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The academic radiography workforce: Age profile, succession planning and academic development

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ABSTRACT

Introduction: Academia is one area of practice in which radiographers can specialise; they compile approximately 2% of the total radiography profession in the UK, but are highly influential and essential for the education and development of the workforce in addition to undertaking research. However, the academic environment is very different to clinical practice and a period of transition is required.
Methods: Data were collated to explore the age and retirement profile of the academic radiography workforce in the UK; to understand the research time allocated to this workforce; the time required to develop a clinical radiographer into an academic and the mentorship and succession planning provisions nationally. An online UK wide survey was conducted and sent to all 24 Universities delivering radiography education within the UK.
Results: Eighteen out of 24 Universities in the UK responded to the survey. Approximately 30% of radiography academics are due to retire over the next 10 years, with over 25% of radiographers who currently hold a doctorate qualification included within this figure. Those entering academia have notably lower qualifications as a group than those who are due to retire. Developing clinical radiographers into academics was thought to take 1–3 years on average, or longer if they are required to undertake research.
Conclusion: There is vulnerability in the academic radiography workforce. Higher education institutions need to invest in developing the academic workforce to maintain research and educational expertise, which is underpinned by master's and doctorate level qualifications.

Introduction

Academia is one area of practice in which radiographers can specialise as they progress through their career. However, the academic environment is very different to clinical practice; the transition from clinical practitioner to academic may take between 1 and 3 years. This transition period is certainly extended if academic radiographers are to lead research and supervise doctorate (PhD) students as part of their role. Radiography is considered to be a young academic profession[1] and as such the route in for many radiographers is via a background in clinical practice; in more traditional academic disciplines, the completion of a PhD and one or more post-doctoral positions is the norm. Post-doctoral positions often include teaching and other educational activities and consolidate research skills, thus creating a rounded academic prior to their first lecturer post. This model does not address the high level of clinical expertise required by healthcare educators. Many radiographers entering academia from clinical practice have limited experience in teaching, research and scholarship, thus the development needs of radiographers transferring into academia remain high. In addition, if they are required to undertake a PhD, this takes 5–6 years of part-time study before they can contribute to doctoral supervision and in some cases achieve promotion. With only 24 higher education institutions (HEIs) within the UK delivering radiography education, the academic radiography workforce constitutes just a small percentage of the wider profession and as such it is vulnerable to internal and external influences such as retirements, HEI policies and government policy.

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Indeed the UK higher education environment in healthcare is in a state of unprecedented change. The Comprehensive Spending Review is changing the way radiography students in England are funded from the 2017–18 intake, alongside removal of the imposed caps on commissioned numbers, resulting in a potential increase in the numbers entering healthcare courses.[2,3] There is concern that some elements of the student population may be deterred from entering radiography and a survey of first and second year radiography students in 2016 indicated that up to 60% of those returning surveys would not have entered radiography education under the new funding arrangements, with mature students being most likely to be deterred.[4] Furthermore, in 2016 the Stern review: research excellence framework (REF) has suggested that all research active staff should be submitted in the REF.[5] This means that in future, potentially all radiography academics classified as undertaking research as part of their role will need to be undertaking research of at least national importance and universities will be graded on this in the next REF. This is potentially beneficial to radiography, since a strong research culture and the development of radiographers to doctoral level to lead research is essential to the profession.[6] However, with the primary route for radiographers entering academia being through clinical practice alongside relatively low numbers of radiographers in the UK holding doctorate level qualifications and with a low level of research activity in the UK, this is likely to be challenging for the profession.[7,8] Alternatively, universities could choose to support fewer radiography academics to undertake research and the increasing use of teaching only contracts may have a potentially negative effect on the profession and subsequently the evidence base which underpins practice. In such a situation, radiography as a discipline might become unattractive to those higher education institutions, which are underpinned by the ethos of research to drive excellence. Only a small number of Universities submitted radiographers for assessment in the 2014 REF and it was stated that "*research must be seen as a priority for some academic staff and not an add-on*".[9]

