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Highlight:

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“Saudi to Staffs: learning experiences from Saudi Arabian students’ biomedical research visits to Keele University 2011 to 2016”

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For the past six years Keele University’s Research Institute for Science & Technology in Medicine (ISTM) has hosted visits from groups of undergraduate medical students from Saudi Arabia. The developing interest in research within Saudi Arabia has emerged over the past decade, particularly being strong within the medical field. The initial concept of the programme, which has remained central to the development of the programme, was to bring the very best academic medical school undergraduates and give them a taste for research within a leading UK framework. The steady growth and success of the programme has led colleagues to ask for some reflections on how it started and how it has been led. An update (Clarke J, 2016) appeared in a recent edition of JADE which focussed on international activity at Keele. That issue also contained a perspective on a teaching initiative with China (Robinson ZP et al, 2016) and it may be useful to hear from an international programme that is continuing and growing. Next year marks a change of direction in the Saudi visiting medical student programme, due to Dr Paul Roach, one of the leaders from the start, moving from Keele to Loughborough in December 2016. The formation of a new Research Institute for Applied Clinical Sciences within the Faculty of Medical & Health Sciences also means that in future the visits might span more clinical areas of activity. So now seemed to be a good time to take stock of what has been achieved and the experience gained through offering the programme.

Initially Keele was one of several UK universities contacted through an independent agent for higher education, on behalf of their client, an unspecified medical school in Saudi Arabia. The specification called for:

“...interested universities that would like to undertake a four week research training program from 1st July – 31st July 2011 [for] 1st and 2nd year undergraduate medical students in groups of 10 to have exposure to the basic skills required for biomedical research (a maximum of 20 students per university). The core topics of the course should be:

1. *Understanding disease mechanism*
2. *The discovery of disease biomarkers*
3. *The discovery innovative therapeutic approaches*
4. *An introduction to research to one or more of the following subject areas:*
 - a. *Obesity*
 - b. *Diabetes*
 - c. *Cancer*
 - d. *Infectious diseases*

- e. *Neurological disease*
- f. *Traditional medicine*

[...] a number of key requirements for participating universities. These are as follows:

1. *English should be the official language.*
2. *Availability of a supervising professor to prepare, supervise and coordinate the training program.*
3. *Availability of sufficient number of supervisors (PhD holders), so as not to exceed supervisor to student ratio 1:4.*
4. *Nearby housing and transportation from housing to the center as well as from and to the airport*
5. *Provision of certificate at the end of the training program.*
6. *A weekly schedule for the research training and a list of available research projects.*
7. *Enriching activities outside the scientific program (e.g., sport facilities, weekend local visits)."*

It was clear that Keele could deliver on all these criteria, including several of the listed subject areas, but ISTM was only offering summer research placements to UK students at that time. Expansion to international students was seen as a potentially profitable international activity, both financially but more so for the Research Institute to increase its international profile. So, in conjunction with Professor Gordon Ferns (the Director of ISTM at the time), the authors drew up a specification and submitted it to the agent in May 2011. On working out the projected costs and setting the price it was clear that the optimum number of students to come to Keele was between 16 and 20, so the pricing structure was scaled to encourage a group of that number from year two onwards. The students all come from the College of Medicine, Al Imam Muhammad ibn Saud Islamic University in Riyadh, Saudi Arabia. Being initially founded in 1974 and now having approximately 24,000 students and 1,300 faculty staff, the medical school at this University was still relatively new and was looking to enhance its external visibility *via* the development of a research profile. The long-term goal of the international programme from their perspective was to nurture their top students into research active clinicians.

After some rapid negotiation on terms and price, the first students arrived on Keele campus on 3rd July 2011. Being a Research Institute focussed on PhD/DM/MPhil and hosting some Masters level courses, largely being based off-campus at the Guy Hilton Research Centre hospital site, this was the first time ISTM had hosted any undergraduate student groups. The learning curve was steep and the young men who arrived found the European culture-shock acute. Likewise staff within the ISTM had a culture shock when dealing with this first cohort. Unfortunately it was too late to find sufficient campus accommodation that year and they stayed in a small local hotel. It has been crucial to reserve campus accommodation for every year since then, and this has become an important part of the Keele experience that has ensured the student groups return year after year.

The Al Imam University College of Medicine views these visits not only as a very valuable experience for their students, but also for the development of their staff. Their vision for a Faculty Development Programme was set out in a paper by Bin Abdulrahman K A, et al (2012) as part of the overall plan to encourage academic staff in Arabian Gulf universities to study for a PhD themselves and become more active in research. The student group is always accompanied by an Academic Tutor from the College of Medicine, and their specialties and research interests have included dermatology,

paediatrics and family medicine. To help to achieve this goal, the College of Medicine set up funded programmes with universities in the USA, Malaysia and Australia. But by 2016 they had dropped these other links, and focussed only on visits to Keele.

There have been several other key features of the programme that have emerged and may be useful to others who have the opportunity to host visitors from the Middle East.

