

The Power of Innovation

A health care system to meet our needs
NSW Health
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Getting it Right Every Time – Radiation Therapy Excellence in the Provision of Cancer Services

Introduction

Radiotherapy is a complex oncology treatment where errors can result in devastating injuries to patients. To avoid this a rigorous Quality Assurance (QA) "checking" process is imperative.

The North Coast Cancer Institute (NCCI) undertook a review of QA processes with the goal of reducing preventable errors to zero while reducing QA burden.

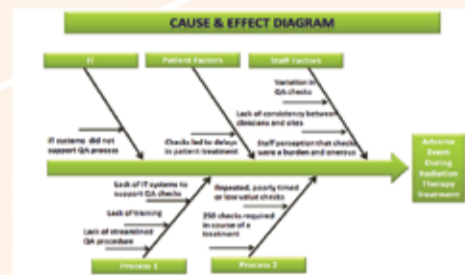
Aim

1. To decrease preventable checking errors from 2% to zero for patients undergoing RT within 6 months
2. Improve consistency and efficiency of standards across the three NCCI sites through a reduction of redundant and low clinical risk QA activity.



The geographical location of the three NCCI radiation therapy centres.

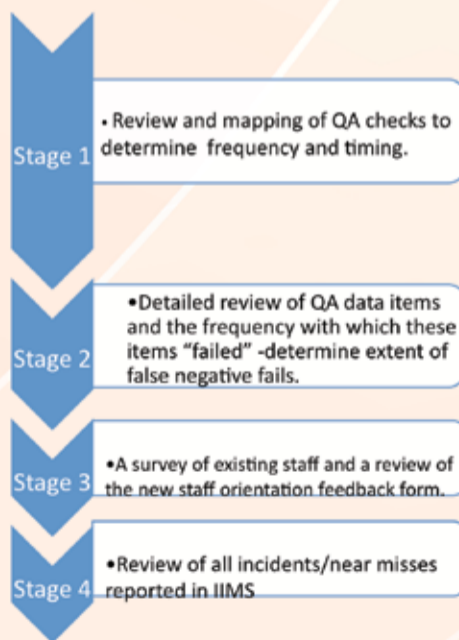
Method



A small project team developed a more streamlined QA process aimed at reducing the time burden of redundant checks and directing and focusing more time and energy on the crucial areas of the checks. Comprehensive support documentation was written which included both detailed requirements and educational resources.

Modified QA assessments in Mosaik™ were tested alongside the existing process to identify potential flaws or gaps during a trial period. After incorporating minor changes as suggested by staff feedback, the new QA process was implemented.

A preliminary review was completed at four weeks post implementation to determine compliance with the new process and a thorough audit completed at 6 months post implementation to evaluate its effect.

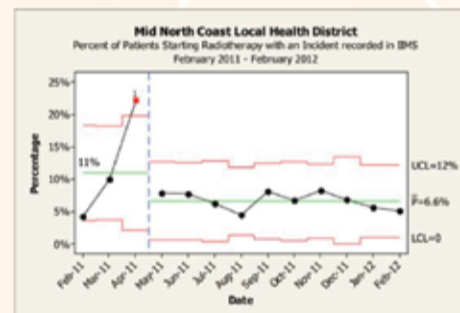


Steps undertaken during the diagnostic phase of the project.

Results

Incidents:

IIMS incidents were used as a surrogate measure for preventable errors and while imperfect a decrease from 84 to 60 was noted despite significant service expansion also occurring. The incident reduction was further analysed in a control chart which demonstrates a statistically significant decrease of (SAC 3&4) IIMS from an average of 11% to 6.6%; sustained for over 6 months.



Control Chart of Incidents vs New Patient Starts

Efficiency Outcomes:

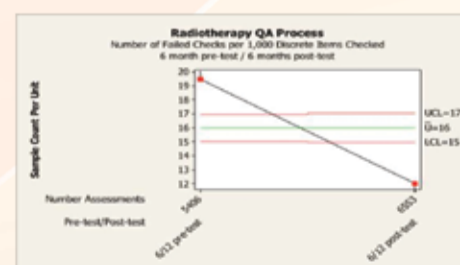
A significant reduction in the data items checked was achieved.

	Original Checking Process	Updated Checking Process	Reduction in the Number of Checks
Data Items	83	65	-18
Number of Individual Checks	206	146	-60

Number of data items initially checked compared to the updated number of data items.

Decreased QA burden is estimated to save 6 minutes per patient course, equating to approximately 250 hours per annum being released for more targeted QA.

Despite increasing workload, a statistically significant decrease in failed checks from 19.5 to 12 per 1,000 assessments was achieved.



Control chart of QA fail rates pre and post implementation on new checking process.

Conclusion

An improvement in the quality process by streamlining and improving the existing QA procedures and reducing the instances of recurring incidents/near misses has been achieved.

This in turn has increased capacity by freeing up more resources to be available to treat more patients.

Additional benefits include practice standards compliance across the three NCCI sites, the development of tools that will allow this to work to be easily repeated and reported on in the future, as well as setting in place a good work place culture.



Radiotherapy Treatment unit at NCCI

Acknowledgements

All the staff at all three sites of the NCCI for their contributions to this work.