Safer Radiotherapy

The radiotherapy newsletter of Public Health England

Supplementary Survey Analysis

Survey report no. 3 – December 2014

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. It does this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. PHE is an operationally autonomous executive agency of the Department of Health.

Public Health England
Wellington House
133-155 Waterloo Road
London SE1 8UG
Tel: 020 7654 8000
www.gov.uk/phe
Twitter: @PHE_uk
Facebook: www.facebook.com/PublicHealthEngland

Prepared by: Helen Best

Published December 2014
PHE publications gateway number: 2014612

This document is available in other formats on request. Please email radiotherapy@phe.gov.uk.

Corporate member of
Plain English Campaign
Committed to clearer
communication

339

Contents

Reporting and Learning Survey

The UK has established an international reputation for its safety initiatives in radiotherapy. One of these initiatives is voluntary national reporting and learning from radiotherapy errors and near misses (RTE). All the current UK NHS radiotherapy providers have now shared radiotherapy errors for inclusion in this initiative.

In 2006, the Chief Medical Officer (CMO) for England launched and funded a range of initiatives relating to patient safety in radiotherapy (RT)[1]. This included pump-priming to allow the Health Protection Agency (HPA)* to establish a dedicated resource to support the professional community in improving safety in radiotherapy. One aspect of this role includes the development of radiotherapy error (RTE) reporting, analysis and promulgation of learning. A second initiative by the CMO resulted in a joint publication by the professional bodies in this field in 2008[2]. 'Towards Safer Radiotherapy' sets out key recommendations to improve patient safety in radiotherapy. One recommendation was to establish a radiotherapy-specific voluntary system of reporting, analysis and learning from radiation incidents and near misses and that all radiotherapy centres should participate in this system, to enable national learning. The Patient Safety in Radiotherapy Steering Group (PSRT) was tasked with taking this forward. Following the Francis Report[3] the focus on learning from errors is likely to continue as clinical departments are encouraged and even mandated to participate in initiatives such as this.

A series of publications including the newsletter 'Safer Radiotherapy' and a supplementary data analysis was established in 2010. 'Safer Radiotherapy' facilitates the comparison of local and national incidents and the dissemination of learning across the UK radiotherapy community. To date 14 of these have been published[4]. Alongside these regular publications, the third in a series of biennial reports was published in 2014[5]. That biennial report provides an overview of RTE data reported as part of the national voluntary reporting scheme from December 2011 until November 2013.

Background

To improve understanding of variations in current local and national reporting and learning cultures, a third survey of local reporting of radiotherapy patient safety incidents in all radiotherapy departments across the UK was conducted. The previous surveys were undertaken in 2008[6] and 2011[7].

Key findings from the previous surveys emphasised the need to continue this work on national RTE analysis. Furthermore analysis from the previous surveys highlighted the requirement for increased awareness in departments to include the TSRT9 trigger code[8]. The use of the

---

* On 1 April 2013 the HPA was abolished and its functions transferred to Public Health England.

TSRT9 trigger code ensures RTE reports submitted to the National Reporting and Learning System (NRLS) are shared with Public Health England (PHE) for national analysis.

The aim of this third survey is to build on knowledge gained from the previous surveys and establish an understanding of trends in reporting and learning culture at both a local and national level. Findings from this analysis will be used to inform future work.

Method

A pilot questionnaire was developed for review by the PSRT and key service users from the radiotherapy community. The final questionnaire comprised four pages. The first page obtained general information. The second page investigated reporting at a local and national level. The third and fourth pages explored learning at a national and local level. The final questionnaire can be seen in the appendix.

The survey was conducted using Select Survey, an online survey tool. This tool was chosen as it conforms to information governance requirements at PHE.

All UK radiotherapy service providers, both NHS and independent, were sent an introductory email and link to the online survey, which was open from 23 June to 25 July 2014. Key findings and common themes from the analysis of this survey are presented here using trends analysis. Comparisons with the previous surveys undertaken in 2008[6] and 2011[7] will be made where possible.

Results

Data quality

In the UK there are 59 radiotherapy NHS providers across 66 sites and five independent providers across 11 sites. The total number of providers is 64. There were 51 surveys returned, three of which were blank and not used for the analysis, so 48 completed surveys were used in this analysis achieving a 75% response rate. This is a slight decrease from a 78% (n = 51) response rate in the 2011 survey. Not all respondents completed all pages of the survey. The number of respondents per page will be highlighted at the beginning of each section.

General information – 48 respondents completed this section

Question 2. Is the radiotherapy pathway coding from Towards Safer Radiotherapy applied to all radiotherapy error reports?

All respondents stated that the TSRT coding was applied to all RTE reports, identifying the point in the radiotherapy pathway where the error occurred. This is an increase from the previous survey in 2011, where 88% of departments were using the TSRT coding[2].

