Teleradiology and outsourcing census

Board of the Faculty of Clinical Radiology
The Royal College of Radiologists

1. Background

A census was undertaken in October and November 2009 to inform The Royal College of Radiologists (RCR) and its Fellows about the current status of teleradiology and outsourcing in the UK. The aim of the census was threefold:

- To understand what is happening in radiology departments throughout the UK regarding teleradiology use and outsourcing of reporting
- To understand radiologists' views on teleradiology and outsourcing
- To obtain some indication from referrers to radiology, what they think about outsourced imaging and the resulting reports.

An online census was sent to 4,065 Fellows of the RCR: 3,215 clinical radiologists who were asked to identify themselves as clinical directors of radiology department or non-clinical director members of radiology departments; and 850 clinical oncologists as the sample referrer group. Three reminders were sent over the duration of the census period.

1.1 Clinical directors

By the end of November 2009, 169 clinical directors had responded to the census. NHS data suggests that there are 260 radiology departments in the UK. Sixty-five per cent (95% CI: 59.0–70.5) of UK clinical directors have responded to the census.

1.2 Clinical radiologists

The main study population comprised 3,215 clinical radiologists. A total of 1,340 responses (response rate=41.7%, 95% CI: 40.0–43.4) were received.

1.3 Clinical oncologists

The study population of clinical oncologists numbered 850, and 290 responses were received (response rate=34.1%, 95% CI: 31.0–37.4).

2. Results

The full survey questions and results can be seen in Appendix 1.

2.1 Departments

- 37.3% of UK departments that responded have outsourced some aspect of radiology reporting in the 12 months to November 2009.
- The majority of films outsourced are MRI films, particularly of the head and musculoskeletal system.
- A significant number of CT scans are also outsourced, although these seem to be from all body systems.
- A median of 49% of MRI workload is outsourced by those hospitals using outside agencies, but in some departments this approaches 100%.
- 80% of the departments currently outsourcing will continue to do so in 2009–10.
- Only 13.6% of radiologists who responded to the census were positive or very positive about the influence of outsourcing on the delivery of radiology services. The overwhelming majority were not positive about outsourcing.
- Those who were not positive about the influence of outsourcing cited a variety of reasons, which the RCR believes should be noted by commissioners (please see answers to question 16, Appendix 1).

2.2 Teleradiology

- Teleradiology is available in almost 40% of UK hospitals.
- Its chief use seems to be to outsource routine reporting to cover capacity shortfalls and to provide imaging services to remote communities. In a small number of cases (12.4%), teleradiology access is used to provide a service to an independent sector provider. Very little use is made of teleradiology for quality monitoring by remote double reporting.
- Of those radiologists that responded, 63% have access to teleradiology in order to view images at home out of hours but only 1% use teleradiology at home for job planned routine reporting.

- 33% of radiologists who responded do not have access to teleradiology services for multidisciplinary team (MDT) meetings.
- The overwhelming majority of radiologists that responded felt that teleradiology was a positive or very positive influence on service delivery. This contrasted to attitudes to outsourcing.

2.3 Referrer opinion

- 122 of the 290 clinical oncologists who responded to the census work in trusts where radiology reports were outsourced.
- 75% of those clinical oncologists felt that outsourced reports were worse than those provided by their local departments.
- The opinion of these clinical oncologists was that compared to local reports outsourced reports were inaccurate, required verification by local departmental radiologists, were not clinically relevant and more often led to further imaging.
- 96% of radiotherapy departments plan radiotherapy in their local departments and do not outsource.

2.4 Other comments

- Outsourcing, particularly of CT and MRI films, is common in UK radiology departments. The hidden costs of this are reflected in this survey in that outsourced reports are considered to require more in-house repeat and additional imaging and also second opinions and reports by local radiologists to verify them. Commissioners should note these hidden costs and radiology departments are advised that all such activity should appear on annual workload statistics.
- Radiologists are concerned about the potentially destabilising effects outsourcing might have on existing NHS departments and on training opportunities for their juniors.
- Teleradiology is widely used to provide out-of-hours services for local hospitals and to give expert opinions to non-local hospitals.
- There are still difficulties with data sharing that prevent the efficient running of MDT meetings which should be seen as a patient safety issue.

2.5 Deficiencies in this survey

- Non-delivery reports on a relatively small number of emails were received at each reminder. For this reason, we cannot guarantee the census was received by all intended recipients and therefore confidence interval data are provided in this summary.
- As approximately 40% of clinical radiologists responded to the survey, there may be an individual response bias.
- As 34% of clinical oncologists responded to the census, the risk of individual response bias cannot be ignored.

