

AbstractID: 8529 Title: An Error Reporting and Tracking Database Tool for Process Improvement in Radiation Oncology

Patient and employee safety is a critical concern in radiation therapy (RT). Current QA practices and operation processes in RT are typically developed based on rather prescriptive task group reports and regulatory agency requirements. Typically, these programs are not developed with the goal of process optimization and safety but are brute-force efforts to prevent catastrophic errors. Other industries have been developing processes to improve quality and safety of their operations and products since the 1940s. These processes have become quite sophisticated and the result is that numerous industries have much better performance records than healthcare and RT. Recently the National Academy of Engineering and the Institute of Medicine recommended the systematic application of systems engineering approaches for reforming our health care delivery system. The AAPM subsequently formed a task group charged with developing a structured systematic QA program approach for RT based on industrial principles and practices.

Optimization of RT processes and implementation of industrial techniques requires the acquisition of data regarding performance statistics and failure or error rates of individual departments. Most facilities do not have the infrastructure to effectively collect and analyze such data. We have developed an efficient and effective process for collecting, storing, and analyzing the failure rate data in individual RT facilities that will support process improvement in patient care and safety. The process is based on a web-based tool for reporting events. The tool is designed so individual events can be reported in as little as two minutes. Events are categorized based on function area, type, and severity of failure. All events are systematically processed using web-based tools and stored for future analysis and evaluation of failure methods and process improvement and prioritization of efforts in an individual RT facility.

This work is supported in part by the National Patient Safety Foundation grant.