Question 3. Which of the following best describes your local reporting system/systems?
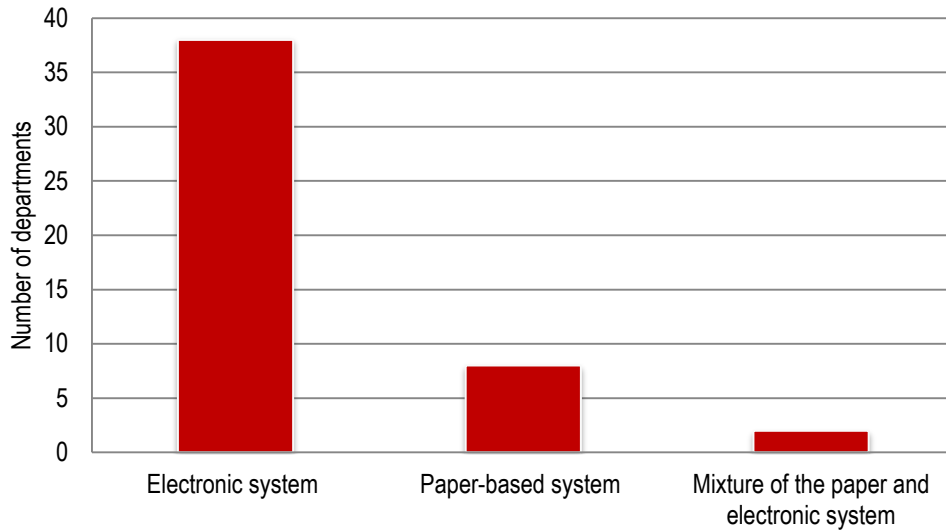

Figure 1. Recording method of reporting system/systems (n = 48)

Electronic systems were used by 79.2% (n = 38) departments (figure 1), which is in line with the previous survey[7]. Of the eight departments using paper-based systems to record their incident reports, 62.5% (n = 5) were smaller departments with a quarterly attendance of 0 to 30,000. The mechanisms to report to the NRLS are electronic systems. This means that those departments using paper-based system would then need to input their data electronically, resulting in a duplication of effort.

Multiple individuals within clinical departments were reported to be responsible for populating the reporting systems locally. These included quality managers, clinical governance support teams, radiotherapy managers, nominated incident leads and clerical staff.

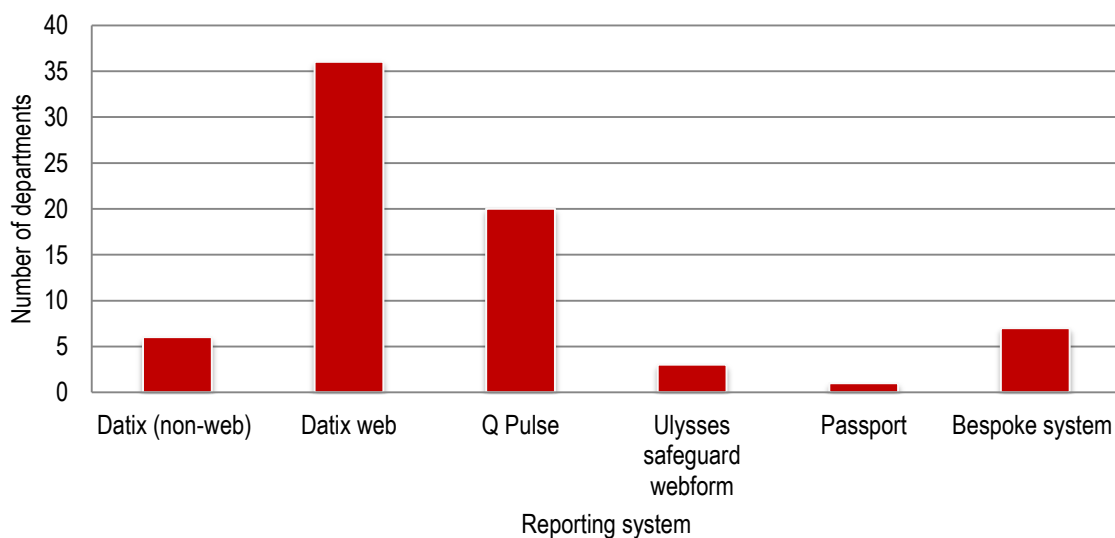*Question 4. Which local reporting system/systems are in use within your clinical department?*

Figure 2. Local reporting system (n = 48)

The most commonly used system across the departments was Datix web (figure 2). There were 50% (n = 24) departments that indicated they used more than one system and 75.0% (n = 18) of these were a combination of Datix (web and non-web) and Q Pulse. This is a marked increase from the 2011[7] survey where 11 departments employed dual reporting systems. Those departments operating a dual reporting system may use one reporting system within the clinical radiotherapy department and another at a trust risk management level or similar within healthboards or hospitals.

Reporting locally and nationally – 43 respondents completed this section

Question 5. Using the classification from Towards Safer Radiotherapy which levels of radiotherapy errors are reported locally within your clinical department?