However, please note the following:
- As the census was sent to all Fellows, there was no selection bias
- As 65% of departments responded to the survey, there is likely to be very little departmental response bias
- It is unlikely that there is any regional bias as the geographical breakdown of responses is broadly in line with the breakdown of responses from the RCR 2008 workforce census.[1]

Tony Nicholson
Dean of the Faculty of Clinical Radiology

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Reference
1. The Royal College of Radiologists. *Clinical Radiology Annual Census 2008.* London: The Royal College of Radiologists, 2009.

Appendix 1. Census results

Telemedicine is an inevitable consequence of developments in IT. Diagnostic radiology lends itself more than any other medical specialty to such innovation and there is no doubt that the advantages to healthcare systems and patients are many. However, there may also be disadvantages – some which are already recognised and some that may go unrecognised.

One of the predictable consequences of teleradiology is the potential for 'outsourcing'. Many radiologists have already experienced the devolution of local trusts reporting to the independent sector.

These companies undergo regulation and are viewed as doing a useful job in terms of providing timely, accurate reporting services. European and non-European companies are now entering this field and are beginning to compete for reporting work in the UK.

The 2008 Clinical Radiology Workforce Census indicated that 18% of departments outsourced some imaging. The RCR would now like to survey current teleradiology and outsourcing practice in UK radiology departments. We would welcome input from all radiologists and oncologists, with clinical directors in clinical radiology providing general departmental information, and all individuals describing use of, and views on, teleradiology and outsourcing. We would like oncologists to give their view as users of radiology reports.

Outsourcing in this survey refers to images sent to another organisation, which could be NHS or independent sector. This does not include local 'in-sourcing'; ie, extra contractual reporting within the same organisation.

The survey could take approximately 15 minutes to complete and comprises 19 questions. Depending on your answers, you may not have to answer all the questions.

Please submit your responses by Friday 30 October 2009

We thank you for your time.

Dr Tony Nicholson   &   Dr Jane Barrett

Dean, Clinical Radiology   Dean, Clinical Oncology

11 September 2009

General questions

Q1   Select your SHA/Region/Board

	%	Count
England – East	6.5	99
England – East Midlands	5.4	82
England – London	14.5	221
England – North East	5.0	76
England – North West	12.4	189
England – South Central	6.5	99
England – South East	7.5	114
England – South West	9.4	143
England – West Midlands	7.3	111
England – Yorkshire & The Humber	9.1	139
Northern Ireland	3.1	47
Scotland	8.8	134
Wales	4.4	67

Q2   What is your specialty?

	%	Count
Radiology	82.2	1,340
Oncology	17.8	290

FOR CLINICAL RADIOLOGISTS

Q3   Are you are a clinical director?

	%	Count
Yes ➡ directed to Q4	12.6	169
No ➡ directed to Q12	87.4	1,171

Clinical director questions

Q4   Does your radiology department have access to teleradiology?

		% and Count		
		Yes	No	N/A
Q4a	To outsource routine reporting to cover a capacity of shortfall	37.3	61.5	1.2
		63	104	2
Q4b	To provide reporting to an independent sector provider	23.1	74.6	2.4
		39	126	4
Q4c	To provide imaging services to remote communities	29.0	66.9	4.1
		49	113	7
Q4d	For quality monitoring by remote double reporting	14.8	82.2	3.0
		25	139	5

Q5   Does your radiology department use teleradiology?

		% and Count		
		Yes	No	N/A
Q5a	To outsource routine reporting to cover a capacity shortfall	26.0	72.2	1.8
		44	122	3
Q5b	To provide reporting to an independent sector provider	12.4	84.6	3.0
		21	143	5
Q5c	To provide imaging services to remote communities	24.3	72.2	3.6
		41	122	6
Q5d	For quality monitoring by remote double reporting	5.9	91.1	3.0
		10	154	5

Q6   Has your department outsourced radiology reporting in the past 12 months?

