## Introduction

As radiation oncologists, it should be our goal to deliver the highest quality cancer care possible to our patients. There is currently a national focus both on health care quality in general and on cancer care specifically. The Quality of Health Care in America project, initiated by the Institute of Medicine in 1998, published initial findings in 2000 that revealed that tens of thousands of Americans die each year as a result of medical errors [1]. They recommended that steps be taken to improve patient safety by identifying and reducing preventable medical errors. The Institute of Medicine also created the National Cancer Policy Board in 1997 to assess the cancer services delivery systems, quality assurance mechanisma, and barriers that impede access to cancer care. Their report concluded that many patients do not receive ideal cancer care [2]. They go on to recommend the development of systematically developed guidelines and quality measures that can be applied to providers and hospital systems to measure the quality of care delivered. Efforts are already in progress to develop appropriate quality measures for patients undergoing treatment for cancer [3].

As part of this national push towards improvements in the quality of medical care delivered, the American Board of Radiology (ABR) instituted a Maintainance of Certification program [4]. Radiation oncologists obtaining board certification after 1995 have 10-year time limited certificates and must participate in MOC to maintain their board certification. The MOC has four components: 1. professional standing, 2. lifelong learning and periodic self-assessment, 3. cognitive expertise, and 4. evaluation of practice performance. To help physicians with the fourth part of MOC, evaluation of practice performance, the ABR has created a Practice Quality Improvement (PQI) program. During a 10-year MOC period, a diplomate will be required to complete zero to two Type I PQI projects and one to three Type II PQI projects [5]. Type I projects involve the use of peer review and self reporting to evaluate practice factors chosen by the physician. Type II projects are more structured and are initiated and managed by professional societies. The American Society for Radiation Oncology (ASTRO) has created the Performance Assessment for the Advancement of Radiation Oncology Treatment (PAAROT) program as one option to allow ABR diplomates to complete a Type II project [6]. Here, we present the aggregate date from the first year of PAAROT.

## **Materials and Methods**

The PAAROT program is an online module on the VisionTree platform that is completed by a single physician. It involves a baseline survey of 10 consecutive completed patient charts. The physician then chooses one metric (that does not already have 100% success) to attempt to improve. A plan for improvement is created an implemented by the physician. Three months after the baseline surveys, 10 additional consecutive completed patient charts are analyzed, and the results are compared to the baseline survey to measure success of the improvement plan.

Data from the first year of the PAAROT program were collected. The frequency of metrics selected was evaluated, as was the success rate of the improvement plans.

## Results

As of March 1, 2010, 432 physicians had registered in the PAAROT system. 189 physicians had started a PAAROT PQI study. 133 physicians were eligible to complete their project, having waited 3 or more months after their initial patient data entry. Of those eligible, 110 physicians (83%) have completed their PAAROT projects. The selected metrics and the numbers of physicians using each metric are listed in Table 1. The metrics most frequently selected for monitoring were: 1) Was the patient screened for pain and counseled on options of pain management techniques, 2) Was the patient enrolled in a protocol, and 3) Was the patient screened for cancer related fatigue. 86% of the selected interventions resulted in improvements. Pooled data from participating physicians is displayed in Table 2, which shows the percentages from the first and second set of patient data entered (each physician only chose one metric on which to perform an intervention, but data on all metrics were entered. A patient history and physical was present in 98% of charts in the first patient data set and in 99% of charts in the second patient data set. An AJCC (American Joint Committee on Cancer) stage was present in 86% and 89% of charts in the first and second patient data set, respectively. DVHs (dose volume histograms) were signed 79% of the time in the first data set and 81% of the time in the second. Films and/or EPIs (electronic portal images) were reviewed 97% of the time in the first data set and 98% of the time in the second. 74% of cases were peer reviewed in the first patient data set and 83% of cases were peer reviewed in the second. Data that were not included as a metric but were collected included whether patients were treated for curative or palliative intent, how many fractions patients received, and

whether IMRT was used. The majority of patients receiving palliation were treated with 16-25 fractions. IMRT (intensity modulated radiation therapy) was not used in any palliative case. IMRT was used in 20% of curative cases.

## References

[1] Kohn LT, Corrigan JM, Donaldson MS. To Err is Human: Building a Safer Health System: National Academies Press 2000.

[2] Hewitt ME, Simone J. Ensuring Quality Cancer Care. Washington, DC: National Academy Press 1999.

[3] Desch CE, McNiff KK, Schneider EC, Schrag D, McClure J, Lepisto E, et al. American Society of Clinical Oncology/National Comprehensive Cancer Network Quality Measures. J Clin Oncol. 2008 Jul 20;26(21):3631-7.

[4] Kun LE, Ang K, Erickson B, Harris J, Hoppe R, Leibel S, et al. Maintenance of certification for radiation oncology. Int J Radiat Oncol Biol Phys. 2005 Jun 1;62(2):303-8.

[5] Kun LE, Haffty BG, Bosma J, Strife JL, Hattery RR. American Board of Radiology Maintenance of Certification - Part IV: practice quality improvement for radiation oncology. Int J Radiat Oncol Biol Phys. 2007 May 1;68(1):7-12.

[6] Thomas K. Performance Assessment for the Advancement of Radiation Oncology Treatment 2008 [cited 2009 October 18]; Available from: http://asro.astro.org/PAAROT/Default.aspx