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Grant ID:



College of Radiographers Industrial Partnership Research Awards Final Report Form

Please use the tab key to move to next question

1. Principal Investigator	Sandra Mathers□□□□□
2. Project Title	Number 010: Imaging services for children in England and Wales
3. Amount of Award	□□□□□£5548.00
4. Did you spend the money as indicated in your proposal (if not why)?	
□□□□□The study is completed within the budget limits.	
5. Did you reach your intended project outcomes (if not why)?	
□□□□□The main outcomes of the study have been met. This survey provides baseline data of the imaging services for children and young adults in England and Wales. The dissemination of the results of the study will inform practice, and identify good practice to enhance the x-ray service provided for children and young adults in both children's and adult hospitals. These results, when combined with those of the previous survey which discusses the provision of imaging services in Scotland, provide an excellent overview of current imaging service provided for children. (The report of the previous study of imaging services for children in Scotland (2007) was not placed on the Society of Radiographers (SoR) web site, as it may have had an effect on the responses for this study. It will now be provided on the website).	
6. What are your significant findings?	
<ul style="list-style-type: none">• An overall response rate of 71% (302/428) was achieved.• Adult hospitals reported imaging approximately 1,265,000 children throughout England and Wales. This will be a minimum figure as 71 hospitals that do image children did not or could not give a response to that question.• 76% (181/238) of adult departments reported they had no amenities such as separate waiting rooms and toilets for children.• 84% (199/238) of adult hospitals and 11 of the 14 children's stated they had no protocols in place for children with special needs.• 78% (186/238) responses indicated that children's views on the provision of imaging services were not sought in a systematic way in adult hospitals, but were reported as routinely sought in five of the fourteen of children's hospitals. In Wales responses indicate their views are never sought in 88% (22/25) of adult hospitals. <p>(Where responses were similar from England and Wales one aggregated figure is provided, but if responses were different results are given separately. Some respondents did not answer all the questions therefore denominators fluctuate according to responses)</p>	
7. Have you submitted the work for publication (if so where)?	
<ul style="list-style-type: none">• A paper is in preparation for submission in Radiography, again this will combine the results of the Scotland survey to give a UK perspective.• An abstract will be submitted to the British Society of Paediatric Radiologists Annual Scientific Meeting to be held in Birmingham, November 2008.• An abstract will be submitted for inclusion at UKRC 2009.• Opportunities are currently being sought to present the findings at meetings for example arranged by the SoR Paediatric Radiographers Group.	

8. Please provide an executive summary of your work (two sides of A4 maximum)

N.B. If you already have a draft or final version of the proposed publication can you please attach.

Back ground

Recent estimates indicate that 2.9 million children are treated in Accident and Emergency departments in England each year (Health care commission, Improving services for children in hospital, 2007), and it may be anticipated a significant number of these will proceed to radiology for imaging. With only 16 children's hospitals in England and one in Wales the majority of children will be examined in departments designed primarily for adults, even taking into account the number of hospitals where children's units and wards exist.

It is almost 50 years since the Platt Report (1959) highlighted that children cannot be treated the same way as adults whilst in hospital. This was further endorsed by the Children's National Service Framework (2003, DoH) which emphasised that health services should be child-centred to meet the needs of the child and access to these services should be available no matter where the child lives. The Department of Health (2006) has also advocated that staff who are working with children are appropriately trained, and carry out sufficient numbers of examinations to maintain their skills level.

There is a lack of published research relating to the provision imaging services for children in the United Kingdom, apart from that undertaken in children's hospitals. A Scottish survey carried out by the authors in 2007 established knowledge of imaging services for children in Scotland, but little is known of the situation in England and Wales.

Summary of plan

The main aims of the study were to establish the provision of imaging services for children in adult and children's hospitals in England and Wales. The main objectives were to i) determine provision for children in the x-ray departments; ii) establish the number and type of procedures performed; iii) ascertain the availability of child centred environments; and iv) identify the extent to which children's needs are taken into account.

Initially an approach was made to the NHS Research Ethics Committee to ascertain if a full ethical application was required. The decision was made that as the study was seen as a survey of staff to evaluate an existing service full ethical approval was not required.