	%	Count
Yes	37.3	63
No	62.7	106
Don't know	0.00	0

Q7   If you have outsourced CT and/or MRI, please also specify types outsourced

	% and Count			
	Head	General Body	Musculoskeletal	Other
CT	49.2	41.3	28.6	58.7
	31	26	18	37
MRI	71.4	38.1	87.3	23.8
	45	24	55	15

Q8   Outsourcing contracts in your department are made

	%	Count
With companies employing 100% UK-based radiologists	68.3	43
With companies employing 100% non-UK radiologists	0.0	0
With companies employing a mix of UK and non-UK radiologists	20.6	13
Don't know	11.1	7

Q9   What percentage, from 0-–100%, of each of the following do you currently outsource? Please do not enter a percentage symbol (%)

		Median	Quartile 1	Quartile 3
Q9a	Inpatient plain films	0	0	0
Q9b	Outpatient plain films	0	0	0.5
Q9c	GP plain films	0	0	0.5
Q9d	CT plain films	1	0	7.5
Q9e	MRI films	10	2.5	10

Q10   Of work outsourced, roughly what percentage of your total volume is?

		Median	Quartile 1	Quartile 3
Q10a	Inpatient plain films	0	0	1
Q10b	Outpatient plain films	0	0	7.5
Q10c	GP plain films	0	0	3
Q10d	CT plain films	5	0	30
Q10e	MRI	49	5	97.5
Q10f	Other	0	0	0

Q11   Will your department continue to outsource radiology reporting in 2009–10?

	%	Count
Yes	79.4	50
No	3.2	2
Don't know	17.5	11

Individual consultant questions

Q12   In your job do you have access to teleradiology?

		% and Count		
		Yes	No	N/A
Q12a	To review images out of hours at home when on call	63.1	33.7	3.2
		845	452	43
Q12b	To carry out routine reporting from home as part of your job plan	3.7	93.9	2.4
		50	1258	32
Q12c	To review/report images from other sites within trusts/ community sites/MIU	56.8	41.3	1.9
		761	554	25
Q12d	To give a second opinion as an expert	39.6	54.6	5.8
		530	732	78
Q12e	To provide imaging services to remote communities	15.9	78.2	5.9
		213	1048	79
Q12f	For education/CPD	36.6	60.7	2.7
		491	813	36
Q12g	For multi-site teleconference MDT meetings/case conference	64.7	33.4	1.9
		867	448	25

Q13 In your job do you use teleradiology?

		% and Count		
		Yes	No	N/A
Q13a	To review images out of hours at home when on call	54.9	41.3	3.8
		735	554	51
Q13b	To carry out routine reporting from home as part of your job plan	1.0	96.6	2.4
		14	1294	32
Q13c	To review/report images from other sites within trusts/ community sites/MIU	52.1	45.9	2.0
		698	615	27
Q13d	To give a second opinion as an expert	34.1	61.0	4.9
		457	818	65
Q13e	To provide imaging services to remote communities	14.0	80.5	5.4
		188	1079	73
Q13f	For education/CPD	31.0	66.6	2.3
		416	893	31
Q13g	For multi-site teleconference MDT meetings/case conference	52.3	46.0	1.7
		701	616	23

Q14 How would you describe the influence of Teleradiology on the delivery of radiology services?

	% and Count					
	Not at all positive		Neutral		Very Positive	No
	1	2	3	4	5	Opinion
Q14a	2.2	5.5	15.7	41.6	33.0	2.1
	29	74	210	557	442	28

Q15 How would you describe the influence of Outsourcing on the delivery of radiology services?

	% and Count					
	Not at all positive		Neutral		Very Positive	No
	1	2	3	4	5	Opinion
Q15a	29.6	33.1	20.9	10.0	3.6	2.9
	396	443	280	134	48	39

Q16 If you have concerns, which of these apply to your own experience of outsourcing? More than one concern can be ticked.

	%	Count
Poor quality of reports	63.2	810
Poor timelines of reports	20.5	263
Poor value for money for NHS	56.0	718
Risk of destabilising your own department	71.8	921
Impact on training of junior staff	69.1	886
Increased number of investigations recommended in reports	49.7	637
Loss of communication between referrer and reporter	94.0	1205
Other	10.2	131

FOR CLINICAL ONCOLOGISTS

Q17 How do outsourced radiology reports compare to those provided by your local department?

	%	Count
Worse	31.7	92
Same	9.7	28
Better	0.7	2
Don't know	57.9	168

Q18 If outsourced radiology reports are worse than your local department:

		% and Count	
		Yes	No
Q18a	Are the reports accurate?	28.3 26	71.7 66
Q18b	Do the outsourced reports require verifying by a local radiologist?	76.1 70	23.9 22
Q18c	Are the outsourced reports clinically relevant?	44.6 41	55.4 51
Q18d	Do the outsourced reports suggest further imaging more than local reports?	53.3 49	46.7 43

Q19 Is radiotherapy planning being outsourced?

	%	Count
Yes	0.7	2
No	96.2	279
Don't know	3.1	9

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