1. Capacity: Sufficient lecturers and tutors for the students' projects need to be identified and signed up well in advance, as the visits occur in July or August when many colleagues can be away on leave. Sometimes members of their teams have stepped in to cover for a week or two, but the students do need and expect input from an experienced member of research-active academic staff for their projects; that is what they are paying for. The hierarchical social aspects of Saudi Arabia are quite firm, with respect of the highest degree for those higher up this societal ladder in terms of age and experience. The leader of a group is seen to be the main person from whom these students can learn, and be networked with in terms of helping with their future career. This was a very important aspect from the visiting students' perspectives, and echoed entirely by their accompanying Academic Tutors. ISTM has opted for a 1:2 basis of supervision rather than the specified 1:4. The choice of projects needs to be done well in advance. Allocation is done by the Al Imam University Director of Visits as there is often a hierarchy also within the student cohort – this we found was based on student performance in examinations with the highest achieving students allowed first choice of the projects.
2. Gender and culture: ISTM offers an entirely mixed-gender, culturally diverse medical research environment which the students have to accept and adapt to. But culture-shock in coming to the UK can be acute, as many of the students have not been outside the Middle East before, where gender, class, religious and nationality divisions are often very entrenched. The only concession to this is the booking of an entire floor of 18 *en suite* campus accommodation to meet cultural requirements, ensuring the students have a safe space such as kitchens in which they can relax as a group in the evenings.
3. Professionalism: Many of the students seem comparatively immature and so sensitive guidance is given around the conduct that is expected in lectures, when contacting members of clinical and research staff, and the self-directed learning for their projects. A tutor from Al Imam University has accompanied the students for at least part of their stay and can assist in broaching any difficult issues. Timekeeping and punctuality can be a cause for concern, the students need occasional reminders about attendance, so registers have been kept for key sessions.
4. Cultural activities: A part of the original brief, some cultural activities have always been provided so the students get a broader idea of what life and work in the west is like, not just the typical tourist's view. In the first few years, weekend visits included a museum or a castle, and a church, as well as a tour of Keele Hall as a typical English country house to explore a little about history, architecture and class. More recently this has varied to include visits offered through Keele's International Office, and a social evening of traditional fish and chips at the home of one of the authors. The latter has been an experience of different foods, eating and socialising habits, and a chance for the students to see ISTM staff alongside their families, with children and partners brought along to the social evening to further broaden student's interaction with western culture. This has been very well received

and is always a point of reflection during student feedback sessions. The students have gained in confidence over the years, based on the experience of those who visited Keele in past years and also the recognition of Keele's programme within Al Imam. Students now tend to organise their own excursions, including Old Trafford, Alton Towers, Manchester, Chester, Liverpool and London, being a mix of fun and adventure, alongside those who want to learn more about English culture.

A long-term objective of running the Saudi medical student visit programme here at Keele has always been to encourage some of the students to return to Keele for a Masters level course or a PhD. While there have been many very bright and well-motivated students, and some visits from individual students in their later years for deeper research or clinical experience, so far none have opted to come to Keele for a higher degree. But several have produced posters and journal articles, the visiting Saudi tutors have explored research links with Keele, and in all other respects the programme has met its objectives. There has been interest in the new Keele MMedSci in Oncology to suit those students finishing their medical degree and with an interest working in medical research before specialising.

So far there have been a total of 92 Saudi undergraduate students visit Keele under this programme with a total of £180,000 income generated. Of this, direct payments are made to staff who supervise their individual projects, this money is then used to fund research projects in ISTM's laboratories so Keele's research has benefitted by at least £50,000. Once all staff costs and overheads have been accounted for, the clear profit made by the programme is over £25,000, which ISTM has re-invested into new initiatives, including the encouragement of international links. In addition the students and the accompanying tutors have brought accommodation bookings to the University exceeding £45,000, creating clear benefits for the local economy.

Overall, the success of the programme has been the internationalisation of our research teams, the stimulation of having new students in the labs over the summer, and the generation of ideas for new international postgraduate programmes to tap new markets. The Dean of Medical & Health Sciences, Prof Andy Garner, flew out to Riyadh in 2015 and signed a Memorandum of Understanding with the Dean at Al Imam University, which cements the relationship. It is hoped that in the future the programme can be expanded to bring female undergraduates from the same medical school too.

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- International Office team: Elissa Williams, Sian Colley and Mark Coates.
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Figures:

1. Saudi Arabian medical students and tutors group photo at a social evening at “Lowlands House” in August 2014, with Mark Smith and Josep Sule-Suso (left), Andy Garner and Paul Roach (right). (photo by Ruth Dann).



2. Saudi Arabian students taking part in rehabilitation research experiments at Keele in July 2013, watched by Dr Sami Aldaham, their Academic Tutor and Director of Visits at Al Imam University College of Medicine. (photo by Mark Smith)



References:

Bin Abdulrahman K A, Siddiqui I A, Aldaham, S A & Akram S (2012) Faculty development program: A guide for medical schools in Arabian Gulf (GCC) countries. *Medical Teacher*, 34:sup1, S61-S66, DOI: 10.3109/0142159X.2012.656748

Chadwick E (2016) ISTM & hospital partners training Nigerian engineers – Biomedical Engineering in Africa, letter to the editor. JADE international Edition, March 2016 pp66-67

Clarke J (2016) Letter to the editor. JADE international Edition, March 2016 pp66-67

Robinson ZP et al (2016) The Rise and Fall of a Collaboration: reflections on the benefits, challenges and lessons learned from a joint England-China teaching initiative. JADE, International Edition, March 2016 pp32-56