Methodology

Research plan: A quantitative methodology was adopted in order to obtain robust evidence of current practice. A survey of all hospitals with x-ray facilities in England and Wales, including the dedicated children's hospitals, was undertaken using a mailed questionnaire.

Due to the high response rate achieved (76%) during the previous survey of imaging services for children in Scotland, it was decided to base the survey on the previous questionnaires, (one for completion in children's hospitals and another in adult hospitals). Previous questionnaires were modified to reflect the different health provision in England and Wales. Both questionnaire contained a common core of questions (n=17) relating to the study's main objectives. Additional questions were included to reflect local practices, and the final question was left open to allow additional comments to be made.

Participants: A list of NHS Trusts and Strategic Health Authorities (SHA) was compiled from a Department of Health website. Individual hospitals with imaging departments were subsequently identified by exploring individual Trust and SHA websites. In Wales the hospitals were identified using the NHS Wales website. If there was any doubt regarding the presence of imaging equipment a call was made to the relevant hospital. The children's hospitals were identified by contact with members of the Association of Paediatric Radiographers.

As the numbers of hospitals was less than 500 it was decided not to take a sample but survey the total of 411 adult hospitals. All children's hospitals in England (n=16) and Wales (n=1) were included.

Distribution of questionnaires. The questionnaires were distributed to senior imaging managers in each hospital for completion by superintendent radiographers. Prepaid response envelopes were included. Respondents were given unique identifiers to ensure confidentiality and enable non-respondents to be followed up. A decision was made not to use an electronic version of the questionnaire due to the poor use of it (n=3) during the previous study.

Data collection and analysis: Data collection took place between late April and July 2008. Reminders were sent to non-responders on two occasions. All quantitative data was entered into SPSS-PC. Qualitative analysis of all open-ended questions followed the procedures identified by Miles and Huberman (1994).

Results

Response and participation: An overall response rate of 70.5% (302/428) was achieved. Fourteen of the seventeen (82%) children's hospitals participated, and 70% (289/411) of adult hospitals. Eighty-one percent (236/289) of adult hospitals imaged children. From respondents estimates 1.3 million children are imaged in adult hospitals, with a range of 12- 112,000 per hospital. The percentage of workload that represented is indicated in Table 1.

Imaging services:

- The imaging services provided varied greatly from one adult hospital to another, and the type of procedure carried out was also variable (Table 2).

Provision of children:

- 85% (182/214) of English and 83% (19/23) of Welsh adult hospitals reported having provision for children (Table 3). Only 32 hospitals in England and four in Wales reported having none.
- 81% (174/215) English and 65% (15/23) of Welsh adult hospitals stated accompanying adults were encouraged to enter the x-ray room with the child during their procedure
- 53% (112/213) English and 70% of Welsh respondents in adult hospitals stated that they did not consider children's requirements when choosing equipment. Of the 95 adult hospitals which described criteria for selecting equipment 37 considered dose, 31 the ergonomics of equipment, and 23 the choice of accessory equipment.

Staff and training:

- Respondents in all children's hospitals reported radiographers attended paediatric training courses, the majority of which were delivered in-house. Of the 50% of adult hospitals who described sending radiographers on external courses for at least one area of interest included communication with children and paediatric imaging techniques.
- 52% (12/23) of Welsh and 40% (61/154) of English adult hospitals reported that no radiographers attending paediatric courses. For those reporting attendance the majority were in house and in the area of child protection and resuscitation.
- 87% (20/23) Welsh and 80% (169/211) English respondents said that there was not a contact radiographer at a children's hospitals for the provision of specialist advice.

Procedures and policies.

- Thirteen adult hospitals in England and four in Wales had no policies in place (Table 4).

