South West Anaesthesia Research Matrix (SWARM): a new model for trainee research

Written on behalf of the SWARM Collaborative

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'...to conduct high-quality, high-impact, trainee-led, multi-centred research and audit across the Peninsula Deanery for the benefit of patients and their future care...'

In the South West Peninsula Deanery we have started a trainee-led audit and research collaborative that has networked all six hospitals within our training rotation. This collaborative is currently comprised of over 70 enthusiastic trainees under the tutorship of supportive consultants. We aim to act as an altruistic group and conduct high-quality, high-impact, multi-centred research and audit for the benefit of patients and their future care. We have taken advantage of the close ties between the anaesthetic and intensive care departments across the large geographical area of Devon and Cornwall, relationships that have benefited from the migratory nature of our trainees, as well as from pre-existing regional groups and associations. The concept of a trainee research collaborative is not novel; the West Midlands Research Collaborative is a surgical trainee group that has had impressive success with the impending publication of an RCT that has recruited 750 patients using 420 investigators in more than 20 centres (ROSSINI).

The birth of Bert the Bee

We started SWARM in April 2012 in response to the perceived lack of accessibility for our trainees into clinical research and multi-centred audit. A recent survey of our trainees showed that only 7% felt that they had been afforded good opportunity to be involved in clinical research, whilst only 5.6% said they had received good training in clinical research/evidence-based medicine. This meant that only

17.8% felt that they were competent in critical appraisal and data interpretation.[1] We don't interpret this as a failure of our curriculum or training, but rather a reflection of how clinical research has changed in the UK over the last decade or so, with an appropriate emphasis on large-scale, nationally-funded projects. In our experience it is currently virtually impossible for a trainee to participate meaningfully in trust studies that may take years to organise and yield results.

The organisation itself consists of a central executive committee that supports a network of local trust leads in anaesthesia, pain and intensive care medicine at each of the six sites. The committee's responsibility is to manage and direct SWARM as an organisation, whilst the trust leads facilitate projects at a local level and provide a link between the membership and the committee. A cornerstone of our success so far has been the support of a number of enthusiastic and research-experienced consultants who have provided crucial advice, guidance and help with local and regional logistical issues. To date we have over 70 trainee members of SWARM (ranging from F1s to ST7s) and 12 consultant members, a number that continues to expand. We have been fortunate to receive full support from our Specialist Training Committee (STC), and have started to develop links with the Peninsula College of Medicine and Dentistry.

Rules of the hive

SWARM is governed by a constitution that outlines the ideals of the organisation. One of the fundamental components of this constitution is the Authorship Rules. These clearly state that all presentations, articles and publications are published in the name of SWARM rather than those of individuals. We aim to be truly altruistic and this detail of our constitution provides a united front and attempts to break away from the inevitable claim that a few are benefiting from the work of many. However, each individual's contribution is recognised through the publication of 'contribution level' (e.g. Lead Investigator, Local Investigator, Contributor or Data Collector) under the project section of our website (www.ukswarm.com). This is important as it provides evidence of trainee involvement that is relevant for individuals, our Specialist Training Committee and hopefully future employers alike. It ensures that our members are recognised for their hard work.

One of the main hurdles to our development has been the efficient communication of data, documents and ideas over a large geographical area covering nearly 4,000 square miles. To solve this issue we secured a deanery grant to fund a number of internet software applications. Basecamp is a project management system that allows us to discuss SWARM project details in a web forum environment and to store key documents in a central location enabling each member access as required. SurveyMonkey® is a piece of internet-based survey software that we have used as a tool for data centralisation. Deanery funding has also been used to develop our new website, www.ukswarm.com. The main aim of producing a SWARM website was to provide a platform on which to publish our member contribution lists. However, it has also become important for advertising SWARM events, as well as projects both past and future. Finally, it will play a key role in trainee research education.

From a few bees into a SWARM

The early development of SWARM has essentially comprised four steps:

1   The completion of a simple, non-confrontational, prospective, multi-centred audit that proved the collaborative worked and highlighted its potential (SWARM-AP 1).

2   The involvement in an international trial as a centre/data collector to help bolster our research credentials and provide our members with an early taste of research (LAS VEGAS).

3   The advertisement of our collaborative on a regional and national scale to maintain momentum, promote the collaborative and aid our future grant application.

4   The development of further projects to maintain SWARM productivity in the short term and help guarantee its continuation once the original group of senior trainees responsible for SWARM completed their training.

SWARM-AP-1[2,3] was a six-centred, prospective, two-week 'snap' audit that was completed in July 2012. We recruited a total of 437 patients, achieving an 85% recruitment rate. This project achieved a much needed 'early success' that helped to engineer the network, prove our viability and create a ground-swell of enthusiasm from the trainees and consultants in our region. The strengths of a collaborative seem to be many; in our first project we were able to quickly and efficiently construct and complete a prospective audit that recruited a large cohort using the economies of scale that our network could provide. This 'snap' audit model has become a blue-print for further SWARM audit projects. Its

processes are simple and effective and depend on continuous feedback to improve project details. To start, the project documents are written by the Lead Investigator and distributed to the Local Leads, who register the project with their local audit departments. A pilot day is run across the region on an agreed date to test the protocol. Feedback is then collected from each centre to modify the protocol, which is used for the two-week audit. Once the audit is complete, further feedback is obtained on the project as a whole to help improve the management of future studies. Such 'snap' audits have a number of benefits; they maintain trainee interest (improving recruitment) and produce data that may be far more applicable on a regional or national stage.

In November 2012 we held our first Annual General Meeting. This was an opportunity for all SWARM members to meet and discuss SWARM and its future projects. It not only allowed our membership to contribute to the workings of our collaborative (thereby giving them a real sense of involvement and responsibility), but it also gave us an ideal opportunity to provide research education and devise our project strategy for 2013. As was clear from our survey,[1] research education is an area that we as a group can develop and greatly contribute to. With this in mind, there are a number of exciting opportunities that we are currently developing in collaboration with our STC.

The hive of tomorrow!

Our 2013 project strategy shows great potential. It includes two further multi-centred prospective audits, one of which is currently in development (SPRATS), as well as involvement in an international observational study (LAS VEGAS)[4] and the development of our first home-grown multi-centred research project. We hope that 2013 will be a year where we see SWARM grow

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and develop its research credentials, as well as a year where we develop links to the wider research community and to other new trainee research groups. We feel that a trainee collaborative is a viable model for clinical research and we hope that it will enable our trainees to engage in research projects that were previously unattainable.

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References

1   South West Anaesthesia Research Matrix. Trainee experience of research and audit in the South West Peninsula Deanery, 2013. Unpublished.

2   South West Anaesthesia Research Matrix. Proportion of patients undergoing emergency surgery at risk of post-operative pulmonary and cardiac complications. Presented at the Anaesthesia Research Society Winter Meeting, 2012. *SWARM* (www.ukswarm. com for authorship list).

3   South West Anaesthesia Research Matrix. Establishment of a trainee led multicentre anaesthetic research and audit network. Presented at the Anaesthetic Research Society Winter Meeting, 2012. *SWARM* (www.ukswarm. com for authorship list).

4   Local Assessment of Ventilatory Management During General Anaesthesia for Surgery and Effects on Postoperative Pulmonary Complications: a Prospective Observational International Multi-center Cohort Study. ClinicalTrials.gov NCT 01601223 (https:// sites.google.com/site/lasvegasstudy/).