The 43 respondents to this section of the survey indicated that all level 1 to 3 incidents were reported locally, as seen in figure 3. The four departments that did not report all radiotherapy errors locally did not give a rationale for this. Of the departments that reported all levels of error, two suggested the following justification for doing so: 'everything is reported to give a clear picture of what is happening in the department' and 'as described by Towards Safer Radiotherapy'.
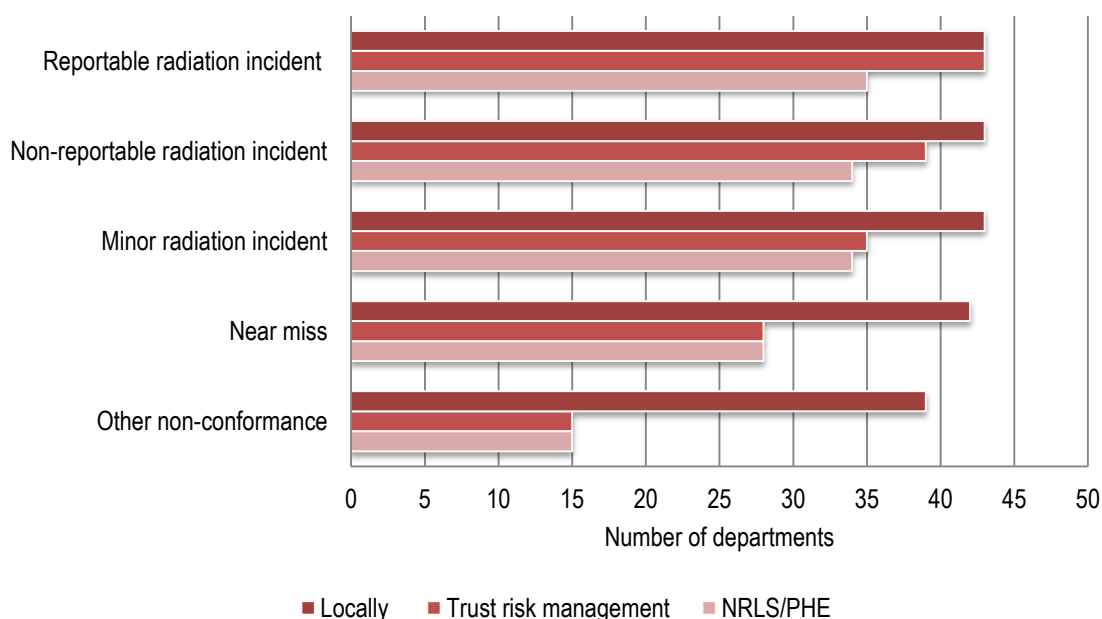
Figure 3. Level of RTE reported either locally, to trust risk management or similar, and externally to the NRLS/PHE (n = 43)

Question 6. Using the classification from Towards Safer Radiotherapy which levels of radiotherapy errors are reported to the trust risk management team or similar?

Only 34.8% (n = 15) departments report all levels of reports to their trust risk management team (figure 3). The rationale that departments provided for not reporting all levels of reports to their trust risk management team or similar included lack of resource, use of dual systems and 'only the actual radiation errors were reported'.

Question 7. Using the classification from Towards Safer Radiotherapy which levels of radiotherapy errors are reported to the NRLS/PHE for national analysis?

There were 14.6% (n = 6) providers who indicated that they did not send errors irrespective of level for inclusion in the national reporting and learning system (figure 3). There are five independent providers within the UK, which might account for some of these. This demonstrates that one NHS provider has stated in this survey it does not contribute to the national analysis. However, 100% of NHS providers have contributed to the national voluntary reporting and learning system[6]. It may be that one respondent did not appreciate that RTE reports were being shared with the NRLS/PHE.

Clinical departments were more likely to submit reports of higher level RTE such as reportable radiation incidents, non-reportable radiation incidents and minor radiation incidents (figure 3). The largest discrepancy was seen in the reporting locally and nationally of other non-conformances. Reasons cited for not reporting all levels of RTE to the voluntary reporting scheme included insufficient staffing levels to facilitate the reporting process and a local senior management policy.

Although the average number of reports received for national analysis continues to increase[4], the percentage of departments sending non-conformances externally to the NRLS or directly to PHE has decreased from 39% (n = 20) at the last analysis[4] to 34.8% (n = 15) in this analysis.

Departments using paper-based systems were shown to be less likely to report all levels of RTE externally to the NRLS/PHE. This may be due to the need to transpose data from a paper-based system to an electronic system, which requires additional resource.

Question 9. What is the frequency of transfer of reports to the NRLS/PHE from your clinical department?
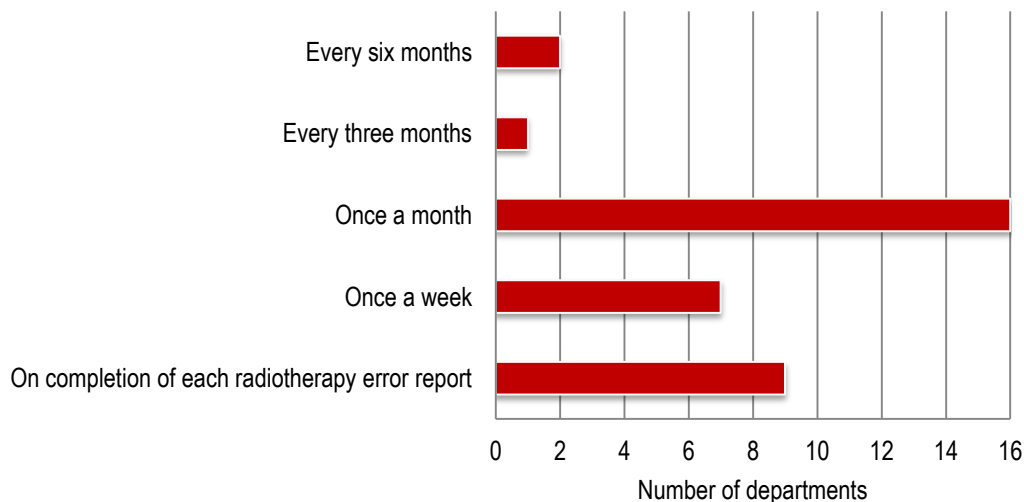

Figure 4. Frequency of transfer of reports externally to the NRLS/PHE (n = 35)

A total of 91.4% (n = 32) of providers reported they submitted RTE reports as part of the national voluntary system every month or more frequently (figure 4). This correlates with the mode of 30 days for the lag time found in the 2014 biennial report[5]. Lag time measures the time from the date of incident or discovery of the incident through local reporting and on to PHE.

