Longitudinal Evaluation of Training and Development for Radiographers' Extended Roles

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Executive Summary

In 2008 Skills for Health funded the Institute for Employment Studies, in partnership with the University of Hertfordshire School of Health and Emergency Practitioners, to undertake a survey of training for extended role activities undertaken by radiographers.

Earlier work by the research team had indicated that extended roles were being increasingly rolled out in trusts across the country. However, this was an ad-hoc process, and as a result, training to develop competence in these tasks was also being developed on an ad-hoc basis. In a high proportion of cases, the training was not conducted to any external standard or accredited or validated.

There were, therefore, concerns regarding the equivalence of competence levels developed at different trusts, with implications for patient safety on the one hand and for employees in terms of the portability of any training undertaken on the other. In addition, little was known about diagnostic imaging managers' approaches to recruiting and selecting potential employees who had undergone training in extended role activities at other sites prior to applying for employment at their trust.

As a result Skills for Health agreed to fund this research, which aimed to:

- profile the extent and nature of training and development provided across the UK for 'extended role' activities undertaken by diagnostic radiographers and the extent to which provision is mapped against external standards and/or accredited by external bodies; and
- explore hospital policies relating to the recruitment of individuals with accredited and non-accredited training for extended role activities.

In June 2008 a survey was posted out to 272 managers of imaging departments. Forty-eight completed returns were received, a 17.6 per cent response rate. The survey found that:

- in nearly all trusts, sonographers are responsible for ultrasound reporting

- in the great majority of radiography departments (over 80 per cent of sites), radiographers are involved in 'red dot' schemes and the administration of barium enemas
- in nearly three-quarters of trusts, radiographers are involved in appendicular skeleton reporting and in more than half of trusts they are responsible for barium enema reporting.

The length of training offered for extended role activities varied widely. For IV injections the duration of training was from less than a day to six months; for administering barium enemas it was between two days and two years.

While training for many of the simpler tasks was often unvalidated and unaccredited there were fewer reports of unaccredited training for more complex activities such as the administration of barium enemas.

Accredited training was more likely than unaccredited training to inspire confidence amongst line managers, when recruitment to extended role posts was being considered. Far more had provided additional training for recruits with unaccredited training than had done so for those with accredited training.

There is high demand for training provision for some of the extended role activities. Much of this demand is not satisfied at local level. More than one-third of diagnostic imaging managers reported sending staff outside their local area for training in barium enema administration and reporting, while over a quarter sent staff outside the local area for training in appendicular skeleton reporting, ultrasound reporting and mammography reporting. However, there also appears to be an oversupply of training provision for some activities in which there is currently little radiographer involvement.

The majority of diagnostic imaging managers believed that all radiographers are currently not being trained to the same level of competence. There was strong support for the development of external standards that could not only provide a benchmark for training but could also be used by managers to assess competence levels in incoming staff.

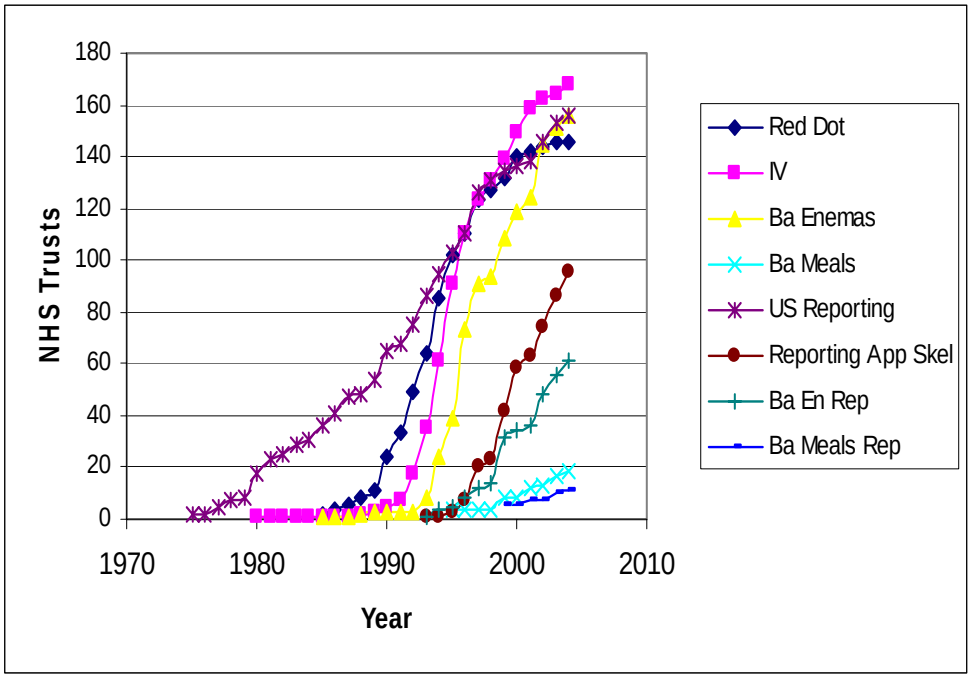
The great majority of respondents believed there is a role for the radiographers' professional body to play in validating or endorsing training for extended role activities.

1 Introduction

The potential for radiographers to develop and extend their role has been under the spotlight for some time (Price, High and Miller, 1997; Price, Miller and Payne, 2000). Pressures on imaging services are one factor viewed as leading to such changes; rapid technological developments within the sector are another. Role extension is likely to increase as the four-tier career progression structure for radiographers is implemented.

Our research has tracked the adoption of role extension across the UK for some time. Figure 1, taken from Price (2006; see also Figure 8 in Price, Miller and Mellor, 2002) shows that extended role activities have been increasingly introduced in trusts across the UK over the past 20 years.

Figure 1.1: Adoption and diffusion of extended roles in the UK (cumulative)



Our previous work has revealed that, across the country, patterns of change are ad-hoc, with implementation being a matter for local decision-making rather than based on regional or national policy. As a result of the reactive nature of many of these developments, it was of interest to examine the nature and extent of training and development that was being put in place to support practitioners taking on extended role activities.

Price (2006) reported the outcomes of two surveys distributed in 1998 and 2000. The second survey also requested information on the types of training and development provided for radiographers involved in extended role activities. Survey returns were received from 172 diagnostic imaging managers, constituting a 68 per cent return rate. The results of the survey indicated that a very broad range of approaches was being taken to development for all types of extended role activity: for example, for administration of intravenous injections, training duration ranged from half a day to six months, and, where number of injections required to demonstrate competence was specified ranged from 10 to 50 injections; for administration of barium enemas, training varied from 12 months down to one day.

Of equal concern to this wide variation in development practice was the discovery that, in a high proportion of cases, the training was not conducted to any external standard or accredited by a validating body. Nearly one-fifth of barium enema training was non-accredited. Over half of intravenous injection training was non-accredited.

Such variations in practice lead necessarily to concerns regarding the equivalence of competence levels developed at different trusts, with implications for patient safety. The situation is unsatisfactory from the point of view of both employees and employers: for example, it is unclear whether a hospital would consider a job applicant who has been through an internal, unaccredited, training programme provided by their current employer to be competent to undertake such tasks. This has implications both for employees in terms of the portability of the training and their skills; and for employers in terms of the potential need to duplicate training where they do not feel confident that they can confirm its standard (which in turn has a cost implication).

Work we have recently undertaken for the Society and College of Radiographers (SCoR) has provided an update of the scope of radiography practice. The SCoR research identified and quantified the different healthcare environments in which the radiography workforce functions; it identified the individual roles and specialisms

currently in place and examined the extent to which the four-tier career progression framework[1] is being implemented (Price et al., 2008).

The research discovered that radiographers are involved in an increasingly diverse range of activities in a wide range of settings. There appears to be a continuing and expanding need for radiographers to fulfil these activities. Intravenous injections and audit is undertaken by radiographers in more than 90 per cent of hospitals, while radiographers lead on intravenous urogram (IVU) and CT examinations in over four-fifths of hospitals. Radiographers are involved in hot reporting and lead on magnetic resonance imaging in over one-sixth of sites.

A range of participants (advanced practitioners and consultant radiographers, managers of imaging and therapeutic radiography departments) who participated in a focus group held at SCoR premises in London expressed concerns at the limited availability of training programmes/higher education modules to support the development of practitioners through role extension and into advanced practitioner and consultant radiographer posts. Some individuals spoke with frustration of having to customise learning outcomes to the needs of their sites, while some were critical of the standard of the outcomes produced by some higher education providers.

It was therefore of value to discover the range and quality of training and development that is in place to support the development of radiographers as they take up extended role activities and progress through the four-tier structure. Skills for Health agreed to fund the project to enable an assessment of the current level of provision, compare this to the situation that pertained in 2002 (reported in Price, 2006) and draw conclusions regarding developments over the past five years. The aims and objectives of the study are therefore as follows.

Aims

- To profile the extent and nature of training and development provided across the UK for 'extended role' activities undertaken by diagnostic radiographers and the extent to which provision is mapped against external standards and/or accredited by external bodies.
- To explore hospital policies relating to the recruitment of individuals with accredited and non-accredited training for extended role activities.

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[1] Consisting of assistant practitioner, radiographer, advanced practitioner and consultant radiographer.

Objectives

- To conduct a survey of all diagnostic imaging managers across the UK, analyse outcomes and report on patterns of provision of training and development and local selection policies.
- To conduct interviews with a sub-sample of diagnostic imaging managers to gain in-depth information on the factors determining local policy regarding design and delivery of training and development programmes and local selection policies.

2 Method

There were two components to the project methodology: a questionnaire-based survey and telephone interviews.

2.1 Postal survey

A questionnaire was drafted based on that used in Price (2002) but with additional categories that asked for details of validation. Questions were designed to elicit information on:

- departmental managers' views of the adequacy of training available for extended role tasks
- whether they typically asked for extended role experience when recruiting staff and, if so, what their policy was regarding prior training and qualification for those posts (whether prior accredited/unaccredited training was accepted and if not, what their policy was regarding retraining)
- their experience of recruiting staff with experience in extended role activities
- the availability of training for extended role tasks locally, and
- the quality and consistency of training for extended role tasks.

The questionnaires also asked respondents if they would be willing to participate in a telephone interview at a later date. Those who were willing were asked to provide their contact details, which were subsequently stored separately from the data from the main questionnaire.

A letter to accompany the survey questionnaire was designed and printed on University of Hertfordshire headed notepaper, with Dr Richard Price as the signatory for the research team.

The questionnaire received approval from the IES Ethics Committee on the 3 June 2008. A copy of the questionnaire, and the letter which accompanied it, can be found in Appendix 1.

2.2 Telephone interviews

The purpose of the telephone interviews was to explore in detail any concerns managers had concerning training that had been provided for their existing staff or had been received in the past by newly-recruited staff. Managers were able to give their views on a range of areas, including recruitment policy, training they had commissioned, areas of shortage, etc. One discussion guide was produced and it was left to individual interviewees to select the sections and questions which applied in the case of individual interviewees, based on information given in response to the survey. The discussion guide received approval from the IES Ethics Committee on the 28 July 2008 and a copy is shown at Appendix 2.

