

Editorial

Establishing a radiography research culture – are we making progress?

In this issue the first survey of doctoral awards in the UK is presented,¹ identifying at least 90 radiographers that had been awarded, or were studying for, a doctoral award. The authors caution that this is only 0.1% of the UK registered radiographer population, and is unlikely at the current rate of growth to meet ambitious professional body targets.^{1;2} Nevertheless the numbers registered for doctorates are growing annually, with a large increase in graduates expected in the next two years.¹ While there is limited information regarding doctoral radiographers in other countries, a survey of radiography education in Europe showed that access to postgraduate study in many countries was challenging, with only 14.6% of radiography university departments offering doctoral study.³ In many cases the opportunities for radiographers to study at doctorate level falls behind the opportunities available to graduates from medicine, nursing and other healthcare professions.³

So why does the number of radiographers with doctoral awards matter? Of course, a doctorate “*is not an end in itself but the starting point of a post-doctoral research career*”⁴ and it is expected that these radiographers will continue to drive research forward and to support and mentor new doctoral students. The growth of doctoral radiographers is therefore one measure of progress towards adopting a research culture within our profession. We need to grow the quality, quantity and impact of radiography research in order to strengthen our evidence base which for many of our procedures is weak, and to meet the challenges of new technologies and working practices ‘head on’ with new evidence. This will define radiography as an independent and strong profession, aligned to radiology and nursing, but pursuing its own values and ambitions.

So what do other measures tell us about progress towards a radiography research culture? Analysis of activity within several international radiography journals shows an increasing trend of submissions, published articles and citations. Submissions to the *Radiography* journal doubled between 2010 and 2015, and even with a backdrop of rising rejection rates we have moved to five issues per annum to accommodate the rising demand. While submission data indicates increased research activity, the total number of citations received by a journal gives an indication of its usefulness to researchers in the field. The *Radiography* journal is receiving nearly double the number of citations of its nearest competitor, and the citation rate per article has risen for the last three years,⁵ though citation activity is still low in our field compared to the related discipline of radiology. The journal is also showing rising trends in ‘modern’ metrics which can be beneficial to radiography research, for example the longer citation ‘windows’ included in the Impact per Publication (IPP) calculation. The inclusion in 2015 of *Radiography* in the Thomson Reuters Emerging Sources Citation Index (ESCI) is helping to increase visibility of the journal and this in turn will impact positively on the growth of citation indices for the journal.

Evidence for the growth of radiography research has also emerged from four recent bibliometric studies which reviewed the productivity of radiography authors and their institutions by analysis of specific imaging-related journals⁶⁻⁸ or by using

an electronic search tools to target named authors.⁹ While the analyses were each performed in different ways with different strengths and limitations, they all confirmed that radiography publication activity is increasing year on year, but that the majority of articles emerge from a small number of authors and centres. More than 2,000 unique authors of research published in radiography journals between 2004 to 2013, yet more than three quarters contributed to just one article.⁷ Less than 10% of authors published more than two papers in eight years;⁷ these more productive authors were usually academics, engaging in regular co-authorship within and outside their institution. The study by Ekpo *et al* showed that some departments are managing to effectively combine radiography research and teaching, with several publications from several different staff each year,⁹ however the majority of radiography departments have few publications annually, from only one or two staff. The first scenario is sustainable in the longer term, whereas the second is highly vulnerable to retirement or transfers of key research staff to other institutions.

Radiography has now been embedded in Higher Education in many countries for more than two decades, and research should be a core function alongside teaching. While some clinical and academic radiography departments are highly research active, some do little or no research; Price argues that responsibility for embedding research within our profession ultimately lies with university departments.⁴ Strong leadership (from professors / managers / consultant radiographers) is essential for growth of a research culture and creating conducive environments for research, though radiography professors are few and debate continues regarding the research role of the consultant radiographer.¹⁰⁻¹² In the absence of professorial and consultant or research radiographers in many departments, the manager has a pivotal role in supporting their teams to develop sustainable research strategies, driven forwards by effective academic-clinical collaborations. Managers are best-placed to create an environment in which radiographers are provided with effective support for doctorate training, preferably earlier in their careers,¹ followed by ongoing mentorship in their post-doctoral roles. Most importantly, managers of both academic and clinical radiography departments must reinforce the message that research should not be a 'hobby' conducted only outside normal working hours or when the individual has time,⁴ but that it must be seen as a priority for some radiography staff.

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