National learning – 41 respondents completed this section

Question 10. Is the PHE newsletter Safer Radiotherapy and supplementary analysis used locally as a learning tool?

Three departments (7%) stated they did not use the newsletter 'Safer Radiotherapy' – no rationale was given for this.

Question 11. How is the national analysis of radiotherapy errors used as a learning tool?

The most common response was sharing at meetings (82.1%, n = 32), followed by comparisons of local versus national trends (64.1%, n = 25) as seen in figure 5. The respondents highlighted that the analysis is used in a number of ways, with only 12.8% (n = 5) respondents stating that only one method was used. Some respondents stated that several methods were used. A common theme was the sharing of the newsletter with staff in the form of leaving it in folders in staff rooms or electronic communication folders.
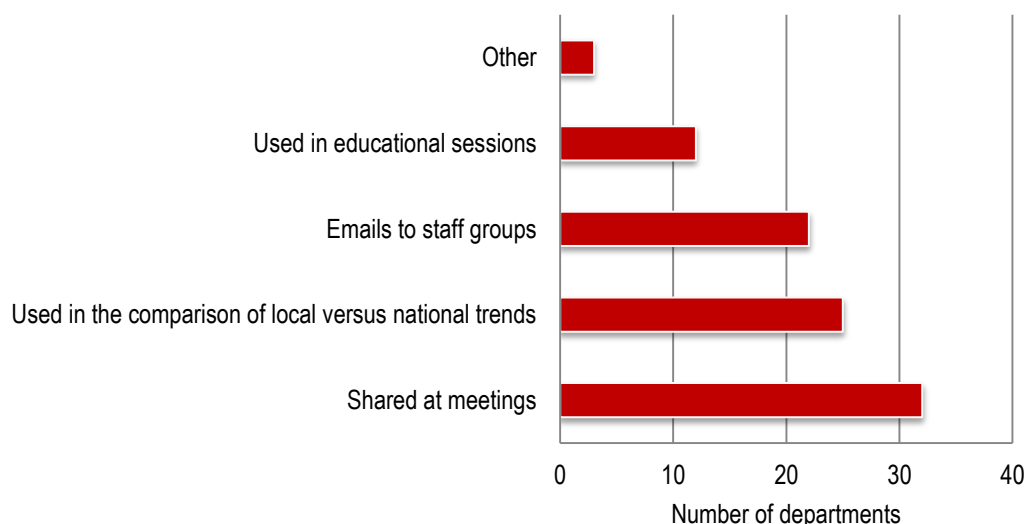
Figure 5. How the national analysis is used as a learning tool (n = 39)

Of the 92.7% (n = 38) respondents that stated that the newsletter 'Safer Radiotherapy' was used as a learning tool, only 23.7% (n = 9) shared this tool with all staff members. It was shared with a cross-section of staff, including radiographers (65.8%, n = 25), physicists (47.7%, n = 18) and doctors (18.4%, n = 7). Only 15.8% (n = 6) departments shared this newsletter with radiographers only. The newsletter is shared with all heads of service and designed to disseminate learning from RTE to professionals across the radiotherapy community[5,6].

9

Question 12. Do you have any suggestions on how the national analysis could be improved?

There were 15 responses on how the national analysis could be improved. The main themes from these responses were the need to update TSRT pathway coding and development of the analysis through the introduction of causative factor taxonomy. Other responses included

- more detailed feedback on incidents
- comparisons with other departments, including comparison of similar size or equipment
- further training sessions on coding and root cause analysis would be invaluable

Local learning – 39 respondents completed this section

Question 13. Are all radiotherapy errors analysed locally?

All respondents completed this page and stated that they analyse errors locally.

Question 14. Using the classification from Towards Safer Radiotherapy which levels of radiotherapy errors are included in the local analysis?
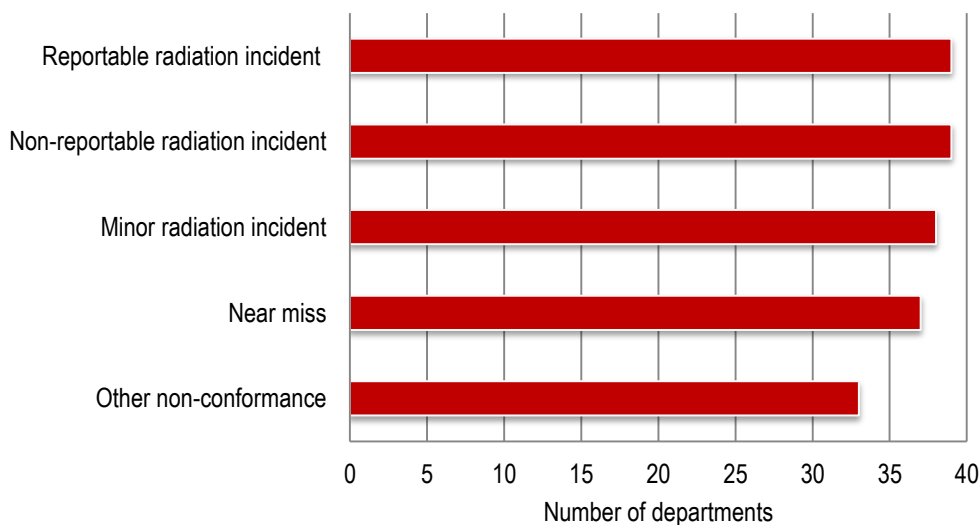
Figure 6. Level of RTE used in local analysis (n = 39)

Although all 39 respondents analyse errors locally, not all levels of RTE are used in the local analysis. Figure 6 demonstrates the use of higher level RTE in the local analysis with a drop to 94.9% (n = 37) for near misses and 84.6% (n = 33) for non-conformances.