2.3 Procedure

2.3.1 Survey

The questionnaire and cover letter were mailed out on the 26 June to 272 managers of imaging departments. The pack also contained a pre-paid envelope for return of the questionnaire. A reminder letter was mailed out in September encouraging those who had not responded to date to do so.

2.3.2 Telephone interviews

During early September potential interviewees were contacted to enquire if they were still willing to take part in a telephone interview; a date and time for the interview was arranged with those who agreed. Telephone interviews were undertaken during September and October 2008.

2.3.3 Data entry and storage

Upon receipt of the questionnaires the data were entered into an SPSS database for analysis. The details of those who had indicated that they were interested in participating in a telephone interview were stored in a separate password-protected list.

Telephone interviews were transcribed and stored in a secure folder accessible only to the researchers.

3 Survey Results

A total of 48 questionnaires were returned, giving a response rate of 17.6 per cent. Some 45.8per cent of returns came from teaching trusts, and 54.2 per cent from non-teaching trusts. Regional distribution of returns is shown in Table 3.1, below:

Table 3.1: Regional distribution of returns

	SHA region	
	Count	**%**
Eastern	6	12.5
North West	6	12.5
West Midlands	2	4.2
London	7	14.6
Yorkshire and Humber	1	2.1
Wales	2	4.2
Scotland	8	16.7
South West	5	10.4
South East Coast	7	14.6
South Central	3	6.3
Northern Ireland	1	2.1

Source: IES and UH survey of imaging departments in the UK

3.1 Participation in extended role activities

Table 3.2 shows the proportion of imaging departments in which managers report that radiographers are undertaking various extended role activities.

Table 3.2: Participation in extended role activities

	Count N = 48	% participation	% participation, Price et al. SCoR data (2008)	% participation, Price et al. (2002) (*data collected in 2000*)
Intravenous injections	48	100.0	94.4	95.0
Ultrasound reporting	46	95.8	—	72.1
Conducting barium enemas	41	85.4	—	69.0
'Red dot' scheme	39	81.3	93.5	82.0
Appendicular skeleton reporting	35	72.9	—	25.0
Axial skeleton reporting	24	50.0	—	11.6
Barium enema reporting	24	50.0	—	19.8
Radiographer-led intravenous urography	17	35.4	35.2	—
Mammography reporting	14	29.2	—	10.5
Nuclear medicine reporting	9	18.8	—	5.8
Paediatric reporting	8	16.7	—	3.5
Chest reporting	7	14.6	—	1.2
Conducting barium swallows	7	14.6	—	—
Radiographer-led MRI	6	12.5	18.5	—
Radiographer-led CT	5	10.4	—	—
Counselling	4	8.3	—	—
Patient referral	4	8.3	—	—
Catheter insertion	4	8.3	—	—
Conducting barium meals	3	6.3	—	—
Radiographer-led referrals	3	6.3	—	—
Supplementary prescribing	1	2.1	12.0	—

Source: IES and UH survey of imaging departments in the UK

The data reveal two things. First, there has been an increase in the adoption of each of the eleven extended roles for which Price et al. (2002) reported data from the survey they conducted in 2000. The largest increase is for appendicular skeleton reporting, where the proportion of trusts reporting radiographer involvement in this has grown from a quarter of sites to nearly three-quarters. Second, comparison with the more recent SCoR data set indicates that, while the current survey data are not perfectly aligned with the results of the earlier SCoR findings, there are no systematic differences – in other words, the present data do not show any signs of systematic under- or over-reporting of extended roles. Therefore, although the survey response

was lower than anticipated, the profile of responses appears to be reasonably representative of the profession as a whole.

3.2 Training for extended role activities

We have selected data for intravenous injections and barium enema administration for reporting in full in the text to serve as examples to highlight the variations in education and training. Details of the training provided for the remaining extended role activities are shown in full in Appendix 3, with a summary of those findings being reported in the text. The survey revealed that, in keeping with the earlier findings reported in Price (2006), there remain wide variations in both the nature of training provided (in house, university-based etc.) and in the duration of training.

3.2.1 Who provides the training?

Table 3.3 shows the source of training for intravenous injections and barium enema administration. Training in tasks which have now become a routine extended role for radiographers (eg administering intravenous injections) was more likely to be 'in-house' than that for tasks which have been adopted more recently (eg undertaking barium enemas).

Table 3.3: Details of training provided for IV injections and Ba enema administration

	Training for IV injections		Training for conducting Ba enemas	
	Count	%	Count	%
Internal – own department	8	17.4	1	2.8
Internal – other department	17	37.0	–	–
External – other hospital	1	2.2	11	30.6
External – university	10	21.7	19	52.8
Internal and external	10	21.7	5	13.9

Source: IES and UH survey of imaging departments in the UK

Inspection of the appendix tables reveals the following key points:

- All training for axial skeletal and chest reporting and the majority of training (82.8 per cent) for appendicular skeletal reporting was conducted externally, with the great majority of that training being provided by universities.
- The majority of training for ultrasound reporting was provided externally (78.1 per cent) was provided externally, by universities. All of the training for paediatric reporting and most of that for mammography reporting (83.8 per cent) and barium enema reporting (78.3 per cent) was provided by universities.

- Half of training (50 per cent) for radiographer-led IVU was provided internally. The same was true of training for radiographer-led CT and catheter insertion. Two-thirds of training in counselling is provided internally. For all these areas, though, only small numbers of trusts were providing training at present.
- Roughly two-fifths of departments provided internal training for radiographers involved in 'red dot' schemes, and a similar proportion sent radiographers to external training for this activity.

3.2.2 Duration of training

The training for more complex roles such as conducting barium enemas tends to be of longer duration than that provided for activities such as intravenous injection, although some variation or overlap in length of training is seen:

Table 3.4: Duration of training for IV injections and Ba enema administration

	IV injection training duration		Ba enema training duration	
	Count	%	Count	%
Less than a day	4	11.1	—	—
One day	11	30.6	—	—
Two days	11	30.6	1	4.2
Three days	1	2.8	3	12.5
Four days	2	5.6	2	8.3
One week	—	—	4	16.7
Two weeks	3	8.3	—	—
Six weeks	2	5.6	2	8.3
Six months	2	5.6	2	8.3
One year	—	—	7	29.2
Two years	—	—	1	4.2

Source: IES and UH survey of imaging departments in the UK

The analyses also revealed that:

- the majority of training for 'red dot' schemes lasts less than a day (78.2 per cent)
- around two-thirds of training programmes for axial and appendicular skeletal reporting last a year, with the remainder being of either 18 months or two years' duration
- with chest reporting and ultrasound reporting some of the training programmes provided lasted only six months, but the majority of programmes lasted for at least a year.

For counselling, catheter insertion and radiographer-led insertion there was a wider range of training duration. It should be noted that small numbers of respondents provided information on training for these roles, and so the variation may be due in part to the training being quite new and, perhaps, still in development. Nonetheless it is of concern that the training duration for these activities ranged from:

- one day to three months for counselling
- one day to six weeks for catheter insertion
- one day to two years (modal response one week) for radiographer-led IVU
- one week to two years (modal response one year) for barium enema reporting.

3.2.3 Approval and accreditation of training for extended role activities

Unapproved and unaccredited training was quite common for simpler tasks such as intravenous injection but not for more demanding tasks such as conducting barium enemas. However, it should be noted that analysis is complicated by some respondents' apparent confusion over terms such as 'approval' and 'accreditation' of training[1].

While 38.3 per cent of training for intravenous injections is unapproved and unaccredited, less than ten per cent of training for barium enemas is unapproved and unaccredited.

The data relating to approval and accreditation of training for other activities is shown in detail in the appendix. In summary this revealed that:

- over half (55.6 per cent) of training for 'red dot' schemes is not approved or accredited
- nearly half of the training for radiographer-led IVU (44.4 per cent) is not approved or accredited
- a small proportion of training for ultrasound reporting (9.4 per cent) and for barium enema reporting (8.7 per cent) was not approved or accredited.

[1] It should be noted that a glossary of these terms was provided on the front page of the questionnaire.

Table 3.5: The approval and accreditation of training for IV injections and Ba enemas

	IV training approval		Ba enema conduct training approval	
	Count	%	Count	%
Not approved or accredited	18	38.3	3	8.6
Approved – body not stated	6	12.8	6	17.1
Approved by professional body	2	4.3	2	5.7
Approved by university	5	10.6	7	20.0
Accredited – body not stated	—	—	5	14.3
Accredited by professional body	3	6.4	3	8.6
Accredited by university	3	6.4	2	5.7
Approved and accredited – body not stated	2	4.3	2	5.7
Approved and accredited by professional body	5	10.6	2	5.7
Approved and accredited by university	3	6.4	3	8.6

Source: IES and UH survey of imaging departments in the UK

Half of the training provided for radiographer led CT and a quarter of the training provided for radiographer led MRI was not approved or accredited. The extent of approval or accreditation of training does not appear to correlate with the invasiveness of, or risks associated with, the clinical procedure. Catheter insertion carries a number of potential complications and CT delivers the highest proportional dose from ionising radiations, yet training in both of these areas is largely non-accredited.

The majority of training provided for radiographers involved in counselling (66.7 per cent) and patient referral (75 per cent) and all of the training provided for catheter insertion was not approved. Again it should be cautioned that, for all of these activities, just small numbers of sites reported providing training for these activities at all. Nonetheless it is a concern that such training, for however few individuals, is not approved by any external body.

3.2.4 Satisfaction with training provided

The overwhelming majority of respondents, over 95 per cent, were satisfied with the standard of training provided and the level of competence attained by the radiographer.

Table 3.6: Satisfaction

	Satisfaction with training provided	
	Count	%
Occasional concerns	2	4.3
Always satisfied	45	95.7

Source: IES and UH survey of imaging departments in the UK

3.3 The incorporation of extended roles into radiographer posts

Extended role experience is now widely requested in job advertisements. Nearly two-thirds of respondents (58.3 per cent; 28 respondents) indicated that they mentioned extended role experience in advertisements. This is mostly for bands 6 and above.

Table 3.7: Grades of staff for which extended role experience is requested in job advertisements

	Grades of staff for which experience requested		
	Count	% of those who request extended role experience when advertising N = 25	% of whole sample N = 48
Grades 5, 6 and 7	1	4.0	2.1
Grades 6 and 7	10	40.0	20.8
Cumulative, Grade 6	*11*	*44.0*	*22.9*
Grade 7	13	52.0	27.1
Cumulative, Grade 7	*24*	*96.0*	*50.0*
Grade 8	1	4.0	2.1

Source: IES and UH survey of imaging departments in the UK

The data suggest that, nationally, half of sites typically look for extended role experience when recruiting at Grade 7 and nearly a quarter of sites (22.9 per cent) do so when seeking to recruit at Grade 6.

