Radiography 20 (2014) 117–120

Contents lists available at ScienceDirect

Radiography

journal homepage: www.elsevier.com/locate/radi

Implementing radiographic CT head reporting: The experiences of students and managers

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ARTICLE INFO

Article history:
Received 2 November 2013
Received in revised form
11 December 2013
Accepted 23 December 2013
Available online 23 January 2014

Keywords:
CT head reporting
Service development
Radiologists
Advanced practice
Continuous professional development
Radiographers

ABSTRACT

Introduction: In the face of growing demand in radiology, skill mix initiatives have sought to improve and expand service provision. Within the UK radiographer reporting is now widespread, although the growth in computerised tomography (CT) head reporting has not been as rapid as anticipated. The literature in this area is limited, but case studies have highlighted the successful implementation of this training through new radiographer roles in practice.

Method: A cross-sectional survey was developed to elicit information from radiographers and managers on their experiences before, during and after post-graduate training in CT head reporting.

Results: Seventy one responses were received comprising 48 past students ($n = 48/111$; 43.2%) and 23 service managers ($n = 23/67$; 34.3%). Key factors for the development were personal continual professional development for students and departmental need for managers. Challenges during training included a lack of study time due to staff shortages and access to radiologist mentors. Only 48.8% of students responding have gone on to use the new skills in practice cited reasons include staff shortages, resistance from radiologists and increase in radiological staffing.

Conclusions: This qualitative study has demonstrated that those trusts who have implemented CT head reporting have evidenced perceptible benefits for both the department and individuals. Those radiographers who are successfully reporting have shown themselves to be highly motivated and persistent in their development.

Introduction

In the face of growing demand, many radiology departments have sought to improve and expand service provision through skill mix initiatives within the workforce.[1] Over the last decade this has seen work traditionally performed by radiologists, such as image reporting, now being shared with radiographers. Although within the UK radiographer reporting is now evident within all imaging modalities,[2] the growth in computerised tomography (CT) has not been as rapid as anticipated. Indeed, in the 2012 scope of practice survey published by the Society and College of Radiographers (SCoR) only 17 radiology departments have radiographers reporting CT heads, less than one-third of those employing musculoskeletal radiographic reporters.[3] No previous research has explored the factors which have influenced radiographer role development in CT head reporting and therefore there remains uncertainty as to the reasons for the limited implementation.

CT has been under increasing scrutiny and workforce pressures, most recently by the UK Stroke Initiative which has placed a particular focus on brain scanning and interpretation. The national stroke imaging guidelines[4] recognised the need to expand the workforce, but suggested that if the reporting is to be undertaken by non-radiologists, the training should be equivalent to that expected by the Royal College of Radiologists (RCR) and to date a small number of UK universities have developed post-graduate education programmes. The literature regarding CT head reporting by radiographers is limited, but narrative case studies have highlighted the successful implementation of this training through new radiographer roles in practice.[5,6]

The aim of this research is to explore the implementation of radiographic CT head reporting through the experiences of radiographers and their managers.

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http://dx.doi.org/10.1016/j.radi.2013.12.008

Method

A cross-sectional survey was developed to elicit information from radiographers and managers on their experiences before, during and after post-graduate training in CT head reporting. As there is no database identifying radiographers who have undertaken a post-graduate certificate in CT head reporting the sample was drawn from students at 2 different universities (A and B) between 2002 and 2012 who have provided post-graduate courses in CT head reporting since 2002 and 2005 respectively. Ethical permission and indemnity sponsorship was provided by University B and their recommendations reviewed and accepted by University A.

These universities were selected due to the fact that they were amongst some of the first universities to offer these courses and still continue to do so and are the only universities offering a SCoR accredited certificate in CT head reporting. Although a small number of other universities do offer head reporting embedded in a more generic post-graduate pathway.

Since no national data base of radiographers who have undertaken this training is available selecting these institutions allowed a wide cohort of students to be surveyed. From the student numbers (Table 1) a total of 111 past students and 67 service managers, representing the students' host departments, were invited to participate by both email and surface mail. Students not completing the programme ($n = 3$) were excluded from the sample. All the students attending the universities were radiographers experienced in CT scanning but not reporting.

