**IMPLEMENTATION OF A COMPREHENSIVE RADIATION THERAPY REGISTRY: FOCUS ON FEASIBILITY AND RELIABILITY**

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**PURPOSE:** To establish and verify the feasibility of an all case registry for all patients presenting for treatment with radiotherapy containing reliable physician-reported, patient-reported, and technical (dosimetry and delivery) outcome data. The ultimate aim is to increase and optimize automatic data extraction. Such registry processes integrated in routine departmental workflow are necessary for routine documentation of quality of care.

**Method:** The proposed pilot included all radiation oncology patients treated within the UCLA system where ARIA (Varian, Palo Alto) is the electronic medical record (EMR) system. Longitudinal radiation oncology specific data were planned prior to data collection, tracked for completion, and formatted for reliable and efficient outcomes analyses. Twenty-six pre-treatment and treatment “questionnaires” were created and incorporated in the EMR for 7 anatomic sites, corresponding to a total of 13 disease categories. At the first stage of this pilot, data were manually extracted into the questionnaires from physician-generated clinical notes to establish a baseline. The data from the EMR is currently being merged with dosimetry/treatment delivery details acquired in parallel. Finally, patient-reported outcomes through a web-based portal will be incorporated to complete outcome datasets. In the ongoing second phase, EMR-based templates of structured clinical notes are being tested to evaluate the feasibility of automatic processes. These templates incorporated data tables consisting of minimal data fields (range from 14 to over 80 per table) that mirror the existing questionnaires corresponding to the 13 disease categories. An Access App is being developed to perform automatic data extraction from these structured clinic notes. Extracted data will be populated and stored for longitudinal data management.

**RESULTS:** In summary, the data acquisition process was started in March 2011, starting with prostate cancer patients, ultimately extended to all patients presenting and being treated at the Westwood UCLA radiation oncology department. The current data acquisition process includes all patients. By Aug 2012, data from 2033 patients have been gathered. The prostate population (n=431) was tested for data completion for the first year of initial consult (pre-treatment data), with only 11% of data was missing. The completion rates rose with the use of structured EMR-based notes.

**CONCLUSION:** The clinical data acquisition process dictated the quality (completion and accuracy) of the data. The acceptable low missing rate from prostate population is encouraging and confirmed the feasibility of our designed data collection process.