3.4 Recruitment to posts requiring extended role responsibilities

Those departments who typically sought applicants with extended role experience when recruiting were asked if they would accept non-externally accredited applicants or only externally-accredited applicants. Typically these organisations are looking for individuals who have received accredited training. Applicants who have received non-externally accredited training are more likely to be rejected.

Table 3.8: The acceptability of accredited and non-accredited training programmes in recruitment shortlisting

	Would shortlist non-externally accredited applicants		Would shortlist externally accredited applicants	
	Count	%	Count	%
No	9	20.0	—	—
Yes	36	80.0	41	87.2
'It would depend on the accrediting body'	—	—	6	12.8

Source: IES and UH survey of imaging departments in the UK

Where respondents indicated that the nature of the accrediting body was important in their decision regarding acceptability they were asked to indicate which bodies would be happy to accept. Seven respondents answered this question (note that more answered this subsidiary question than had indicated in the previous question that the acceptability of accredited vs. non-accredited training would influence their decision). Five of these respondents reported that they would accept universities while six mentioned professional bodies such as the Royal College of Radiologists, Society and College of Radiographers or Royal College of Nursing. Additional comments revealed that two respondents did not consider accreditation by other hospitals to be considered acceptable when applicants were being considered for shortlisting and another respondent said that accreditation by private companies was not considered acceptable.

As a result, recruits with unaccredited training were less likely to have been recruited by the responding departments than those with accredited training (Table 3.9).

Table 3.9: Proportion of trusts that had recruited applicants with unaccredited training

	Unaccredited recruits accepted		Accredited recruits accepted	
	Count	%	Count	%
No	31	68.9	12	26.7
Yes	14	31.1	33	73.3

Source: IES and UH survey of imaging departments in the UK

There is some indication that possession of accredited training is regarded as more important for staff in the higher clinical bandings, such as band 7, than in the lower bandings.

Table 3.10: The acceptability of unaccredited vs. accredited training for recruits at grades 5, 6 and 7

	Appointment grades awarded to recruits with unaccredited training		Appointment grades awarded to recruits with accredited training	
	Count	%	Count	%
Grades 5, 6 and 7	1	8.3	1	3.6
Grade 5	2	16.7	2	7.1
Grades 5 and 6	7	58.3	3	10.7
Grade 6	1	8.3	4	14.3
Grades 6 and 7	—	—	18	64.3
Grade 7	2	16.7	1	3.6

Source: IES and UH survey of imaging departments in the UK

3.4.1 Managers' confidence in prior training of recruits

Those managers that had recruited radiographers who had received training for extended role tasks while in a previous job were asked about their confidence in the standard of training previously received by that/those individuals (Table 3.11). Those who had recruited radiographers with unaccredited training were significantly more likely to have lacked confidence in the standard of their recruits' training than were those who recruited individuals who had received accredited training ($p = 0.017$).

Table 3.11: Managers' confidence in previous unaccredited and unaccredited training received by recruits

	Ever lacked confidence in unaccredited training		Ever lacked confidence in accredited training	
	Count	%	Count	%
More than once	8	22.9	1	2.5
Just once	2	5.7	—	—
Never	25	71.4	39	97.5

Source: IES and UH survey of imaging departments in the UK

3.4.2 Remedying perceived deficiencies in prior training

Those managers who reported having lacked confidence in the prior training in extended role activities received by recruits were asked if they had provided any additional training for those individuals after recruitment. A high proportion of managers had subsequently provided further remedial training; Table 3.12 indicates that more managers had provided remedial training for recruits with previous unaccredited training (81.3 per cent) than had for recruits with accredited training (57.1 per cent).

Table 3.12: The proportion of managers who had provided additional training for recruits with prior training in extended role activities

	Further training needed for unaccredited recruits		Further training needed for accredited recruits	
	Count	%	Count	%
No	3	18.8	3	42.9
Yes	13	81.3	4	57.1

Source: IES and UH survey of imaging departments in the UK

The bands of staff that warranted further training are set out in Table 3.13 below. Mostly, managers reported having provided additional remedial training for radiographer recruits in Grades 5 and 6. This may reflect the fact that extended role experience is mainly requested in the higher bands, but it is difficult to draw any firm conclusions from such a small sample.

Table 3.13: Staff who needed further training to be provided

	Grades of staff with poor unaccredited training for whom remedial training was provided		Grades of staff with poor accredited training for whom remedial training was provided	
	Count	%	Count	%
Grade 5	1	10.0	—	—
Grade 6	5	50.0	—	—
Grade 7	4	40.0	4	100.0

Source: IES and UH survey of imaging departments in the UK

3.5 Provision of training

Managers were asked about the availability of local training for the range of extended role tasks. Those who said it was not were asked whether, in their opinion, such training should be made available more locally. Lastly in this section of the questionnaire, they were asked if they sent staff outside their local area for training. Table 3.14 shows the responses of radiographer managers to this set of questions, ranked in order of decreasing level of local provision for the activity.

Table 3.15 shows the numbers of sites at which managers report their staff being involved in the various extended role activities (column A) and the number of managers who report that training provision for this activity is available locally (column B). One thing is immediately obvious. The amount of local provision does not closely match the extent to which managers report staff participation in these activities (column C).

The number reporting that they send staff outside the local area for training in each activity is shown in column D. While in some real shortage areas managers are sending their radiographers outside the local area because training in key areas is unavailable, for some activities there appears to be considerable over-supply of training provision.

Table 3.14: Availability of local training for extended role activities and managers' views of areas for which local training is required (yes responses only)

	Is training for this activity available locally?		Should training for this activity be available locally?		Do you send your staff outside your local area for training in this activity?	
Activity	**N**	**%**	**N**	**%**	**N**	**%**
IV injection administration	38	80.9	8	17.0	9	19.1
Ultrasound	31	66.0	8	17.0	12	25.5
Appendicular skeleton reporting	30	63.8	11	23.4	15	31.9
Axial skeleton reporting	28	59.6	10	21.3	13	27.7
'Red dot'	26	55.3	10	21.3	14	29.8
Ba enema administration	18	38.3	10	21.3	21	44.7
Mammography reporting	17	36.2	6	12.8	12	25.5
Counselling	16	34.0	6	12.8	5	10.6
Ba enema reporting	14	29.8	10	21.3	17	36.2
Radiographer-led intravenous urography	12	25.5	11	23.4	3	6.4
Chest reporting	11	23.4	14	29.8	7	14.9
Paediatric reporting	9	19.1	5	10.6	5	10.6
Nuclear medicine reporting	7	14.9	5	10.6	5	10.6
Supplementary prescribing	7	14.9	1	2.1	1	2.1
Catheter insertion	7	14.9	5	10.6	1	2.1
Radiographer-led CT	6	12.8	9	19.1	3	6.4
Patient referral	5	10.6	1	2.1	1	2.1
Radiographer-led MRI	5	10.6	9	19.1	5	10.6
Ba swallow administration	4	8.5	7	14.9	8	17.0
Ba meal administration	2	4.3	5	10.6	4	8.5
Radiographer-led referral	1	2.1	5	10.6	3	6.4

Source: IES and UH survey of imaging departments in the UK

Table 3.15: Comparison of participation in extended role activities with reports of availability of training

Extended role activity	A Number of sites at which radiographers participate in this activity	B Number of sites that report local provision of training for this activity	C Under/over supply of local training (B-A)	D Number of sites that report sending staff outside local area for training
Intravenous injections	48	39	- 9	9
'Red dot' scheme	39	27	- 12	14
Conducting barium enemas	41	19	– 22	21
Axial skeleton reporting	24	29	+ 5	13
Appendicular skeleton reporting	35	31	- 4	15
Chest reporting	7	11	+ 5	7
Paediatric reporting	8	9	+ 1	5
Mammography reporting	14	18	+ 4	12
Ultrasound reporting	46	31	- 15	12
Barium enema reporting	24	14	- 10	17
Nuclear medicine reporting	9	7	- 2	5
Counselling	4	16	+ 12	5
Supplementary prescribing	1	7	+ 6	1
Patient referrals	4	5	+ 1	1
Catheter insertion	4	7	+ 3	1
Conducting barium swallows	7	4	- 3	8
Conducting barium meals	3	2	- 1	4
Radiographer-led IVU	17	12	- 5	3
Radiographer-led CT	5	6	+ 1	3
Radiographer-led MRI	6	5	- 1	5
Radiographer-led referrals	3	1	-2	3

Source: IES and UH survey of imaging departments in the UK.

For ultrasound reporting, although 43 managers reported their staff being involved in this activity, just 31 said local training was available for ultrasound reporting. Although a further 12 said they had sent staff outside their area for training in ultrasound reporting, this still leaves three trusts with no reported access to training. Similarly, while 41 managers reported that their staff were involved in conducting barium enemas, yet only 19 reported having training provision for this role available locally. A further 21 managers sent their staff outside of the local area for training in this activity. While this brings the total number of reports of training availability nationally for this activity close to the number of sites at which radiographers are involved in conducting barium enemas, nonetheless these data indicate that around

half the sites involved in this work appear to have no local training available. Training provision for these both these two activities appears to be limited locally, with national levels of provision being just about sufficient to enable managers to provide training for staff.

Conversely, in some areas in which there is only a moderate level of radiographer involvement there appears to be relatively high levels of training provision. Take as an example chest reporting. For this activity just seven managers reported radiographer participation, while 11 reported training was available locally and a further seven reported sending staff outside the local area for training. A similar situation is seen with mammography reporting, which 14 managers reported their staff were involved in, yet 18 believed there was training provision for this activity locally and a further 12 sent staff outside the area. For axial skeletal reporting, while radiographers are involved in this work at quite a large number of sites (24) the numbers reporting training provision being locally available were even higher (29) and a further 13 had sent radiographers outside their area for training.

Similar mismatches were seen for some of the extended roles that have seen only limited uptake to date. Taking counselling as an example, while only four individuals reported that their radiographers were involved in this activity, 16 managers reported training being available for this activity locally and five had apparently sent staff outside their local area for training. A similar picture is seen for supplementary prescribing, which just one manager reported that their radiographers were involved in, yet seven were aware of local training provision in this activity and one reported having sent staff outside their local area for training.

Therefore, the data in Table 3.15 suggests that training provision is not being well-matched to activity either at a local or national level. We acknowledge that this is an imperfect metric by which to assess level of provision. There are several factors that compromise the data. First, we do not know to which external training providers the managers sent their staff – it is possible for example that all sent their staff to just one external provider, which would mean that provision might be far more constrained than we have estimated. Similarly we do not know how they interpreted the word 'local' – for some this might mean within their own trust, or alternatively within their SHA. It is possible that managers sent their staff outside the region for training in an extended role activity in the past, and thereafter arranged for training to be delivered locally, once that particular extended role activity became seen as more of a priority. We also do not know who the managers viewed as potential providers of this training – it could be that they are alluding to medical programmes which radiographers would be able to attend or, in the case of counselling, they may be referring to courses for counsellors or psychologists. We recognise the shortcomings of the data presented here. Nonetheless, we suggest that the data do appear to indicate three things. First, there is an under-supply in certain key areas of extended

role activity in which radiographers at large numbers of trusts are involved (ultrasound reporting and barium enema reporting). Second, this is accompanied by an over-supply of training for many areas in which radiographers are currently not involved to a very great extent (chest reporting, counselling and supplementary prescribing). Third, many managers appear to be sending their staff for training in activities in which they are not actually involved while at work.

