Title: RIVIEW – A Web-based viewer for Radiotherapy

Innovation / Impact: RIVIEW is an early attempt to develop a web-based environment to share and review radiotherapy treatment plans. Scan, dose distributions and structures can be overlaid. Cohorts of patients can be reviewed. DVHs curves can be displayed for the selected doses and structures. RIVIEW is open source, GNU copyrighted and free in order to foster collaborative research.

QA: When user logs in, he/she is presented with the review queue to look up patients that need to be reviewed or that were reviewed and approved or rejected.

Patient Viewer: Radiotherapy objects associated with the selected patients are shown on this screen. Multiple scans are shown under the scan dropdown. Then, the dose distributions associated with this scan are presented under the dose dropdown followed by the structure list. The transparency between dose and scan can be adjusted using the Transparency slider. Structures can be checked on or off from the list. The CT scan display can be adjusted to show only the HUs within the specified range. There are preset HU ranges for popular CT displays. Transverse, Sagittal and Coronal views can be displayed for the RT objects from the View dropdown. In order to navigate across a view, the <, > arrows or the slider can be used. The dose colorbar is shown to the left of the scan/dose image.
**DVH display:** Absolute or normalized DVHs can be displayed for the selected structures and dose distributions. Moreover, cumulative or differential option can be selected from the “Type” dropdown. The DVH curves are clickable to obtain Vx and Dx values at the selected point on the curve.

**Cohort Viewer:** The cohort viewer feature can show 4 patients at a time. A patient can be assigned to the {top, bottom} {left, right} panes. Once a patient is assigned to a view pane, the scan, dose and structures belonging to that patient are populated in the GUI controls. The patients can be registered by with the help of < > buttons on individual panes. The larger < > buttons and the slider are used to move all panes by the selected amount. Transverse, Coronal and Sagittal views can be selected using the View dropdown. Structures can be toggled ON and OFF on individual panes from the list. Other display features are identical to the individual Patient Viewer. Colorbar is displayed for each pane with appropriate min and max dose values.

**References:**