Approximately 0.1% of radiographers hold doctorates with very few under the age of 40 years which leaves the research workforce ageing and vulnerable.[7] The new Society and College of Radiographers (SCoR) research strategy (2016–2021) has ambitious targets to increase the number of radiographers with or studying for a doctorate to 300 by 2021.[10] Such a rapid expansion needs significant input from HEIs; having sufficient academics with doctorates, research expertise and supervision experience is integral to delivering this target. It is uncertain if there is sufficient capacity currently within the UK radiography academic workforce and whether this workforce is ageing, potentially leaving education and research at risk. In Europe only 14.6% of radiography university departments offer doctoral study[11] and while equivalent data is not available for the UK alone, it is probable that not all 24 HEIs delivering radiography education offer doctoral studies.

The purpose of this study was to explore the age and retirement profile of the academic radiography workforce in the UK; to understand the research time allocated to this workforce; the time required to develop a clinical radiographer into an academic and the mentorship and succession planning provisions nationally.

Methods

A national survey of managers of UK radiography academic departments was considered to be the most appropriate method to collate the information required for this study. A small working party from the Heads of Radiography Education group outlined the questions required for the survey and these included staff age and retirement profile, the research time allocation of radiography academics, the mentorship requirements of new staff, the sector from which new staff have been recruited and perceptions of timeframes for transition from clinical practice into radiography academics. The study was approved by the research ethics committees (REC's) at two of the collaborating HEIs.

The questions were inputted into SurveyMonkey™ and piloted by two members of the working party, with amendments made to ensure the questions were explicit. The survey was released via the heads of radiography education mailing list and two reminders were sent at 3 and 6 weeks; the survey closed 2 weeks after the final reminder.

Results were downloaded from SurveyMonkey™ (SurveyMonkey, CA) into Microsoft Excel 2013 (Microsoft Corporation, WA) and analysed to yield descriptive statistics using STATA V14.1 (StataCorp, TX).

Results

Eighteen out of a possible 24 HEIs delivering diagnostic and therapeutic radiography pre-registration education responded to the survey, representing a response rate of 75%. This survey is therefore considered to have a response rate sufficient that the results are generally robust and broadly transferable.

Academic workforce

Table 1 outlines the full-time equivalent and headcount of academic diagnostic radiographers (DR), therapeutic radiographers (RT), and other academics (other) involved in the delivery of pre-registration and post-registration radiography education in the UK.

Extrapolation based on the mean numbers of staff suggests that there is an estimated diagnostic radiographer academic workforce of 235 and a therapeutic radiographer academic workforce of 112. There are a small number of clinical tutors and other academics also contributing to the delivery of radiography education, but these have not been estimated for the total academic workforce since their use is restricted to a very small number of HEIs.

The current radiography workforce is reported to be 14,051 [12] for diagnostic radiographers and 2423 for therapeutic radiographers.[13] The academic workforce therefore equates to approximately 1.67% and 4.62% for diagnostic and therapeutic radiographers respectively. These figures should be treated with caution as they are based on assumptions scaling the survey data from the responders and therefore may contain errors as a result.

Teaching only contracts

University contracts generally include a teaching and a research component; the degree of research time varies according to the institution and potentially the staff member, with highly prolific researchers frequently being provided with more research time than other staff. Three Universities have between 75 and 100% of their radiography academics on 'teaching only' contracts. Two of these HEIs had all (100%) of their part-time diagnostic radiography academics on such contracts, with one University having 50% of their part-time other academics teaching radiography on these contracts.

Table 1
Total academic radiography workforce across 18/24 HEIs as indicated by the survey.

	Headcount (n)	Full-time equivalent (n)
Diagnostic radiography	177	166
Therapeutic radiography	56	48
Clinical tutors/practice educators	23	14
Other academics	19	18

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