There are some differences seen when comparing levels of errors reported locally and analysed locally. All higher level incidents that are reported locally are analysed locally; however, not all 'minor radiation incidents', 'near misses' and 'other non-conformances' that are reported are analysed. Opportunities to improve patient safety may be lost if RTE are reported but not analysed[2].

Question 15. How are lessons learned from radiotherapy errors used to minimise the frequency of these events?
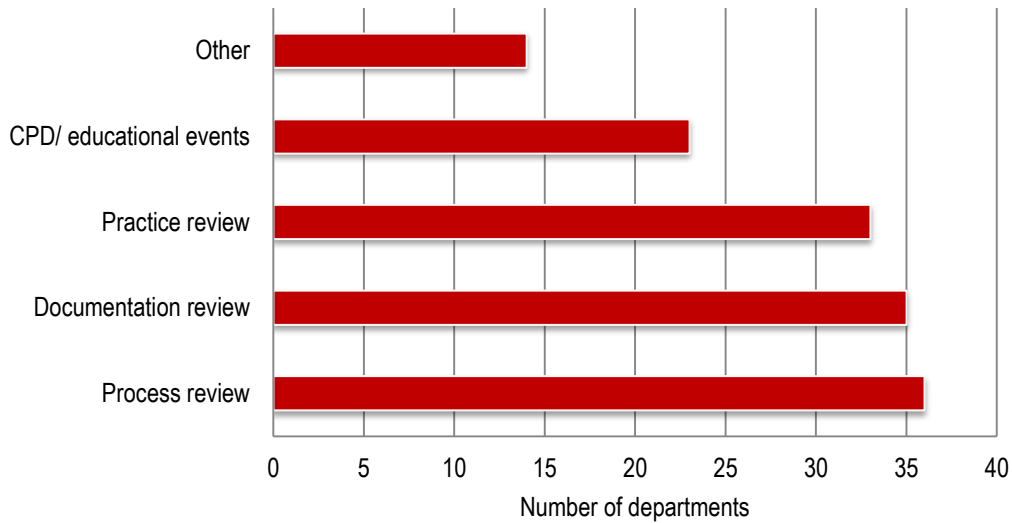
Figure 7. How lessons are learnt from RTE (n = 39)

Respondents indicated multiple methods for learning from RTE to minimise the frequency of occurrence. Figure 7 reveals that review of process (91.6%, n = 36), supporting documentation (89.7%, n = 35) and practice (84.6%, n = 33) were most commonly carried out when learning from RTE. Other responses included learning at staff meetings and specific training.

Question 16. How often does this learning take place?
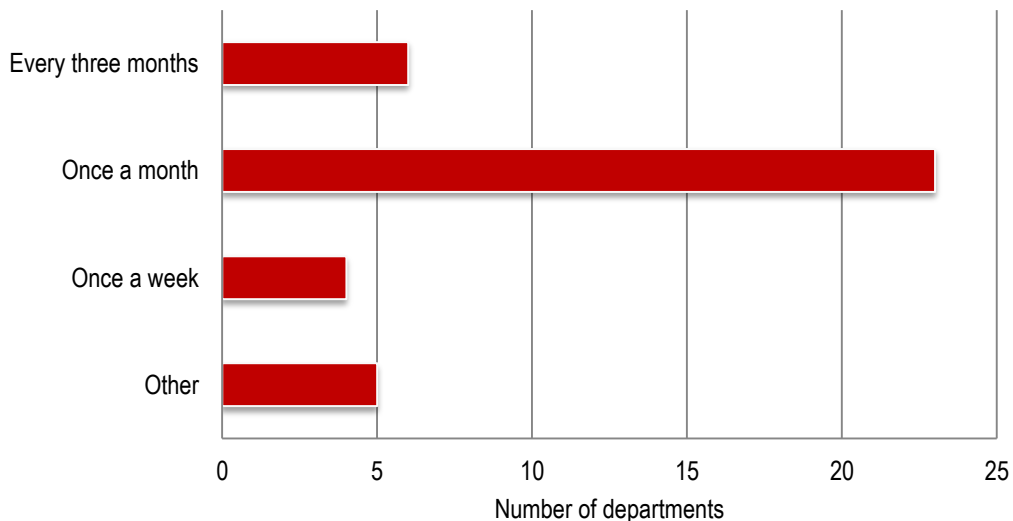
Figure 8. Frequency of learning from RTE (n = 38)

The most common timeframe for learning from RTE was stated to be monthly, by 60.5% (n = 23) of respondents. From the five respondents who indicated the 'other' timeframe, four of these explained that learning takes place following each incident. There were a number of respondents who stated that the timeframe for learning from RTE was different for different staff groups, such as bi-monthly for senior management and monthly for staff.

11

Question 17. Who is involved in the learning from local radiotherapy errors?

Figure 9. Staff involved in learning from RTE (n = 39)

All departments included staff involved in the event in the learning process, as seen in figure 9. Other staff involved included radiation protection adviser and clinical governance teams. Some respondents named specific radiographers across the department, including superintendents and team leaders.