3.6 Managers' views of the quality and consistency of training they have commissioned

Managers were asked about the training for extended role activities that they themselves had commissioned. Just under half of respondents felt that radiographers were not all trained to the same competence level.

Table 3.16: Are all radiographers who are trained to undertake extended role activities trained to the same level of competence?

	Are radiographers trained to the same competence level?	
	Count	%
No	23	48.9
Yes	14	29.8
Don't know	10	21.3

Source: IES and UH survey of imaging departments in the UK

Perhaps unsurprisingly, given the above, there was a clear majority in favour of external standards for training.

Table 3.17: Is there is a need for external standards to be developed to provide a benchmark for competence in extended role activities?

	Is there a need for external standards for training?	
	Count	%
No	1	2.1
Yes	40	85.1
Don't know	6	12.8

Source: IES and UH survey of imaging departments in the UK

Respondents were asked if they believed there would be a role for a professional body (such as the College of Radiographers) to play in validating or endorsing training for extended role activities. The majority of respondents (over 80 per cent) agreed that there was a role for a validating body (Table 3.18).

Table 3.18: Is there a role for a professional body to play in validating or endorsing training for extended role activities?

	Is there a role for a validating professional body?	
	Count	%
No	4	8.5
Yes	41	87.2
Don't know	2	4.3

Source: IES and UH survey of imaging departments in the UK

However, the majority of respondents did not feel that there should be more of the extended role activities should be included in pre-registration training.

Table 3.19: Should more extended roles be included within pre-registration training?

	Should more extended roles be included within pre-registration training?	
	Count	%
No	27	57.4
Yes	14	29.8
Don't know	6	12.8

Source: IES and UH survey of imaging departments in the UK

Given that the majority of respondents feel that these activities should not be included in pre-registration programmes at present, it is likely there will be a requirement for CPD support for these activities for the foreseeable future.

4 Qualitative Research

In this chapter we report on the qualitative components of the research: the free response comments from the survey questionnaire and the telephone interviews.

The survey had invited respondents to give free response comments in response to questions about quality and consistency of training and development, the need for any external standards to be developed to provide a benchmark for competence in extended role activities, the potential role for a professional body (such as the College of Radiographers) to play in validating or endorsing training for extended role activities, and whether any extended role activities should be included in the pre-registration training.

Where respondents had indicated in their survey response that they had had some concerns about training or competence levels, and had given agreement to be interviewed, they were contacted and invited to participate in a follow-up interview. The interviews explored in more depth the issues that had been raised by respondents in their survey returns. The outcomes of the interviews with radiography managers, along with the free response comments made in the survey are reported in this chapter.

4.1 Recruiting staff with extended role experience

4.1.1 Procedures for recruiting and selecting staff with extended role experience

The survey indicated that just under half of managers had sought staff with extended role experience. They were more likely to seek individuals with extended role experience for higher grade posts. For some, this was a new experience; many had previously developed these skills in their staff through provision of in-house development:

'I have a band 6 job advert going out at the moment, we are requesting people with extended practice or additional skills and I have no idea if we will get them or not. We have not advertised a band 6 job for a while – what we have been doing is filling in at the bottom end and training until now. But we are now at the stage where we need someone with expert knowledge, but I don't know if we will attract anyone in. We have not really advertised for people with extended roles in the past, this is a new thing, we have tended to train our own.' Interview with radiographer manager

'We have only just put out our first job ad where we have really asked for extended roles, previously it has all been in-house training, this is the first time we have advertised for extended role, we have asked for plain film reporting. Previously we trained in-house for all extended role tasks.' Interview with radiographer manager

Therefore, these managers were having to consider for the first time the recruitment and selection procedures they would need to use in selecting these individuals. While they might wish to seek information about post-registration experience that applicants might have, most trusts had standardised, often on-line application procedures. While these forms allow individuals to provide additional relevant information, and managers generally expected applicants – particularly those applying for higher level posts – to provide information about additional experience and/or qualifications, the application form did not allow them to ask for specific information relating to experience in extended roles.

'We use the generic on-line application form. It does not ask specifically about extended role experience, but I would expect people to put information about that in the experience section.' Interview with radiographer manager

'[Does it ask about] extended roles? Not specifically; it is a generic application form for all NHS jobs – porters, people who work in the kitchens, physio, they all fill out the same application form. It is not ideal. There is room on the form for you to put your experience, or training course, but it is really up to the individual, [there is] nothing that asks for specific information about skills.' Interview with radiographer manager

'[Do you ask about extended roles?] It depends on the post. Recently I've just asked about experience. I have to use the NHSnet form and it's poor. We can't control the content of the form.' Interview with radiographer manager

4.1.2 The selection process

Managers were asked about their policy regarding gaining information on training and qualifications for extended roles when interviewing applicants. While they might ask staff about the courses they had undertaken and any qualifications gained

post-registration, there was no real protocol in place to ensure that trusts checked the status of that training.

> *'Yes, we'd ask them "Did you do an external course or was it provided in-house?", that would be the first one, and if they say they did an external course we'd ask "Where did you do it?", and was it a Society, a College course …. we want to try to find out what their skills are, whether they can hit the ground running.'* Interview with radiographer manager

> *'If someone said to me they'd been on an external course, you're saying, would we check it? I'd like to say we did, but if I was honest I'd probably have to say we probably don't. ..we tend to believe what people say. I guess we should ask for the certificate, but I think we don't'.* Interview with radiographer manager

> *'Yes – [we ask them about] about which course they've attended, where they attended, what grade they received.'* [Interviewer – and do you have any guidelines on checking their training for extended role activities?] *'Well, we have never had to so far, [as this is the first time we've tried to recruit someone with extended role experience], so there would be a point where we'd take that up now. But there is no protocol as such. But I will be checking.'* Interview with radiographer manager

4.2 Deployment of radiographers with training for extended role activities

Once staff are recruited with experience and either accredited or non-accredited training and/or qualifications in extended role activities, what happens? The survey revealed that where individuals had not undertaken an accredited course this could lead to managers having to pay for duplicate training in order to ensure the individual was accredited for the work:

> *'If someone came in with experience of IV injecting but hasn't actually done the college course, we would actually send them to college. Of course I do have people here who have done injecting for years and years and who haven't done the college course, but it's perhaps a little late in their professional careers to send them off studying again, but anybody new, now, we will send them off on the college course …. it's a very good course, it's a good price, it's local … '* Interview with radiographer manager

This manager had felt uncomfortable when faced with staff resistance to further training:

> *'We want to make sure everybody is the same level and be confident. And it's for their protection really and for that of the patients. And it is a difficult situation where you've got somebody saying they've been injecting from when radiographers first started injecting and they haven't done the course and you say to them well you have*

to go back to college and it is a difficult situation and I have to say we have backed away from a couple of people who've been doing it for years and we've thought, well, yeah, okay …. .' Interview with radiographer manager

However, some trusts have a policy that insists that all staff are trained internally irrespective of previous qualifications:

'We've had radiographers who've turned up with Society of Radiographers certificates in cannulation but we don't let them [do it]. If they want to cannulate they have to go through the course in cannulation, as that's a trust policy. [Interviewer: So you would **always** routinely re-train?] *Yes. It's because it's one of those areas where you get a wide group of staff come in claiming to have these skills, an international range [of staff]. So the Training Department just put the blanket ban down, they said no, if you want to do it, you have to do the training and then get the competencies signed off. And that includes UK institutions as well.'* Interview with radiographer manager

While this is an effective way of overcoming such objections without argument, nonetheless it is expensive to duplicate training in this way.

4.3 Availability of training

4.3.1 Local provision of training for extended role tasks

The availability of training for extended role tasks varies widely. Some trusts found there was a reasonable level of provision locally, others found it difficult to locate the provision they required.

'I've found [locating appropriate courses] quite easy – in terms of we have key links with local universities, they are reasonably well advertised. So I don't think that's an issue.' Interview with radiographer manager

'Well we did have some problems with courses running, for example this year two people were going to do clinical applications of CT, these were cancelled, chest interpretation was cancelled two years running. So I've had to look a bit wider to find courses. So I don't find it easy to find these courses or where or who is running them.' Interview with radiographer manager

'It's hard to find out what's available – hard to trawl round the universities.' Interview with radiographer manager

4.3.2 Accessing training

However, even where courses are available, other issues can prevent managers making the training available to their staff. Courses need to be available locally for it to be feasible for managers to afford to send staff for training:

'Day release is no good unless [training is] in the local area. There is too much cost and travel otherwise.' Interview with radiographer manager

Backfill for staff absent for training was identified as a major impediment to training during the focus groups conducted for the Scope of Practice review undertaken for the Society and College of Radiographers (Price et al., 2008) and emerged again in the interviews conducted for the current research. In addition, additional support needed during training, such as supervision and/or mentoring while they are practicing the new skills, adds to the overall cost and therefore accessibility of the training:

'I think [the cost of the training] was two or three hundred pounds, not too bad. But then you have to think that they are going to be out of the department for two days and you are going to have to backfill them, so it's not huge, but then there's the time when they have to do the practical during their work, [which involves supervision], and they have to find a mentor.' Interview with radiographer manager

4.4 The standard of training

The survey revealed that over half of managers believed there was variation in the training provided for extended role activities:

'Having had staff attend courses at different universities, the standard achieved on completion is varied and the experience gained varied.' Survey response

'Some universities do not provide the same level of training as others for the same award.' Survey response

'Courses differ in the quality of provision and assessment of students – they should all be the same standard.' Survey response

'As the number of training providers increases we need assurance.' Survey response

While managers were generally happy about the standard of the training they themselves had commissioned, in some cases there was a lack of clarity about what courses would provide, or the additional work and/or support that would be needed before the trainee could be considered to be fully competent. One manager had found that information given about a course had been ambiguous:

'It was advertised as a CT head scan interpretation course and I was fairly new then and I was looking at these things and I rang up to ask about it, and spoke to the person who organised the course, and I said "is this what people are using for [preparing people for] reporting?" and she said "Oh, yes, yes, yes", but no, that wasn't the case at all. I suppose if you had been of a mind to send someone on this course and then wanted them to do reporting you would have had to do an awful lot more work in-

house and then you would have ended up really with someone who was locally trained, certainly not with transferable skills. There was very little really on the legal side of reporting, but I know from people who have done the muscular-skeletal reporting course that that there is always a big element of that, the legalities behind their report, how to structure their report, which is a totally different thing.'