Separate questionnaires were sent to the 2 participant groups (questions available on request from authors), but both included closed (multiple choice and multiple response) and open questions. Questions related to application drivers; support; funding and utilisation in practice. A further effort was made to encourage participant response by a follow-up email a month later, and finally paper versions were sent by surface mail to non-responders.

Responses were collated in an Excel database (Microsoft 2007) and the data analysed in terms of descriptive quantitative responses and qualitative free text themes.

Results

Seventy one responses were received ($n = 71/178$; 39.9%), comprising 48 past students ($n = 48/111$; 43.2%) and 23 service managers ($n = 23/67$; 34.3%).

Prior to training

In relation to the key factor leading to application, or support, for the course of study most students (68.8%; 33/48) identified their own personal continual professional development (CPD), whereas managers cited departmental need (69.6%; 16/23). Similar numbers of students and managers recognised radiologist shortages as a driver and a smaller number of respondents identified other opportunities related to service expansion or the need to improve reporting turnaround (Fig. 1).

In relation to course finance the majority of students (85.4%; 41/48) were fully funded, however a small number of students (4.1%; 2/48) were completely self-funding, 8.3% (4/48) partially self-funding and 1 student received sponsorship from a CT scanner manufacturer. Free-text comments indicated that the course funding was often tied into service development such as *"The service was identified as a departmental need, which could result in money savings"* (Manager); *"Initially it was extremely difficult, but once a business case was adapted and referring clinicians could see the benefits funding eventually became available"* (Student).

During training

The majority of students (72.9%; 35/48) expressed some difficulty in finding time to study and acquire their practical skills, this was also confirmed in free-text responses from the students: *"No departmental time was given – all study was done in my own time or by taking annual leave"*; *"Always staff shortage - difficult to get time off to study."*

This is confirmed by managers who indicated that departments did not appear to find it easy to make study time available to the student in the workplace (14% easy, 50% neutral and 36% difficult), this was illustrated by one comment: *"Easy to allocate study time for the course, however difficult to provide ongoing reporting time."*

Getting to meet with the radiological mentor was also documented as difficult by some and even those student responses which stated that it was relatively easy to meet up often added contradictory comments such as *"Very difficult to find mutually convenient times. Radiologist often mentoring SPRs"*; *"Time for meeting with radiologists always had to be squeezed in and was never formalised"*.

In relation to wider pastoral support, most of the students (83.3%; 40/48) received encouragement within their department, usually from their manager (68.8%; 33/48). In keeping with this finding, many managers themselves expressed positive opinions on the training and its benefit to the department. However there were mixed responses from the students concerning support from their radiographic colleagues including one who stated: *"I found the department very supportive. I have had less support from other staff who view reporting as an easier option than a busy CT list!"*

Table 1
The number of students attending universities A and B for a post-graduate qualification in CT head reporting.

Year	University A	University B	Total number of students from A + B
2002/2003	12	–	12
2003/2004	14	–	14
2004/2005	12	–	12
2005/2006	10	9	19
2006/2007	12	4	16
2007/2008	4	6	10
2008/2009	2	8	10
2009/2010	6	8	14
2010/2011	0	4	4
2011/2012	3	0	3
Total number	75	39	114

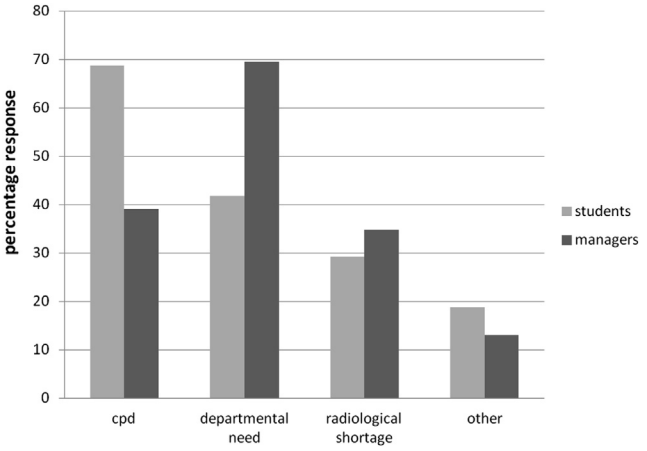

Figure 1. Factors leading to course application.