Question 18. What do you feel is the most effective method of learning from errors?

The most effective method for learning from errors was stated as communication and discussing the event – 43.5% (n = 17) departments stated that they discussed the errors with different staff groups. The second most common method reported was root cause analysis 38.5% (n = 15). Other methodologies given included a reflective approach and trends analyses.

When asked what the departments felt was the most effective method for learning from errors the following quotes were given:

'Working within a group, discussing the error in a supportive no blame environment and coming out with a workable solution'

'It is important though to put the learning into context before implementing change'

'Looking at all issues leads one away from blaming the individual'

Question 19. Please give examples of how learning from error analysis has improved patient safety in your department?

The responses included the following:

'Discovered the error, made process change and audited to ensure compliance'

'After finding error, development of a safety checklist'

'A learning event following an incident was excellent in demonstrating to staff how multiple small things added up. It really sent the message that every task undertaken is important and worth doing well'

Question 20. How are lessons learnt from radiotherapy errors disseminated to colleagues?
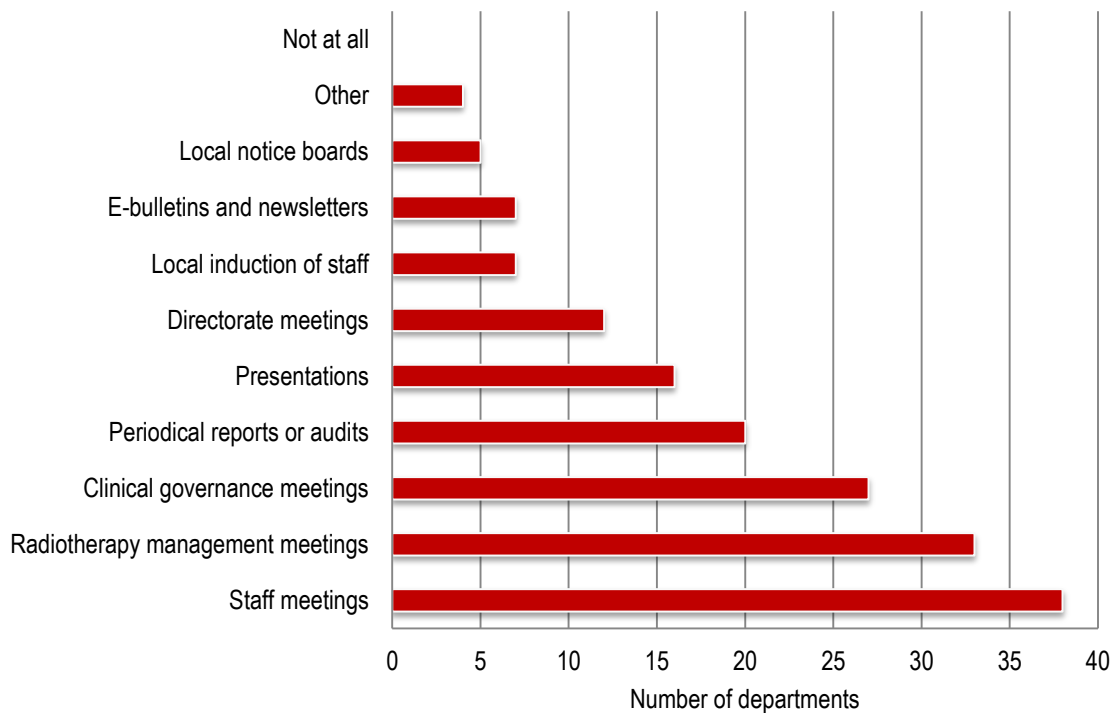
Figure 10. Methods used to disseminate learning (n = 39)

All respondents reported that there was a method for the dissemination of learning within their department, see figure 10. The most common dissemination method was to share learning at staff meetings (97.4%, n = 38), which reflects findings from the 2011 survey[7]. However, there has been a reduction from 91% (n = 47) at the last survey[7] to 69.2% (n = 27) within this survey of the disseminating of learning at clinical governance meetings. Other responses on the methods for the dissemination of learning included emails, one-to-one feedback, and quarterly system meetings. Some departments may have selected e-bulletins for dissemination by email.

Question 21. How often does dissemination of learning take place?

Figure 11 shows that a monthly timeframe is the most common timeframe for learning from errors, at 66.6% (n = 26). Respondents who indicated that other timeframes were used reported that this included 'fortnightly' and 'at the time of incident'. Further comments on the frequency of the dissemination of learning from RTE included 'in time of staff shortage these are the first things to get cancelled and not all staff get to attend these sessions'.
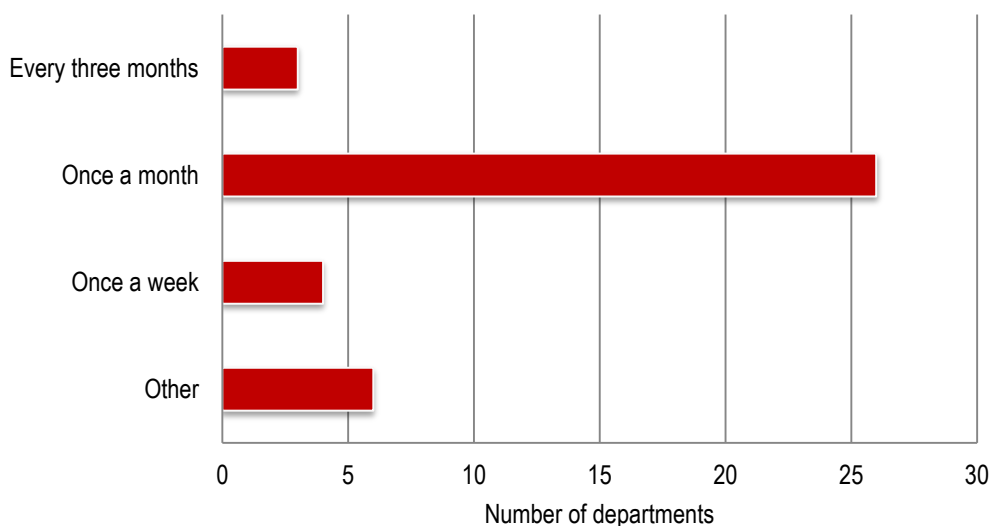
Figure 11. Frequency of dissemination of learning (n = 39)