'It lasted about four or five months, [the trainees] were on site (ie, at the place of training) about six times, and then there was completion of log books and case studies. I can't remember what level the course was. But it was insufficient. In my naivety I looked at it and I thought "that will be alright", but if I did the same thing now I would be looking in a lot greater depth at all of these things, I would be more suspicious …. at the time I should have known that that was the terminology being used, but then again I was certainly led up the garden path by the lady I spoke to there, she put a spin on it. She said it could be used for reporting. She could have said something like "it can be used as a basis for reporting but you will have to do a lot more".' Interview with radiographer manager

This manager felt that he had been to blame in that he had not really understood what the course would deliver, and so had not complained about the fact that the course had fell far short of what he had been led to expect:

'It was only afterwards that I realised it was not what I had thought we were getting into. And when I thought about it I realised they had said it was "head interpretation" they had not said it was a reporting course. So I didn't go back to them [to complain].' Interview with radiographer manager

However, from his recollection of the episode it certainly appears that in this case he had been misled into expecting that the course would equip his radiographers with reporting skills as well as interpretation. In other cases, though, managers also found that there was variability in training and it had been difficult to judge the applicability and appropriateness of training they had commissioned in the past:

'Training is sometimes a bit piecemeal. There are different courses and it's hard to compare them. Their applicability can be different. Academic rating like credits can be confusing. There's a difficulty in working out the parity between courses and between credit ratings. I need more information. There should be more open information on course content.' Interview with radiography manager

We now move on to consider how the various problems identified in the previous sections could be prevented or addressed in future.

4.5 Addressing challenges with training for extended role tasks

In the interviews managers spontaneously mentioned areas of work and training that were presenting them with challenges. These are reported in the last section of this chapter.

4.5.1 Accessing information about courses and funding

One of the issues identified by some managers (both in the current research and in the earlier work conducted by the researchers for the Society and College of Radiographers) was the difficulty in identifying appropriate training, and, when training was identified, finding funding to allow staff to attend. A further issue identified by one of the interviewees above was the difficulty in finding accurate information about what the course equipped individuals to do, and identifying the relevant contact for further enquiries about the programme. One interviewee made the following suggestion:

> *'It would be helpful if a central list could be produced, on the web or something so that people know what is available, with a tick box list of what it would enable people to do, interpretation or reporting, what it would qualify you to do.'* Interview with radiography manager

Asked where he typically saw advertisements about training courses, and whether there was a role for an information warehouse, the interviewee went on to say:

> *'A lot is done by word of mouth, some managers have a lot more information than others. I look in Synergy, they have pages of courses but they are not advertised in the best way. There are big CPD whole-page ads. But the yearly postgraduate stuff is not so well advertised, but it is there. But a national database of current courses should be kept centrally, that would be useful. With contact details, because it can be difficult sometimes, to go to the various universities, and then you might not get to the right person, so you need shortcuts through to the right person. In my mind I think part of that role really should be at the Society of Radiographers, and you should be able to go to them and ask what is available in my area, or nationally, what initiatives, funding. It has not always been apparent as to what is available and how to obtain funding. And [there should be] a section [of the SCoR website] for managers to access information in terms of the wider things going on in London or nationally.'* Interview with radiography manager

4.5.2 Ensuring the competence and safety of recruits with prior training

The research revealed that some managers had had concerns about the standard of training received by recruits. Some trusts addressed this problem by insisting that all staff who wanted to undertake work in areas outside current pre-registration training were required to undergo in-house training (see section 4.2, above). Previously it had been possible for some managers to have their staff assessed by a university to confirm that they had met required standards:

> *'When I worked in a trust and I was in that situation and I'd been injecting for a long while and the manager there suddenly thought 'Oh well I think we should have some accreditation, and [they] arranged for the course provider to come in and [assess] about half a dozen of us who were all in the same situation, so we didn't have to go to college, they came in and signed us off and gave us a quick refresher, but I think the college has stopped doing that now. Which is a shame because it certainly worked well for that group of people.'* Interview with radiography manager

Another pointed to the need for some form of standards so that, where radiographers became involved in extended role activities their managers could ensure that they were conforming to national expectations. He noted that this would also help managers to maintain service quality over time, too.

> *'A lot of the role extension takes place in smaller departments. So for example, if someone takes on doing a procedure, like a large radiographer-led DG service, then it's important that there are some things you can link it to, to create some standards for the staff you've got. So there's some national competency. People do a qualification in plain film reporting but what happens afterwards? What happens year on year to allow you to ensure you have excellent practice?'* Interview with radiography manager

Another manager had expressed concerns regarding whether radiographers developed fully transferable skills, where they are trained through courses run in-house. The interviewee was asked whether, if external standards were available, they might consider benchmarking internally run courses, and whether this might make life any easier for them.

> *'Oh yes, definitely, because as you increase that skillbase amongst your staff, for example we run lunchtime sessions on common practices etc, and if there was a national standard to compare these things to then that would be very helpful to us as we could say this is what you would cover in your reporting course, or it would make it easy from a CPD point of view.'* Interview with radiography manager

Eighty per cent of survey respondents had indicated that there would be some utility in developing external standards to use as benchmarks. Their comments included:

'Using external benchmarks is the only way to ensure standards and make training truly transferable.' Survey response

'A gold standard of image reporting should be developed.' Survey response

One of the interviewees reported that they had already started to develop in-house competencies by which to accredit extended roles. There is a view that such local standards, rather than external standards, are sufficient for trust purposes:

'We have in-house competencies here for specialised procedures, MRI and CT. They work fine and so we don't need courses for those things. We use our own competency sheets.' Interview with radiography manager

'Local standards are enough for extended role activities.' Survey response

However, managers observed that, even where there are external benchmarking standards for training, the support and development opportunities provided by individual trusts affect the extent to which staff are able to achieve:

'A lot depends on what individual trusts and departments do to monitor and support staff, regardless of external training standards.' Survey response

'Professional bodies have a role in standardising training. But the level required depends on the actual role and needs of radiographers and departments.' Survey response

'We insist that every radiographer who does reporting does a PGC at masters level in the relevant discipline. They have to get the formal qualification first. But then they would start working in A&E first. Every request form you get in A&E is asking a question, is it a fracture etc., and so that tends to be a more simple form of reporting and most radiographers acquire that [skill] early on in their career. So they would start with those and then move into other areas as their knowledge base develops. We can learn from senior A&E consultants talking to us, we learn their perspective. The biggest problem from a radiographer's point of view in moving into reporting role is knowing what is clinically significant or not. Doctors pick that sort of thing up doing their rounds, which we do not have.' Interview with radiography manager

4.5.3 Is there a role for a validating/accrediting body?

Survey respondents and interviewees were asked if there might be a role for a validating or accrediting body to play in validating training for extended role activities. Over 80 per cent of respondents supported this idea, with either the Society and College of Radiographers or the Health Professions Council being suggested as appropriate validating bodies:

'As professionals we need to use our own professional body to police our own standards.' Survey response

'If the professional body validated training this would make in-house training more beneficial to the individual as it could be seen as a transferable skill.' Survey response

'Courses and qualifications may be better accepted if they have SOR validation.' Survey response

'I think the HPC should play a role in validating courses – I'm not so sure about the SOR.' Survey response

However, some predicted difficulties with the scheme, while others believed this would bring more (unwelcome) bureaucracy:

'If an external body validated training there would have to be a charge. Who pays – the employer of staff? What's in it for the employer?' Survey response

'Given the number of non-accredited courses available, validation by the COR would need a significant commitment.' Survey response

'Accreditation for training may lead to more paperwork. There is currently too much paperwork in the NHS.' Survey response

Nonetheless, managers could see that accreditation could enable high-quality in-house training schemes to gain formal recognition and would encourage more local provision. This in turn would help to promote further role extension:

'I think some in-house training sessions are appropriate for roles and adequate and sometimes better than many university courses. Our in-house iv and ultrasound modules are excellent and appropriate for our patient group.' Survey response

'The opportunities are there for radiographers to extend their role into advanced practice and we should be ready to support this with standardised accredited programmes to enable movement between trusts. Locally provided courses would probably benefit departments and enable advanced practice to become the normal pathway in the future.' Survey response

Nonetheless, one interviewee observed that, in his experience, apparently identical courses, validated by the same body, could vary in content. He therefore felt that there should be some standard that would give managers a clearer idea of the level of attainment to be expected.

External standards would be good. The IV cannulation course that I've sent the majority of my team on, it lasts three days, it's very good, it's a long hike and not cheap, but it's very good. But another member of my team, she went on a two-day course [elsewhere]. Both were accredited by the CoR, but there was quite a difference in the scope of the knowledge covered. And it's the same for barium enema courses – I get the impression that they all come back with

the same accredited qualification but the knowledge imparted by the different courses did not seem consistent. Interview with radiography manager

4.6 Continuing/upcoming areas of challenge for radiography managers

Some of the managers drew attention to the areas in which they are particularly facing challenges in recruiting people with the appropriate skills and/or providing training for these activities.

'The one area where we see a need for skills now is in ultrasound. If we need a sonographer we have to go to the agencies. Training is quite involved and you cannot really achieve it without backfill for the posts, it takes between one to two years. And so you have to tie someone up for a year doing the training. And people are reluctant to train their staff as they are afraid they will lose their best staff as these are very, very, desirable transferable skills, they could walk into virtually anywhere and get a job. So that is one area where there should really be a national approach.' Interview with radiography manager

'It's too costly to train people in ultrasound and extended roles here are mostly in ultrasound.' Interview with radiography manager

Although there are skill shortages in ultrasound, it is seen as an attractive career area. Therefore skill shortages exist mainly because of the difficulties in releasing people for training. In some other areas however, the skills shortages arise not just because of difficulties in providing training but because the subject itself appears unattractive:

'The other area where I've had problems with recruitment is nuclear medicine. Ultrasound, there are lots of people want to do it, but nuclear medicine, well it's not seen as very "sexy", we've had enormous problems. Last time we tried recruiting it was over a year, and eventually we had to go overseas to recruit.' Interview with radiography manager

The need for specialised training in the technology produced by different manufacturers could exacerbate problems for managers in locating appropriate training:

'There's little training available in angiography and machine-specific work, I mean machines from different manufacturers.' Interview with radiography manager

'The research focus was on training for extended roles. However, one interviewee pointed to issues around development into supervisory and managerial roles.'

'The other thing we lack is development for the managerial role. We do not get any training in management or supervision. I identified funds to enable me to go on a couple of courses this year. But it's almost like you need a dummy's guide. You're running a radiography department, this is what you need to know.' Interview with radiography manager

4.6.1 Staffing constraints and backfill issues

Managers also alluded to funding issues and the difficulties that staffing constraints can bring for managers trying to arrange training.

