

Harnessing the power of networks: the future of perioperative research

Awareness of perioperative medicine is increasing across a growing range of medical specialties allied to surgery. Leaders in anaesthesia, in particular, are seeking to take a decisive position by establishing their speciality as well placed to deliver key perioperative medicine objectives.

In a vision statement, the Royal College of Anaesthetists (2015) described the scale of an unmet challenge to reduce the burden of surgical morbidity through research, training and workforce planning. On a worldwide scale over 300 million patients undergo surgery annually (Weiser et al, 2015) with evidence of serious complications having a lasting effect on health-related quality of life and long-term survival (Manku et al, 2003; Derogar et al, 2012; Moonesinghe et al, 2014). Both surgery and patients are changing; we now care for increasingly elderly patients with more medical comorbidities undergoing more complex surgical procedures. In response to these threats, development of a research strategy to reduce potentially avoidable harm around the time of surgery is becoming a major public health issue.

Clinical research networks

Despite being the largest secondary care speciality, anaesthesia lags behind many other

clinical specialties in recruiting to National Institute of Health Research portfolio research studies (UK Perioperative Medicine Clinical Trials Network, 2016). The existing National Institute of Health Research local clinical research networks provide support across 15 regions of England with a mandate to promote research with clear benefit to the health of the nation. Significant progress has been made in facilitating research by anaesthetists and other specialties since establishment of the National Institute of Health Research in 2006. This is supported by government funding, reaching £1.1 billion per annum, channelled through the clinical research networks. However, the disparity between the relatively low proportions of academic anaesthetists and growing demand for patient-focused perioperative research is beginning to close as a result of a number of recent developments in research infrastructure.

In addition to clinical research networks, the last 3 years has seen the growth of several new networks relevant to perioperative medicine research. The National Institute for Academic Anaesthesia Health Services Research Centre has established a network of quality, audit and research coordinators across the UK: anaesthetists taking on local responsibility for delivery of high quality national clinical audits and National Institute for Academic Anaesthesia-led research activities.

Trainee-led anaesthetic and surgical audit and research networks have been embedded at a regional level, harnessing the enthusiasm and ideas of trainees to produce meaningful improvements in perioperative care. National coordination of the anaesthetic trainee networks has taken shape through the Research and Audit Federation of Trainees.

Other national networks with roots in perioperative care have also formed, including the Emergency Laparotomy Network which now delivers the ongoing National Emergency Laparotomy Audit. This wealth of new resources is concordant with a generational change in anaesthetic

activity – one in which participation in major perioperative care academic projects is becoming increasingly normalized as part of routine clinical activity.

UK Perioperative Medicine Clinical Trials Network

The newest addition to such networks is a dedicated UK Perioperative Medicine Clinical Trials Network, lead by Professor Rupert Pearse. The aim of this new network is to provide the infrastructure and expertise to recruit large numbers of patients into multicentre perioperative medicine trials, but also to design and deliver anaesthesia-led research on a global scale (UK Perioperative Medicine Clinical Trials Network, 2016). However, this concept is not entirely new. The Australia and New Zealand College of Anaesthetists Clinical Trials Network (www.anzca.edu.au/ctn) has already set the bar high. This well-established perioperative medicine trials network has led the way in producing high-quality research with a global impact and has become the world's highest funded anaesthesia research network, drawing in millions of dollars of research funding.

The UK Perioperative Medicine Clinical Trials Network aims to achieve similar success and inspire a new programme of UK-based anaesthesia research. The network has a number of core objectives including building relationships with existing clinical trials units, academic institutions and established research infrastructure (UK Perioperative Medicine Clinical Trials Network, 2016). The UK Perioperative Medicine Clinical Trials Network will likely attract career academics in significant numbers, especially with backing from organizations such as the National Institute for Academic Anaesthesia and Royal College of Anaesthetists, but the network must strive to avoid becoming a home only for academic anaesthetists. Among their objectives is engagement with 'grass roots', research-interested clinicians, supporting them to take up investigative roles within the network. For many non-academic clinicians, the prospect of delving

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into the world of research is at the very least daunting, and often perceived as impossible. The UK Perioperative Medicine Clinical Trials Network aims to change that perception by allowing clinicians to sign up to various network roles ranging from chief investigators leading their own trials, to local investigators collecting data for large multicentre studies coordinated by the network.

The success of this network will hinge on its ability to attract those non-academic anaesthetists who wish to explore the world of research into local and principal investigator roles. It will be important for the network to harness such interest and use it to make a meaningful contribution to improving outcomes for patients in the perioperative period. This approach has been extremely successful for UK trainee research networks.

The trainee research networks have been recruiting into large international studies, with several networks leading their own multicentre, National Institute of Health Research portfolio-adopted studies (Jamjoon et al, 2016). This success is an example of the cultivation of the enthusiasm of local trainee investigators who are often not in academic posts, building on their collective motivation and participation to deliver studies of high quality across multiple sites. By pursuing a similar strategy for involving clinically-minded anaesthetists, the UK Perioperative Medicine Clinical Trials

Network could lead to an unprecedented level of engagement in academic activity from the broader anaesthesia community in the UK. In order to maintain momentum, it is also of vital importance that all who participate are appropriately recognized for their input, however small. It is reassuring that the network has already stated this as one of its primary aims. If network members can satisfy their own needs through participation, then the scale of that participation will surely continue to grow.

The future

Perhaps the real power of this new clinical trials network will lie in the potential for future collaboration with other well-established networks. The prospect of collaboration between successful organizations like the Australia and New Zealand College of Anaesthetists network, the UK trainee networks and a whole new generation of research-interested anaesthesia clinicians that the UK Perioperative Medicine Clinical Trials Network could inspire, potentially signals the beginning of an exciting period which could see UK-led research in anaesthesia and perioperative medicine propelled onto the global stage. **BJHM**

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KEY POINTS

- The UK Perioperative Medicine Clinical Trials Network aims to deliver world class, UK-led research in anaesthesia and perioperative medicine.
- The network aims to engage both career academics and non-academic clinicians within the anaesthesia and critical care community.
- Collaboration with existing networks and research infrastructure could be the key to future success.

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