Suggestions made by respondents to improve reporting and learning

Themes throughout the analysis of this survey have revealed the following suggestions made by the radiotherapy community to improve reporting and learning:
- the use of causative factors and methods of detection would improve the depth of learning from RTE
- an update on TSRT process coding is needed to reflect updates in technology
- more detailed feedback on the national analysis would be beneficial for learning purposes
- an annual report would be favourable
- additional clarity on definitions of minor radiation incidents and near misses would be valuable

Recommendations for the future of reporting and learning from RTE

The following recommendations have been made on completion of the analysis:
- to ensure timely feedback and relevancy national learning, errors should be reported externally on a regular basis
- the national analysis should be shared locally with all professionals within radiotherapy provider services

14

- all levels of RTE reported locally should be analysed locally and where there are mechanisms in place for the reporting of RTE to the NRLS/PHE, all levels of RTE should be shared
- changes in practice due to RTE analysis should be audited
- learning should be carried out in a timely fashion

Conclusion

In line with the previous surveys there has been a high response rate showing the continued commitment of the radiotherapy community to improving patient safety. The information gathered from these responses will inform how this work develops.

This analysis has highlighted that all respondents are applying the TSRT coding to all RTE. There are multiple systems in place across the UK for the reporting of RTE, the majority of which are electronic. It is expected that the number of RTE reported for inclusion in the national analysis will increase as the use of electronic reporting systems increases, along with an increase in the reporting of lower level incidents.

The transfer of reports externally to the NRLS/PHE was most commonly conducted on a monthly or more frequent basis; this allows the timely dissemination of national learning. All departments learn locally from RTE, reflecting a strong reporting and learning culture.

The majority of respondents indicated that the national analysis was used as a learning tool and was shared locally in the clinical department. The sharing of the national analysis can then facilitate the benchmarking of locally reported RTE.

Future work of the Patient Safety in Radiotherapy Steering Group includes updates to the pathway taxonomies from Towards Safer Radiotherapy to reflect updates in technology and introduction of causative factors and detection methods.

References

[1] Radiotherapy: Hidden Dangers. Chapter 5. Chief Medical Officers Annual Report 2006 (2007). Available from http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/AnnualReports/DH_076817

[2] Towards Safer Radiotherapy. 2008. Royal College of Radiologists, Society and College of Radiographers, Institute of Physics and Engineering in Medicine, National Patient Safety Agency, British Institute of Radiology. Royal College of Radiologists, London. Available from http://www.rcr.ac.uk/index.asp?PageID=149&PublicationID=281

[3] Francis R. Report of the Mid Staffordshire NHS Foundation Trust public enquiry. London, UK: HMSO; 2013. Available from https://www.gov.uk/government/publications/report-of-the-mid-staffordshire-nhs-foundation-trust-public-inquiry

[4] Safer Radiotherapy: Radiotherapy Newsletter of PHE and Supplementary Data Analysis: Full Quarterly Radiotherapy Error Data Analysis. No 14. Available from https://www.gov.uk/government/publications/safer-radiotherapy-error-data-analysis-report

[5] Data report on radiotherapy errors and near misses (December 2011 – November 2014). Patient Safety in Radiotherapy Steering Group. Available from https://www.gov.uk/government/publications/radiotherapy-errors-and-near-misses-data-report

[6] Local reporting of radiotherapy patient safety incidents: survey report NPSA, July 2010. Available from http://webarchive.nationalarchives.gov.uk/20140505133515/http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1296688322738

[7] Safer radiotherapy: national reporting of RTE, survey number 2 CRCE, 2011. Available from http://webarchive.nationalarchives.gov.uk/20140505133515/http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1317131849571

[8] NPSA. Implementing Towards Safer Radiotherapy: guidance on reporting radiotherapy errors and near misses effectively. Available from www.nrls.npsa.nhs.uk/resources/clinical-specialty/radiology-and-radiotherapy/

Appendix

Reporting and Learning Survey

<u>Page 1</u> *General Information*

1. What is your quarterly departmental activity, attendances per million population (as described by the radiotherapy dataset)? Please tick the appropriate box

    ☐ 0 - 30,000

    ☐ 30,000 - 40,000

    ☐ 40,000 - 50,000+

2. Is the radiotherapy pathway coding from Towards Safer Radiotherapy applied to all radiotherapy error reports?

    ☐ Yes

    ☐ No

If the coding is applied to a selection, how are these chosen?
....

3. Which of the following best describes your local reporting system/systems? Please tick the appropriate box

    ☐ This is a paper-based system

    ☐ This is an electronic system

Who populates the electronic system? ....