'But in general the routes to accessing funding for training are the issue. Backfill for staff is always more expensive. And nowadays you just can't do it. Twenty years ago there were plenty of people around. Nowadays, there are not the people, they keep cutting and cutting.' Interview with radiography manager

'Extended roles are fine but it's no good if we can't back fill the vacancy created.' Interview with radiography manager

'Although role extension is the way forward for radiographers there is very little support for back fill to enable this to happen by trusts and SHAs. Therefore progress can be slower than wished.' Survey response

4.6.2 Managing expectations

One interviewee commented on the different expectations that can impinge on people's willingness to engage with training:

'This is around looking at qualified staff and what is involved in the training, the finance issues of the department. There are expectations from managers about the outcomes in terms of the money they spend sending staff for the course, and the staff thinking the training is going to be delivered in a different way, or it's going to provide them with further things, so for example when you send them for training to do reporting, it's what is the expectation from a financial point of view, what is the outcome expected at the end of the course. From the manager's point of view it might be about increasing the pool of knowledge in the department and yet you can't provide the actual backfill for reporting afterwards. But for the individual point of view they think they're training to get them a band 7 or 8 post. Staff expectations are very different to managers or the Trust's assumptions.' Interview with radiography manager

4.7 Are extended roles still extensions to standard practice?

The survey revealed that over half of the managers did not feel there was an argument for more of these extended role activities to be brought within the requirements for pre-registration training.

> *'Radiography training should be about learning to be a radiographer. Extended role is as it says – role extension once qualified. Pre-reg training that produces radiographers who can 'red dot' is fine, but they need to be able to take the x-rays and interact with staff and patients first.'* Survey response

> *'We do not need iv injection skills in newly qualified radiographers as they have enough trouble taking the step from student to radiographer without other responsibilities. When they are at a stage to need these skills, they need re-training anyway!'* Survey response

> *'We need to ensure that first post competency training provides adequate experience of first post competency roles. To include extended role activities we would need to increase the length of pre-reg training. Some roles require leadership qualities which are usually acquired post-reg.'* Survey response

At present then there appears little appetite for extended role activities to move into the pre-registration curriculum.

5 Discussion, Conclusions and Recommendations

The survey confirmed that radiographer involvement in extended role activities has continued to increase since the last major survey in 2000. However, the majority of imaging managers are reluctant to see these activities move into the pre-registration curriculum.

In line with the findings of Price (2006), the provision of training for extended roles remains variable. Duration of training for the various individual activities can vary from less than a day to two years. In general, more complex tasks receive longer training, but there is no real consistency.

Training for more complex tasks was more likely to be accredited and approved, but not always. Taking the administration of barium enemas as an example of a more complex activity, nearly ten per cent of training for this activity was unapproved and unaccredited. While this is a small proportion, it is sufficient nonetheless to raise concerns regarding quality of the training and, hence, patient safety. For simpler tasks – and again taking IV injections as an example – the figure for unapproved and unaccredited training rises to over 40 per cent. While these are simple tasks, nonetheless it remains important that they are competently undertaken, and with training that is not subject to any type of external review process there is the possibility of standards being lower than expected.

The majority of managers who replied to the survey felt there was some need for external standards to serve as a benchmark for extended role training and for such training programmes to be validated and accredited by a professional body. Where trusts provide high quality internal training programmes for extended role activities, external benchmarking and accreditation would allow trusts to formally accredit such programmes and for individuals to acquire a recognised qualification.

5.1 Matching the supply of training to profile of work activities

One of the most unexpected findings to emerge from the survey was that, for some extended role activities, the availability of training appears to be quite seriously out of balance with demand from trusts. This unbalanced provision was seen both in terms of more reports of training being available for extended role activities in which few radiographers were involved, and low levels of provision for extended role activities in which radiographers at many sites were involved.

This was the first time that we had considered this aspect of training provision for extended roles, and the reasons for the patterns observed are unclear. Where respondents said that they sent staff outside their local area for training we did not ask where their staff were sent. It is possible then that all of the respondents who reported sending their staff outside their locality for training were using just one or two sites. We therefore do not have a clear view of how many providers are involved in offering training for the various extended role activities. Another possibility is that the training programmes on which radiographers are being sent for some extended role activities are programmes designed for other staff groups but which are appropriate as training for radiographers.

We accept the limitations to the data presented on this issue. Nonetheless, even with these caveats, the data do suggest that there is over-supply of training for some topics and under-supply (in some cases, severe undersupply) of training for others. It is worth commenting that one of the areas identified through this method as being an area of severe under-supply of training, ultrasound, is one of the two areas that interviewees and respondents identified as areas of severe skills shortfall.

While this question clearly needs more research, we would suggest that SHAs might examine patterns of training provision within their region and attempt to rationalise provision so that the profile of available training is more closely matched to employer needs.

5.2 Recruiting and deploying staff with extended role experience

One of the main reasons for accrediting training is to ensure patient safety by quality-assuring the level of training received by professionals. However, it is not just patients who potentially may suffer from training being unaccredited. A significant proportion of managers (18.6 per cent) reported that they would not shortlist a job applicant with unaccredited training for a post requiring some extended role responsibility.

In addition, respondents indicated that not all accredited training was viewed as equally acceptable when considering the qualifications of job applicants. Additional comments provided by respondents indicated that some would not view training accredited by another hospital as being acceptable and therefore would not shortlist an individual with such accreditation. The survey also revealed that fewer departments had recruited individuals with unaccredited training than had recruited individuals with accredited training. This is unsurprising given the previous finding regarding their shortlisting policies.

Together, these findings indicate that lack of external accreditation for training received can impact on individuals' career progression opportunities. In addition, though, there are potential costs to hospitals arising from lack of confidence in unaccredited training. Ten respondents said that they had lacked confidence on one or more occasions in the training in extended role tasks that recruits had received prior to commencing employment with them; significant proportions of managers reported providing additional remedial training for recruits. Far more reported doing so for recruits with unaccredited training than had for those who had received accredited training. This suggests that significant sums of money are being spent duplicating (presumably inadequate) training and lends some weight to the suggestion made above that unaccredited training may constitute a risk to patients. Some hospitals simply refused to accept any training for extended role activities provided prior to recruitment and routinely re-trained all personnel prior to involvement in extended role activities. The costs involved where such policies are in place must be significant. The use of external standards either to benchmark and accredit training programmes or as a means to assess individuals' current competence (rather than completely re-training) would clearly provide some means to reduce re-training costs.

5.3 Ensuring competence

Given the above, it was perhaps unsurprising then that there was a good deal of support for the development of external standards to provide a benchmark for competence in extended role activities (80.0 per cent) and for a professional body to validate future programmes (84.4 per cent). Given that there was not support from the majority of respondents for extended role activities to be brought under the umbrella of pre-registration training yet, they are likely to remain outside of the validation procedures that quality-assure those programmes and are likely to remain within the province of (currently mostly invalidated and unregulated) continuing professional development for some time yet. The survey findings suggest that there is a great deal of support for standardisation and regulation (validation and accreditation) of training in extended role activities.

We therefore suggest that what is needed now is for funding to be provided for a programme to develop and trial a small number of occupational standards for the most frequently-undertaken extended role activities, as was undertaken for diagnostic ultrasound some years ago with sponsorship from the then College of Radiographers and Radiographers Board at the Council for Professions Supplementary to Medicine (Fernando et al., 2000; Prime et al., 2000).

Such standards, along with a recommended assessment regime, could then form the basis for post-registration qualifications for radiographers engaged in extended role activities. Certification of standard levels of competence would render their skills more transferable and enable trusts to recruit staff with extended role experience with more confidence in future.

6 References

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Appendix 1: Diagnostic Questionnaire

SURVEY OF TRAINING AND DEVELOPMENT FOR EXTENDED ROLES IN RADIOGRAPHY 2008

Confidential to the Institute for Employment Studies and the University of Hertfordshire

You will recently have received a survey from us which asked you about your staffing structure and whether radiographers in your department/unit are involved in extended role activities. Many thanks to you if you replied to that survey. Skills for Health has now commissioned the University of Hertfordshire and the Institute for Employment Studies to examine the types of training that are available to support the implementation of extended roles amongst radiographers, the extent to which that training is externally validated and/or accredited and whether training for skills in these roles is viewed as transferable between organisations.

This questionnaire has been designed to enable quick completion and should take around 20 minutes to complete. However, if you would like to give any additional information then please do add any comments or information you would like us to consider. We will also be undertaking interviews later on in the year: if you would be willing to participate in an interview then please give your details below. Otherwise, leave these details blank. Any contact details provided will be confidential to the research team and no individuals or organisations taking part in this research will be identified.

We will be following up this survey with a number of telephone interviews during this September. If you would be willing to take part in a telephone interview during that time, please provide your details here, otherwise leave blank:

Name: .....Organisation: .....

Address: .....

.....Phone no: .....

These details will not be used to identify your response to the questionnaire and will be stored separately from survey responses.

SURVEY OF TRAINING AND DEVELOPMENT FOR EXTENDED ROLES IN RADIOGRAPHY 2008

Glossary of terms

For the purpose of this questionnaire: '*Approval'* means a course or programme of study which has been validated by a university and normally attracts academic credits. **'***Accreditation'* means a course of study which has been endorsed by a professional body eg the College of Radiographers. Some courses may have been approved by a university and accredited by a professional body.

1. Please indicate the type of Trust in which your department(s) is/are situated.

   Teaching ☐ Non teaching ☐

2. Please indicate whether your Trust has Foundation status yes ☐ 1 no ☐ 2

3. Please indicate the region in which your Trust is situated (*please tick one box*)

Eastern	☐	North West	☐	West Midlands	☐	Northern Ireland	☐
London	☐	Northern & Yorkshire	☐	Trent	☐	Scotland	☐
South West	☐	South East	☐	Wales	☐		

Part 1: Extended role activities

1.1 In this first section of the questionnaire would you please indicate which tasks are undertaken by radiographers in your department(s). If these roles were introduced after July 2000, please indicate when they were introduced.

Activity	**Do radiographers carry out this activity in your department(s)? (*please tick if yes*)**	**Please give year of implementation if after 01/07/00**	**Activity**	**Do radiographers carry out this activity in your department(s)? (*please tick if yes*)**	**Please give year of implementation if after 01/07/00**
Intravenous injections	☐		Ultrasound reporting	☐	
'Red dot' scheme	☐		Barium enema reporting	☐	
Conducting barium enemas	☐		Nuclear medicine reporting	☐	
Axial skeleton reporting	☐		Counselling	☐	
Appendicular skeleton reporting	☐		Supplementary prescribing	☐	
Chest reporting	☐		Patient referral	☐	
Paediatric reporting	☐		Catheter insertion	☐	
Conducting barium swallows	☐		Conducting barium meals	☐	
Radiographer-led IVU	☐		Radiographer-led CT	☐	
Radiographer-led MRI	☐		Radiographer-led referrals	☐	
Mammography reporting	☐		Other (*please specify*):		

Part 2: Training provided for extended role activities

2.1 Please indicate in the next table what training is provided for radiographers for any of the extended role tasks you identified in the previous section.

