

AbstractID: 11464 Title: Experience with Error Reporting and Tracking Database Tool for Process Improvement in Radiation Oncology

Purpose: To present long-term results of systematic near-miss and actual error reporting and analysis system based on a web-based tool and effects of formal process improvement structure on error rates and safety culture in radiation therapy (RT).

Materials and Methods: An internally developed web-based system was used to report, track, and analyze errors and near-misses in a large RT department for almost two years. The system was designed as an efficient and effective process for collecting, storing, and analyzing the failure rate data in individual RT facilities. The aim of the system was to support process improvement in patient care and safety. The reporting tool was designed so individual events could be reported in as little as two minutes. Events were categorized based on functional area, type, and severity of failure. The events were processed and analyzed by a formal process improvement group which used the data and statistics collected through the web-based tool for guidance in reengineering clinical processes. The results for the first nineteen months of clinical use of the system are presented.

Results: The collected data and the process improvement structure resulted in measureable safety and error rate improvements in several clinical areas. The collected data was also very effective in identifying ineffective measures and efforts which did not produce improvements in clinical processes. The overall process demonstrated that it was possible to establish and maintain a high functioning safety culture in radiation oncology. The error reporting compliance, though voluntary, was very high and consistent from the inception of the process through the date of this report.

Conclusions: Near-miss and actual error collection process in RT can result in quantifiable safety and error rate improvements and more importantly it can result in a sustainable safety culture.