AbstractID: 11355 Title: Computerized implementation of radiation treatment planning directives

Purpose: This presentation describes the implementation of a system for capturing radiation treatment planning directives. These directives capture site and protocol specific requirements for the various processes required for planning namely imaging studies, registration, contouring, and specification of target goals, and planning objectives.

Method and Materials: The computer software used for this work is based on an open-source electronic healthcare record (EHR) system . The software is based on industry standards and runs on a windows server, is written in Java, a standard database, and provides a web-based user interface. The system uses a data model based on the HL7 V3 and continuity of care records. Patient related information (documents) trigger a rules-based decision support engine that is used to maintain lists and initiate messaging to external systems. Documents can also be fed to the system via messages from external system.

Customizations of this system have been made to capture and manage template treatment planning directives that are then selected and modified to create patient specific directives. Rules have been created and are triggered by completing various components of the planning directives.

Over 50 treatment planning directives have been developed using paper forms and these have served as a guide for the development of the data requirements and user input styles.

Extensive processes mapping has been undertaken to determine the best ways to implement this system within our clinical environment.

Results: The resulting system has been used to implement most of our current planning directives. Messages from the hospital's HL7 feed provide basic patient identification information and clinical results as needed. Various worklists are maintained along with e-mail notifications, and communications with our planning system are used to initialize planning parameters.

Conclusion: This system for computer-supported management of treatment planning directives has proven to be flexible and extensible.