Activity	Type of training/ development provided for this activity, eg external taught course, in-house training, coaching MSc	Duration eg half day event, one day/week for six weeks, two year PT MSc	Who delivers the training? eg your department, other dept in hospital, clinician, university, manufacturer	Is training approved/accredited by any external organisation? eg university, professional body (*please tick if yes*) Approved	Accredited	How many academic credits were awarded? (or level eg MSc, Diploma, Certificate etc.)	Who approved/ accredited training? eg university, professional body, commercial company
Intravenous injections				☐	☐		
'Red dot' scheme				☐	☐		
Conducting barium enemas				☐	☐		
Axial skeleton reporting				☐	☐		
Appendicular skeleton reporting				☐	☐		
Chest reporting				☐	☐		
Paediatric reporting				☐	☐		
Mammography reporting				☐	☐		
Ultrasound reporting				☐	☐		
Barium enema reporting				☐	☐		
Nuclear medicine reporting				☐	☐		
Counselling				☐	☐		
Supplementary prescribing				☐	☐		
Patient referral				☐	☐		
Catheter insertion				☐	☐		

Activity	**Type of training/ development provided for this activity, eg external taught course, in-house training, coaching MSc**	**Duration eg half day event, one day/week for six weeks, two year PT MSc**	**Who delivers the training? eg your department, other dept in hospital, clinician, university, manufacturer**	**Is training approved/accredited by any external organisation? eg university, professional body (*please tick if yes*)** **Approved**	**Accredited**	**How many academic credits were awarded? (or level eg MSc, Diploma, Certificate etc.)**	**Who approved/ accredited training? eg university, professional body, commercial company**
Conducting Barium Swallows				☐	☐		
Conducting Barium meals				☐	☐		
Radiographer-led IVU				☐	☐		
Radiographer-led CT				☐	☐		
Radiographer-led MRI				☐	☐		
Radiographer-led referrals				☐	☐		
Other (*please specify*):				☐	☐		

2.2 Have you always been satisfied with the standard of training provided and the level of competence attained by the radiographer? (*please tick one box*)

☐ Yes, always satisfied with competence level instilled by the training ☐ Have occasionally had some concerns regarding competence after training

☐ Usually have some concerns regarding competence after training

2.3 If you indicated above that you have had concerns regarding the effectiveness of the training provided, please indicate for which activity/activities the training was provided, and (if possible) describe the nature of your concerns (without identifying any individuals)

.....

.....

.....

Part 3: Recruitment to posts involving extended role activities

3.1 Do you ever explicitly request experience of extended role activities in job advertisements for positions at radiographic practitioner grade (5, 6 or 7)?

yes ☐ 1 no ☐ 2 At what grade(s)? ☐ 5 ☐ 6 ☐ 7

If yes, what extended role experience have you requested? (*please tick appropriate box below*)

	Band 5	**Band 6**	**Band 7**		**Band 5**	**Band 6**	**Band 7**		**Band 5**	**Band 6**	**Band 7**		**Band 5**	**Band 6**	**Band 7**
Intravenous injections	☐	☐	☐	Axial skeleton reporting	☐	☐	☐	Paediatric reporting	☐	☐	☐	Nuclear medicine reporting	☐	☐	☐
'Red dot' scheme	☐	☐	☐	Appendicular skeleton reporting	☐	☐	☐	Mammography reporting	☐	☐	☐	Counselling	☐	☐	☐
Conducting barium enemas	☐	☐	☐	Chest reporting	☐	☐	☐	Ultrasound reporting	☐	☐	☐	Supplementary prescribing	☐	☐	☐
Conducting barium swallows	☐	☐	☐	Conducting barium meals	☐	☐	☐	Radiographer-led IVU	☐	☐	☐	Radiographer-led CT	☐	☐	☐
Radiographer-led MRI	☐	☐	☐	Radiographer-led referrals	☐	☐	☐	Patient referral	☐	☐	☐	Catheter insertion	☐	☐	☐
Barium enema reporting	☐	☐	☐	Other (*please specify*):											

3.2 If you advertised a post that would require the individual to undertake extended role activities and you received an application from an applicant who has been through an in-house training programme provided by their current employer that was **not externally accredited**, would you shortlist them for the post (*all other qualification and experiential requirements being fulfilled*)?

yes ☐ 1 no ☐ 2

3.3. If you advertised a post that would require the individual to undertake extended role activities, and you received an application from an applicant who has been through an in-house training programme provided by their current employer, (that is, not an external course or programme) that was **externally accredited**, would you shortlist them for the post (*all other qualification and experiential requirements being fulfilled*)?

yes ☐ 1 no ☐ 2 Would depend on who accredited the training ☐

3.3a If your decision would depend on who accredited the training, please indicate below which accrediting bodies you are usually happy to accept, and which you do not generally accept.

.....

.....

3.4 Have you ever recruited a radiographer with training for extended role activities that was **unaccredited**? yes ☐ 1 no ☐ 2 at what grade? ☐ 5 ☐ 6 ☐ 7

3.5 Have you ever recruited a radiographer with training for extended role activities that was **accredited**? yes ☐ 1 no ☐ 2 at what grade? ☐ 5 ☐ 6 ☐ 7

3.6 As far as you are aware, have you ever lacked confidence in the standard of **unaccredited** training previously received by a radiographer you have recruited? If no radiographer has been recruited with **unaccredited** training, go to Question 3.8

No, never ☐ Yes, just once ☐ Yes, more than once ☐

If yes, what grade was the recruit? (*please tick as many boxes as appropriate*) Radiographer grade 5 ☐ Radiographer grade 6 ☐ Radiographer grade 7 ☐

3.7 Did you provide any further training for that/those individual(s)?

Yes, I provided further training as I was not confident of previous training ☐ No, I did not provide additional training ☐

3.8 As far as you are aware, have you ever lacked confidence in the standard of **accredited** training previously received by a recruit? If no radiographer has been recruited with **accredited** training, go to Question 4.1

No, never ☐ Yes, just once ☐ Yes, more than once ☐

If yes, what grade was the recruit? (*please tick as many boxes as appropriate*) Radiographer grade 5 ☐ Radiographer grade 6 ☐ Radiographer grade 7 ☐

3.9 Did you provide any further training for that/those individual(s)?

Yes, I provided further training as I was not confident of previous training ☐ No, I did not provide additional training ☐

Part 4: Provision of external training

In this next section we would like to ask your views about the sufficiency of external training currently available for extended role activities and whether you believe any additional external training provision is needed for these activities (external training means training that is provided by bodies such as universities, colleges or professional associations and that is accessible by any local healthcare organisations, that is, provision that is not exclusively provided for one Trust).

4.1 Please indicate, on the table below, if there is external training available in your area for the various extended role activities and, if not, if you believe that training should be made available.

Activity	Is training available for this activity locally?	If training is not available in this activity locally, should it be?	If training is not available locally, do you send staff outside the local area for training?	Any other comments
Intravenous injections	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
'Red dot' scheme	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Conducting barium enemas	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Axial skeleton reporting	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Appendicular skeleton reporting	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Chest reporting	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Paediatric reporting	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Mammography reporting	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	

Activity	Is training available for this activity locally?	If training is not available in this activity locally, should it be?	If training is not available locally, do you send staff outside the local area for training?	Any other comments
Ultrasound reporting	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Barium enema reporting	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Nuclear medicine reporting	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Counselling	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Supplementary prescribing	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Patient referral	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Catheter insertion	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Conducting barium swallows	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Conducting barium meals	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Radiographer-led IVU	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Radiographer-led CT	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Radiographer-led MRI	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Radiographer-led referrals	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	
Other (*please specify*)	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	yes ☐ no ☐ don't know ☐	

Part 5: Quality and consistency of training and development

5.1 Please indicate your views on the following points:

Do you believe that, at present, all radiographers who are trained to undertake extended role activities are being trained to the same level of competence?	yes ☐ no ☐ don't know ☐	If yes, please give your views/further details:
Do you believe there is any need for external standards to be developed to provide a benchmark for competence in extended role activities?	yes ☐ no ☐ don't know ☐	If yes, please give your views/further details:
Do you believe there would be a role for a professional body (such as the College of Radiographers) to play in validating or endorsing training for extended role activities?	yes ☐ no ☐ don't know ☐	If yes, please give your views/further details:
Do you believe that more of the extended role activities should be included in the pre-registration training?	yes ☐ no ☐ don't know ☐	If yes, please identify which activities:

Part 6: Further comments

If you have any other comments please add them here or attach additional sheet

Cover letter

Dear

It is possible that you recently responded to a survey, commissioned by the Society and College of Radiographers, we sent you as part of work to identify the scope of practice of radiographers in 2008. That work identified a wide range of 'extended role' activities being undertaken by radiographers.

Skills for Health is now funding us to examine the range of training provision available to support development of competence amongst radiographers undertaking extended role activities. By exploring the availability of training and development provision we hope to promote radiographers' access to further career development opportunities and ensure a high quality service.

I would be very grateful if you would take the time to complete and return this questionnaire. A reply-paid envelope is provided. Although the questionnaire looks long, it largely requires only tick-box answers to reduce demand on your time. We estimate it should probably only take around 20 minutes to complete.

I would like to take this opportunity to thank you in advance for your assistance with this important piece of research. If you have any queries about the work please do not hesitate to contact me.

Yours sincerely

Dr Richard Price

Head of Health and Emergency Professions

r.c.price@herts.ac.uk 01707 284962

Appendix 2: Discussion Guide

Discussion guide, managers of imaging departments

Select **appropriate subsets** of questions based on their response to the questionnaire before commencing interview. NB Not all the questions under a heading may be appropriate for each interviewee, depending on what they have said in q'aire or what they say in response to previous questions.

Thank for completing the survey and for agreeing to be interviewed. Recap aims of project, assure of confidentiality and anonymity, ask for their permission to record but indicate you will be taking notes too.

The intention is for quotes to be used (anonymised) in the final report to Skills for Health, and the report will be available from the Skills for Health website later in the year. If they would like to be emailed a copy, tick here ☐.

I'd like to start by asking you some questions about *[select area about which the respondent has raised concerns]*

Section 1: Effectiveness of training that respondent themselves has commissioned

1.1 In your survey response you raised some concerns about the standards of training that you had commissioned in the past, in particular … *[insert any details provided in survey response]*. Could you tell me a little more about that?

1.2 Did you talk to the training institution about your concerns? If yes, what was their response?

1.3 Do you know if anything is being done to address this problem (with standards of training) at present? If yes, explore what is being done, where, by which institution or body.

1.4 Have you got any suggestions for how this problem (ie, with the training producing inadequate levels of competence in staff) could be prevented in future?

Section 2: Recruitment

Those who **do** request experience of extended roles:

2.1a You indicated in your survey return that radiographers in your department carry out a range of extended role activities [list the roles they have reported and check this is correct]. You also indicated that you sometimes request this extended role experience when you advertise jobs in your department. Do you usually find you get a good pool of recruits with the types of extended role experience you are looking for?

2.1b Does your application form ask for information about any further training the applicant may have received in extended role activities?

2.1c *If yes* Does the application form ask for details of the training provider or whether the course is accredited?

2.1d *If no*, Do you ask recruits about the training, and the training provider, in their selection interview?

2.1e Do you have any tacit departmental agreement or explicit guidelines on checking on whether training is accredited or not? Y N

If yes, could you give me details of this?

Those who **do not** request experience of extended roles:

2.2a You indicated in your survey return that radiographers in your department carry out a range of extended role activities *[list the roles they have reported and check this is correct]*. You also indicated that you usually do not request this experience for extended role activities. Are there any specific reasons why you usually don't ask for extended role experience in your job adverts?