When asked to give an open comment respondents added *'Thank you for this survey, it has brought to my attention how little we consider children visiting out department. Improvements need to be made.'* and *'Thought provoking questionnaire'* and *'Many questions have given us food for thought i.e. about asking children their opinion on the service / facilities provided'*. Others stated *'We try to do our best within our department – but reduced staff levels mean we do not have the time or resources to do our best.'* and things can change *'We lost our dedicate children's areas when recent building works remodeled our department. We used to have a dedicated superintendent radiographer for paediatrics: they have been absorbed into the establishment.'*

Discussion

As there is only 17 children's hospitals in England and Wales the majority of children are imaged in their local hospital. This study shows that imaging services for children have been much neglected by policy makers, and requires to be moved up the agenda. With little provision of separate amenities such as toilets and waiting rooms for children in an adult hospital, and their views on service provision are seldom explored, much work needs to be carried out in order for imaging departments to comply with the recommendation of the Improving Services for children in hospital (2003). One neglected area is the lack of protocols for dealing with children with disabilities, whose experience would be greatly enhanced if staff were trained to communicate with this vulnerable group. Radiographers in England attend more paediatric related courses than those in Wales, but further development of relevant courses would be beneficial.

Recommendations

The findings are as made in the previous report but broadened out to include the whole of the United Kingdom. It is recommended that

- child-centred facilities and policies for imaging children in adult departments be developed and implemented
- formal links be established between radiographers in children's hospitals and those in other hospitals in order to establish and maintain good practice
- radiographers should engage with children to obtain their views on the services they provide. This would adhere to the UK Government's patient focus public involvement agenda
- professional bodies should provide guidance for the improvement of imaging services for children to ensure staff are adequately trained and policies are in place to ensure effective practice
- Universities throughout the United Kingdom should be encouraged to provide courses in paediatric radiography practice, and service provision.

References

Mathers S, Anderson H and MacDonald S. X- raying children in Scotland: Identifying differences in practice between departments in general and teaching hospitals and in dedicated. Final Report to the College and Society of Radiographers(UK). 2007
Healthcare Commission. Improving services for children in hospital. London, Commission for Healthcare Audit and Inspection, 2007
Platt H. The Welfare of Children in Hospital. (The Platt Report) 1959
Department of Health. Getting the right start. National Service Framework for children. Standards for hospital services. April 2003
Department of Health. The acutely or critically sick or injured child in the district general hospital: a team response. London, Department of Health, 2006
Department of health www.performance.doh.gov.uk/waitingtimes/2008/qi/MMRPROVOUT%20Summary.xls [accessed January 2008]

9. Return of application form

Please return this form to:

Valerie Asemah
The Society & College of Radiographers
207 Providence Square
Mill Street
London
SE1 2EW

Or by email at ValerieA@sor.org

Appendix 1

Table 1: Estimated percentage of workload attributed to children in adult hospitals (as reported by respondents).

% of workload	Aggregate total		England		Wales	
	Nos	%	Nos	%	Nos	%
< 10%	110	71	101	73	9	60
10.1- 20%	30	19	25	18	5	33
20.1-30%	11	7	10	7	1	7
> 30%	3	2	3	2	0	0
Total	154	99	139	100	15	100

Table 2: Types of imaging provided for children

Type	Adult Hospitals				Children's
	England n=218		Wales n=23		n=14
	Nos*	%	Nos*	%	Nos*
Plain film	212	97	23	100	14
Ultrasound	168	77	13	57	14
Fluoroscopy	141	65	10	43	14
CT	138	63	8	35	14
MRI	123	56	8	35	14
Other e.g. nuclear medicine	53	24	5	22	11

* Figures do not sum as more than one type indicated

Table 3: Provision for children in x-ray waiting rooms

	Adult hospital				Childrens*
	England n=221		Wales n=23		n= 14
	Nos*	%	Nos*	%	Nos*
Toys and play mats	148	67	13	57	14
Books	140	63	14	61	14
Decoration and art	91	41	11	48	13
Television	48	22	1	4	10
Child-centred information	38	17	0	0	12
Music	31	14	4	17	4
Lower height of fitments	30	14	1	4	8
DVD/videos	24	11	0	0	9
Electronic games	9	4	1	4	9

* Figures do not sum as more than one type of provision specified by some respondents

Table 4: Policies in place relating to children.

	Adult hospitals				Children's
	England n=207		Wales n=23		n=14
	Nos*	%	Nos*	%	Nos*
Non-accidental injury	178	86	19	83	14
Possible pregnancy of a minor	121	58	17	74	11
Restraint and immobilisation	88	43	9	39	8
Consent of a minor	76	37	8	35	7

* Figures do not sum as more than one type of policy specified by respondents