Dr Hsu, the students are working together more than he had seen previously, although he acknowledged that tutors had underestimated the social confidence of first-years who are fresh from A-level courses.

'We think because people have literally just left school, [they] may not have developed the social skills and understanding,' he said, adding that it was not just about answering questions but asking them too.

Leicester first year Bethany Sloan admitted using PKB was 'a little overwhelming' at first, but said she really enjoyed the experience overall, adding it had paid to be open-minded about the pilot.

'It has given us a chance to work together as a team in a safe environment to work through answering patients' questions and work out how to explain complex things in patient-friendly ways,' she said.

'You might not always be perfect when you start at medical school, but opportunities like this [have helped] to improve our communication and team-working skills.'

Writing skills

Isobel Ritchie, another first-year, agreed that being launched into clinical work straight away had been nerve-racking, but that PKB had been a helpful tool to build a team ethic.

'I have found that some of the questions that patients [asked], I was not expecting, so it is always good to be surprised by that kind of thing,' she said.

Ms Ritchie said she felt the benefits of using PKB spilled over into communication skills modules when she talked face to face to patients and made her think about phrasing things properly when writing.

'It is more important how you write and explain things because you do not have the benefit of body language,' she explained.

'If it comes into the NHS in the future, it is really good we have been introduced to it so early.'

Joined-up thinking

PKB founder Mohammed Al-Ubaydli said he had been fascinated to watch students discover a feature that allowed them to confer on the questions — collaborating and building on answers — before sending one response.

He said some then eventually moved on to asking their own questions to elicit more information from the patient.

'That is a consultation — a dialogue — between the professional and the patient and the sooner they learn that the better,' Dr Al-Ubaydli said.

In exchange for the use of the PKB software, Leicester's medical school has agreed to share any teaching materials it develops under an open-access copyright licence for any other medical school to use.

Now, in addition to UK medical schools, international organisations have started to express interest.

'International interest'

There were people from outside Europe who emailed us in advance, saying: "We want the video [from the event] as soon as possible — we want to start using this in our medical schools".'

Dr Al-Ubaydli said e-consultation was something patients would come to expect. 'In 10 years' time, people will say, "How could you possibly not have taught things in this way?"' he says.

BMA medical academic staff committee co-chair Peter Dangerfield added that e-consultations enabled a novel approach to be taken towards education — in particular, communication skills, which allow a standardised approach to a key element of medical practice.

'I would predict this will become a component of personal skill development in undergraduate and postgraduate healthcare education,' he maintained.



Using a Shared Electronic Patient Record to Develop and Assess e-Consultation Skills

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Background

"A first year medical student of today may well still be practising in 2070. Much of medical practice will be conducted online, with online consultations routine. Indeed, in some parts of medicine online consultations are routine now, reminding us that the future is already here but not evenly distributed."

Richard Smith: Teaching medical students online consultation with patients. BMJ Blog February 2014

Patients Know Best

Patients Know Best (PKB) is the world's first fully patient-controlled online medical records system. Leicester Medical School has been working with PKB to enable students to have early clinical experience in a safe environment and to develop skills for the future. Groups of medical and pharmacy students communicate electronically with volunteers from the general public who play the role of a patient or "avatar". Scenarios have been created by academic staff to test students' knowledge and to develop early consultation skills.



"Hello Mrs Singh

The symptoms you are describing seem to be the characteristic symptoms of stable angina. The cause of angina is usually the narrowing of blood vessels supplying the heart so that the heart receives less oxygen, and this causes pain across the chest. Angina can be managed so I would suggest talking to your GP about this.

Can I ask if you have had any other conditions relating to your heart or chest region before?

Here is a useful link on information about angina.

[Information](#)

We hope this helps"

Assessment

Consultations are reviewed by educators from the Medical School and the Pharmacy Department at DMU and assessed against criteria developed from the GMC's Outcomes for Graduates:

- The Students as Scholars and Scientists
- The Students as Practitioners
- The Students as Professionals

Feedback

A joint session is held at the end of the course to give feedback to the students on their consultation skills. Feedback is provided by tutors from the Medical and Pharmacy Schools. The "avatars" are interviewed and audio files of them giving their views of the students' performance are played during the session.

Conclusions

Students quickly adapted to the technology. Students behaved in a professional manner when communicating with patients online.

The permanent online record of interactions was very valuable in providing feedback to students on their consultation skills.

The interactions provided a realistic test of students' knowledge.

More work is needed to identify the key skills required to communicate effectively with patients in this way.



Leicester students and Dr Hsu talk about retired patients in the medical student podcast. To watch this video, visit <https://vimeo.com/162713405>



For more information about Patients Know Best, check out www.patientsknowbest.com.