2.2b Does your application form ask for information about any further training the applicant may have received in extended role activities?

2.2c *If yes,* Does the application form ask for details of the training provider or whether the course is accredited?

2.2d *If no,* Do you usually ask recruits whether they have any experience in these extended role activities during the selection interview?

2.2e *If yes*, Where recruits say they have undertaken training for an extended role activity, do you ask them about the training provider? Do you have any tacit departmental agreement or explicit guidelines on checking on whether training is accredited or not? If yes, could you give me details of this?

Section 3: Training received by radiographers prior to recruitment

Concerns about unaccredited training in recruits

3.1a You indicated in your survey return that you had had some concerns about the standard of unaccredited training received by one of the radiographer/some radiographers you recruited. Could you tell me some more about that? *Probe around knowledge, skills, competence and safety to practice.*

3.1b *[Check survey response, use/skip as appropriate]* You said that you provided further training for this/these individual[s]. Could you tell me what training you provided? *Probe on how training was delivered: Did they send individual on a course? Coach*?

3.1.c *[For those who sent radiographer on further course, ask]* Can you tell me how much that training cost? *[For those who used more informal methods, ask]* Can you give me an estimate of how much that additional training cost? *[If unable to give estimate because eg largely on-the-job training, ask]* roughly how many days coaching/supervision/on-the-job instruction did you have to give? Were you directly involved in this or was another member of staff responsible for this additional training? Are you satisfied that they have now reached the required level of competence?

3.1d *[For those who sent radiographer(s) on external training]* Did you form any views of the standard of supervision and support offered by the course providers? If so, what was your view?

Concerns about accredited training in recruits

3.2.a You indicated in your survey return that you had had some concerns about the standard of accredited training received by one of the radiographers/some radiographers you recruited. Could you tell me some more about that? *Probe around knowledge, skills, competence and safety to practice.*

3.2.b *[Check survey response, use/skip as appropriate]* You said that you provided further training for this/these individual[s]. Could you tell me what training you provided? *Probe on how training was delivered: Did they send individual on a course? Coach?*

3.2.c *[For those who sent radiographer on further course, ask*] Can you tell me how much that training cost? *[For those who used more informal methods, ask]* Can you give me an estimate of how much that additional training cost? *[If unable to give estimate because eg largely on-the-job training, ask]* roughly how many days coaching/supervision/on-the-job instruction did you have to give? Were you directly involved in this or was another member of staff responsible for this additional training? Are you satisfied that they have now reached the required level of competence?

3.2.d *[For those who sent radiographer(s) on external training]* Did you form any views of the standard of supervision and support offered by the course providers? If so, what was your view?

Section 4: Quality and consistency of training and development

4.1 You said that you felt that radiographers who were trained in extended role tasks were not being trained to the same levels of competence in extended role tasks. Could you give me any further information about what made you think this?

- Have you been able to compare the competence levels of people trained by different institutions?
- Are there observable differences in the levels of competence of individuals trained by different institutions? Y N

  If yes, can you describe the sorts of difference in competence you've observed?

4.2 You indicated you felt there was a need for external standards that would provide a benchmark for competence in extended role activities. Can you describe the sorts of standards you feel should be introduced?

- How would you envisage those standards being used? By universities or other training providers to assess end of training skill level? As assessment standards for use by supervisors in the workplace? Both? Other?

Section 5: Other

If the respondent has made any other comments in Part 6 of the questionnaire, check if these need following up, and note remarks accordingly.

Appendix 3: Training Provided

Training location

	Training for IV injections		Training for 'red dot' scheme		Training for conducting Ba enemas	
	Count	%	Count	%	Count	%
Internal – own department	8	18.6	13	40.6	1	3.1
Internal – other department	15	34.9	1	3.1		
External – other hospital	1	2.3	9	28.1	9	28.1
External – university	10	23.3	4	12.5	18	56.3
Internal and external	9	20.9	5	15.6	4	12.5

	Training for axial skel reporting		Training for appendicular skel reporting		Training for chest reporting	
	Count	%	Count	%	Count	%
External – other hospital	1	5.0	2	7.7	1	14.3
External – university	19	95.0	21	80.8	6	85.7
Internal and external			3	11.5		

	Training for paediatric reporting		Training for mammo reporting		Training for ultrasound reporting	
	Count	%	Count	%	Count	%
Internal – own department					2	6.5
External – university	6	100.0	4	80.0	25	80.6
Internal and external			1	20.0	4	12.9

	Training for barium enema reporting		Training for nuclear medicine reporting		Training for counselling	
	Count	%	Count	%	Count	%
Internal – own department	2	10.0			2	66.7
External – other hospital	1	5.0				
External – university	15	75.0	7	100.0		
Internal and external	2	10.0			1	33.3

	Training for supplementary prescribing		Training for patient referral		Training for catheter insertion	
	Count	%	Count	%	Count	%
Internal – own department	1	100.0	3	75.0	2	66.7
Internal – other department					1	33.3
External – university			1	25.0		

	Training for conducting barium swallows		Training for conducting barium meals		Training for radiographer led IVU	
	Count	%	Count	%	Count	%
Internal – own department					6	60.0
External – university	4	66.7	2	100.0	3	30.0
Internal and external	2	33.3			1	10.0

	Training for radiographer led CT		Training for radiographer led MRI	
	Count	%	Count	%
Internal – own department	2	66.7	1	33.3
External – university	1	33.3	2	66.7

Duration of training

	IV training duration		'Red dot' training duration		Ba enema training duration	
	Count	%	Count	%	Count	%
Less than a day	3	8.8	3	13.6		
One day	11	32.4	15	68.2		
Two days	11	32.4	2	9.1	1	4.8
Three days	1	2.9			3	14.3
Four days	2	5.9			1	4.8
One week			1	4.5	4	19.0
Two weeks	3	8.8				
Six weeks	1	2.9	1	4.5	2	9.5
Six months	2	5.9			2	9.5
One year					6	28.6
Two years					2	9.5

	Axial skel reporting duration		Appendicular skel reporting training duration		Chest reporting training duration	
	Count	%	Count	%	Count	%
Six months					1	16.7
One year	11	68.8	13	68.4	3	50.0
Eighteen months	2	12.5	2	10.5	1	16.7
Two years	3	18.8	4	21.1	1	16.7

	Paediatric reporting training duration		Mammo reporting training duration		US reporting training duration	
	Count	%	Count	%	Count	%
Six months			1	33.3	1	4.3
One year	4	80.0	2	66.7	12	52.2
Eighteen months	1	20.0			6	26.1
Two years					4	17.4

	Ba enema reporting training duration		NM reporting training duration		Counselling training duration	
	Count	%	Count	%	Count	%
One day					1	50.0
One week	1	7.1				
Three months					1	50.0
Six months	1	7.1	1	33.3		
One year	10	71.4	1	33.3		
Two years	2	14.3	1	33.3		

	Supplementary prescribing training duration		Patient referral training duration		Catheter insertion training duration	
	Count	%	Count	%	Count	%
Less than a day			3	100.0		
One day					1	50.0
Six weeks					1	50.0

	Ba swallow conduct training duration		Ba meal conduct training duration		Radiographer led IVU training duration	
	Count	%	Count	%	Count	%
One day					1	16.7
One week					3	50.0
Six weeks					1	16.7
Two years	1	100.0			1	16.7

	Radiographer led CT training duration		Radiographer led MRI training duration	
	Count	%	Count	%
One year			1	50.0
Two years	1	100.0	1	50.0

Approval/accreditation of training

	IV training approval		'Red dot' training approval		Ba enema conduct training approval	
	Count	%	Count	%	Count	%
Not approved or accredited	18	40.9	19	59.4	3	9.7
Approved – body not stated	5	11.4	4	12.5	3	9.7
Approved by professional body	1	2.3			2	6.5
Approved by university	4	9.1	3	9.4	8	25.8
Accredited – body not stated			2	6.3	4	12.9
Accredited by professional body	3	6.8	2	6.3	3	9.7
Accredited by university	2	4.5	1	3.1	2	6.5
Approved and accredited – body not stated	2	4.5	1	3.1	2	6.5
Approved and accredited by professional body	6	13.6			2	6.5
Approved and accredited by university	3	6.8			2	6.5

	Axial skel reporting training approval		Appendicular skel reporting training approval		Chest reporting training approval	
	Count	%	Count	%	Count	%
Approved – body not stated	1	5.0	3	11.5		
Approved by professional body	1	5.0	1	3.8	1	14.3
Approved by university	8	40.0	8	30.8	2	28.6
Accredited – body not stated			1	3.8		
Accredited by professional body	1	5.0	1	3.8	1	14.3
Accredited by university	5	25.0	7	26.9	1	14.3
Approved and accredited – body not stated			1	3.8		
Approved and accredited by professional body	1	5.0	1	3.8		
Approved and accredited by university	3	15.0	3	11.5	2	28.6

	Paediatric reporting training approval		Mammo reporting training approval		US reporting training approval	
	Count	%	Count	%	Count	%
Not approved or accredited					2	6.5
Approved – body not stated			2	40.0	2	6.5
Approved by professional body	1	16.7			1	3.2
Approved by university	2	33.3	1	20.0	7	22.6
Accredited – body not stated					3	9.7
Accredited by professional body	1	16.7			2	6.5
Accredited by university	1	16.7	1	20.0	4	12.9
Approved and accredited – body not stated					3	9.7
Approved and accredited by professional body					3	9.7
Approved and accredited by university	1	16.7	1	20.0	4	12.9

	Ba enema reporting training approval		NM reporting training approval		Counselling training approval	
	Count	%	Count	%	Count	%
Not approved or accredited	2	10.0			2	66.7
Approved – body not stated	1	5.0			1	33.3
Approved by professional body	1	5.0				
Approved by university	3	15.0	2	28.6		
Accredited – body not stated	3	15.0	2	28.6		
Accredited by professional body	2	10.0				
Accredited by university	2	10.0	2	28.6		
Approved and accredited – body not stated			1	14.3		
Approved and accredited by professional body	2	10.0				
Approved and accredited by university	4	20.0				

	Supplementary prescribing training approval		Patient referral training approval		Catheter insertion training approval	
	Count	%	Count	%	Count	%
Not approved or accredited	1	100.0	3	75.0	2	100.0
Approved by university			1	25.0		

	Ba swallow conduct training approval		Ba meal conduct training approval		Radiographer led IVU training approval	
	Count	%	Count	%	Count	%
Not approved or accredited					4	50.0
Approved – body not stated	1	16.7			1	12.5
Approved by university	2	33.3	1	50.0		
Accredited – body not stated	1	16.7			1	12.5
Accredited by university	2	33.3	1	50.0	1	12.5
Approved and accredited by professional body					1	12.5

	CT training approval		MRI conduct training approval	
	Count	%	Count	%
Not approved or accredited	1	50.0	1	33.3
Approved by university	1	50.0	1	33.3
Approved and accredited by university			1	33.3