4. Which local reporting system/systems are in use within your clinical department? Please tick as many as appropriate

    ☐ Datix (non-web)

    ☐ Datix Web

    ☐ Prism

    ☐ Q Pulse

    ☐ Sentinel

    ☐ Ulysses Safeguard Webform

    ☐ Passport

    ☐ Bespoke system

    ☐ Other, please name the system ....

Reporting Locally & Nationally

5. Using the classification from Towards Safer Radiotherapy which levels of radiotherapy errors are reported locally within your clinical department? Please tick as many as appropriate

       ☐ Level 1 Reportable radiation incident

       ☐ Level 2 Non-reportable radiation incident

       ☐ Level 3 Minor radiation incident

       ☐ Level 4 Near miss

       ☐ Level 5 Other non-conformance

       ☐ None

If a selection are reported, how are they chosen? …………………………………..

If none, please explain the rationale for this …………………………………………….

6. Using the classification from Towards Safer Radiotherapy which levels of radiotherapy errors are reported to the trust risk management team, or similar? Please tick as many as appropriate

       ☐ Level 1 Reportable radiation incident

       ☐ Level 2 Non-reportable radiation incident

       ☐ Level 3 Minor radiation incident

       ☐ Level 4 Near miss

       ☐ Level 5 Other non-conformance

       ☐ None

If a selection are reported, how are they chosen? …………………………………..

If none, please explain the rationale for this …………………………………………..

7. Using the classification from Towards Safer Radiotherapy which levels of radiotherapy errors are reported to the NRLS/PHE for national analysis? Please tick as many as appropriate

       ☐ Level 1 Reportable radiation incident

       ☐ Level 2 Non-reportable radiation incident

       ☐ Level 3 Minor radiation incident

       ☐ Level 4 Near miss

       ☐ Level 5 Other non-conformance

       ☐ None

If a selection are reported, how are they chosen? ....

8. If you currently do not have a mechanism to submit reports to the NRLS/PHE, would you like a mechanism to be put in place to enable contribution of your reports to the national analysis?

      ☐ Yes

      ☐ No

      ☐ Not applicable

If yes, do you know of any barriers to reporting externally? ....

If no, why?..

9. What is the frequency of transfer of reports to the NRLS/PHE from your clinical department? Please tick the appropriate box

      ☐ On completion of each radiotherapy error report

      ☐ Once a week

      ☐ Once a month

      ☐ Every 3 months

      ☐ Every 6 months

      ☐ > every 6 months

If the transfer of reports is less frequent than monthly, please explain the rationale for this…………………………………………………………………………………………

Page 3 *National Learning*

10. Is the PHE newsletter Safer Radiotherapy and supplementary data analysis used locally as a learning tool?

      ☐ Yes

      ☐ No

If yes, which staff groups use this as a learning tool?...

11. How is the national analysis of radiotherapy errors used as a learning tool? Please tick as many as appropriate

      ☐ Shared at meetings

      ☐ Used in educational sessions

      ☐ Used in the comparison of local versus national trends

      ☐ Emails to staff groups

      ☐ Other, please describe……………………………………………………………….

12. Do you have any suggestions on how the national analysis could be improved?

…………………………………………………………………………………………….

Page 4 *Local Learning*

13. Are radiotherapy errors analysed locally?

☐ Yes

☐ No

If no, how do you learn from local errors?..

14. Using the classification from Towards Safer Radiotherapy which levels of radiotherapy errors are included in the local analysis? Please tick as many as appropriate

☐ Level 1 Reportable radiation incident

☐ Level 2 Non-reportable radiation incident

☐ Level 3 Minor radiation incident

☐ Level 4 Near miss

☐ Level 5 Other non-conformance

If a selection, how are these chosen?...

15. How are lessons learnt from radiotherapy errors used to minimise the frequency of these events? Please tick as many as appropriate

☐ CPD/ educational events

☐ Documentation review

☐ Process review

☐ Practice review

☐ Other, please describe……………………………………………………………

16. How often does this learning take place? Please tick the appropriate box

☐ Once a week

☐ Once a month

☐ Every three months

☐ Other, please describe…………………………………………………………..

17. Who is involved in learning from local radiotherapy errors? Please tick as many as appropriate

☐ Senior Hospital Management

☐ Clinical Director/ Head of Service

☐ Radiotherapy Service Manager

☐ Head of Physics

☐ Medical Physics Experts

□ Quality Manager

□ Staff involved in event

□ Clinical staff not involved in the event

□ Other, please describe. ……………………………………………………

18. What do you feel is the most effective method of learning from errors?..............

……………………………………………………………………………………….

19. Please give an example of how learning from error analysis has improved patient safety in your department?
……………………………………………………………………………………….

20. How are lessons learnt from radiotherapy errors disseminated to colleagues? Please tick as many as appropriate

□ Presentations

□ Periodical reports or audits

□ Local notice boards

□ Local induction of new staff

□ E-bulletins and newsletters

□ Staff meetings

□ Radiotherapy management meetings

□ Clinical governance meetings

□ Directorate meetings

□ Not at all

□Other, please describe………………………………………………………….

21. How often does dissemination of learning take place? Please tick the appropriate box

□ Once a week

□ Once a month

□ Every three months

□ Other, please describe……………………………………………………………

……………………………………………………………………………………

22. Do you have any further comments you would like to share? ………………………

…………………………………………………………………………………………..

21