PROGRAMME LEADS:

Professor Prokar Dasgupta
Mr Mohammed Shamim Khan

ACADEMIC CLINICAL LECTURER: postdoc with a PhD in simulation for data management across sites

CLINICAL RESEARCH FELLOWS: x2 PhD students

INDIVIDUAL SiM CENTRE:

Regional leads (consultants) x2 - either two urologists or one urologist and a medical educationalist/anaesthetist/A&E consultant

Local consultants, nurse specialists as faculty

Part time technician at each site
Grant requested:

1 PA / week @ Professor

1 PA/ week @ Senior Lecturer/Consultant

£14,899.43 per annum per head x 2

Site visits x 5 years

Total = £250,000 over 5 years
Introduction

We appreciate this opportunity from BAUS and the SAC in Urology to lead a national program of simulation in urology. To our knowledge this is the first such initiative from any surgical specialty in the UK or internationally. Our academic group at King's Health Partners based at Guy's has a proven track record in this field since 2002. We have developed and validated our own simulators and published extensively on this subject.

Content

This will be based around the successful pilot STeLi (Simulation and Technology enhanced learning initiative) program in urology for South Thames trainees. The program is supported by grants from the School of Surgery, London Deanery and Olympus. STeLi urology began as a modular educational study in 2009 and won an Excellence in Education award in Dec 2010. It consists of 22 modules - 14 half days of part task training (PTT) and 7 full days of crisis resource management (CRM). The program is provided free of cost to SpRs who travel to the Sherman Simulation and Interactive Learning (SAIL) centre at Guy's on alternate Fridays during term. It is designed around the curriculum in urology rather than the other way around.

1. PTT is a skill that most urologists are already familiar with. Structured training is delivered in cystoscopy, TUR, TRUS, URS, PCNL, laparoscopy and robotics.

2. CRM involves training in non-technical skills, communication, decision making and patient safety through simulated scenarios and subsequent debriefing. Central to it is the use of SimMan/woman, a realistic dummy controlled from a computer station, recording of the scenario with playback and reflective learning during a structured debriefing session. Most urologists are not familiar with CRM and regional leads will be requested to attend a training day in London.

Structure

There are 15 regions within UK with a total of 348 SpRs. A hub and spoke arrangement can be created in each region with trainees travelling into the "central" institution with its own SAIL facility. Alternatively simulation facilities can be centralised to fewer institutions which will be cheaper but involve greater travelling distances. A possible example is to enhance existing simulation centres in London, Leeds, Manchester, Newcastle, Bristol, Edinburgh and Cardiff (WIMAT). This is to be discussed within BAUS trustees. The content can also be developed to suit local needs based around the essential framework as above.

Outcomes

The key to success of SiMUroL will be defined, validated outputs. It is proposed that PTT for each trainee is assessed by the OSATS questionnaire and CRM by NOTECHS and/or OTAS. These can be administered by the Consultant faculty at the end of each simulation session. Likewise trainee satisfaction can be captured on a structured, validated questionnaire. This data
will be collected prospectively and stored confidentially by an academic clinical lecturer who will co-ordinate the program. While such data can be part of the ARCP portfolio, it is not an absolute requirement.

We will be presenting pilot data from the Guy's project at BAUS 2011.

Funding

Olympus are willing to support SiMUroL with a grant of £250,000. This will fund 1 PA a week (£14,899.43 per annum) each, for Dasgupta and Khan, site visits and program delivery over a 5 year period. This is based on Full Economic Costings (FEC) for King's College London.

Regionally the program will additionally cost ~£20,000 per annum for administration and consumables. In London this is funded by a project grant from the School of Surgery. Similar funding will need to be requested from regional Deans with support from the STC chairs.

It is proposed that a 5 year program grant is requested from the NIHR (~10M). This will require support and advice from David Neal and Freddie Hamdy, Senior Investigators for the NIHR. It may allow BAUS to use a project management company who can prepare brochures, educational DVDs, arrange travel for faculty, prepare attendance certificates and be the principal source of information for trainees.

The grant application will include not only funding for a 5 year national simulation program in urology but also a Multi arm Multi stage (MAMS) like trial to establish the predictive validity of simulation with laparoscopic nephrectomy (LN)/ureteroscopy as the index operation. It can be co-ordinated through the MRC Clinical Trials Unit and will need REC. The trial will be conducted during the second/third year of SIMULATE.

ST4-5 trainees nationally will be randomised to either:

1. No prior training > Supervised LN > OSATS
2. Dry lab LN (Limbs and Things) > supervised LN > OSATS
3. Wet lab LN (Aalborg, Denmark) > supervised LN > OSATS
4. Virtual reality LN (Procedicus MIST nephrectomy) > supervised LN > OSATS

It will answer the important question: "Does simulation enhance real life performance of LN"? The hypothesis being that it does. Such trials are lacking in surgical literature and make sceptics wonder about the benefits of simulation or otherwise in developing surgical skills and enhancing patient safety.
Plan and milestones

1. President to circulate e-questionnaire on survey monkey to all BAUS members - senior and junior to assess where we are now - **May 2011** - Adrian Joyce and trustees are requested to review the questionnaire that I have submitted to Anne - **DONE** and results presented at BAUS

2. President announces SIMULATE in his address to the membership - **June 2011**. This may encourage local consultants to act as faculty in their own regions - not onerous; 1-2 half days per year - **DONE**

3. Regional Simulation leads identified and approached - **June - July 2011**

4. Study day(s) for regional Sim leads at Guy's to learn CRM - this will be supervised by Peter Jaye, Director of Simulation, King's Health Partners - **August - Sep 2011**

5. Site visits to assess current facilities and advice on additional requirements in collaboration with industry - **Sep 2011**

6. Design 14 days of PTT and 7 days of CRM per region - **Oct 2011**

7. Program begins nationally - **Nov 2011 to Feb 2012** depending on term timings for SpR teaching in each region - flexibility is the key

8. NIHR application using pilot data from Guy's and evidence of established national program - **Dec 2011- Feb 2012**

Success criteria

1. **Attendance**: The program will need regional consultant members, specialist nurses (faculty during CRM) and trainees to buy in. We have noticed that some senior trainees treat simulation as "a joke" and do not appreciate the concept of repetition of skills in a lab. The majority appreciate the role of simulation in providing additional training particularly within EWTD. The key to success is for BAUS to make attendance at the sessions compulsory through the SAC, STC Chairmen and Program Directors.

2. **Outcomes**: Validated outcome measures will be crucial to publications in high impact journals. Simulation will lend itself to e-publishing of the future and this program may provide BAUS with a tangible national academic project that majority of the membership can participate in.

3. **Funding**: Simulation is not cheap and funding from deaneries, industry and the NIHR will be essential to sustain a 5 year project.

4. **Future**: SIMULATE can be successful as an academic project if educational links are established with healthcare psychologists and computational scientists to develop "smart" simulators and assessment tools of the future. Examples are tablet computer based sim apps and validated new decision making tools
An overview of the programme:

- **Leaders:** PD, SK
- **Clinical lecturer**
- **Clinical research fellows x2**
- **Management staff; Technician**
- **Coordination with healthcare psychologist**

Hub - Central Simulation Centre