Purpose:

- Chart Rounds represents an important quality assurance institution which focuses on physician and physicist peer review.
- Its use is ubiquitous in the field of radiation oncology and successful implementation is a requirement for accreditation by established governing bodies.
- Despite its importance, there is scant literature which identifies time spent on each chart review.
- This study provides an examination of time spent in this endeavor and explores factors that influence the length thereof at a busy hospital practice.

Materials/Methods:

- In October, 2015, we employed an electronic medical record (EMR) with automated triggered events based on scheduling of patient treatment.
  - Based on the initiation and completion of an event, a time stamp is generated in the EMR.
  - We analyzed time stamps that focused on the initiation and completion of an event associated with the review of individual patient treatments at Chart Rounds.
  - During these weekly meetings, review focuses on consultation notes, dose constraint sheets, prescriptions, treatment plans, and, when applicable, port film review.
  - From January 8, 2016 to December 30, 2016 1199 consecutive patient charts were reviewed at weekly chart rounds (Figure 1).
  - 83.3% of cases involved definitive treatment vs. 16.7% involving palliative radiation.
  - 52.5% of reviewed cases involved the use of stereotactic techniques; 26.5%, 14.1%, and 5.7% involved 3DCRT, hand calculations (calcs), and IMRT, respectively.
  - 127 (10.6%) of the presentations involved a subsequent treatment course for a previously reviewed patient.
  - The mean time per patient presentation was 142.6 seconds (s).

Results:

- Discussions relating to 3DCRT (209.6s) and IMRT (204.5s) were longer on average than those involving Stereotactic treatment (104.2s) and hand calcs (136.8s; p<.0001).
- More time was spent reviewing patients presented for the first time than for subsequent courses of treatment (mean 147.5s vs. 100.9s, p=.017).
- Significant variation existed based on disease site, with roughly twice the time spent for head and neck (243.3s) compared to genitourinary malignancy (112.1s; p<.0001).
- On univariate analysis, predictors of spending at least 150s on discussion included:
  - cases involving head and neck malignancy (66.7% vs. 12.2% for genitourinary; p<.0001)
  - age younger than 60 (27.9% vs. 12.2% for older patients; p=.003)
  - first course of treatment (22.9% compared to 1.2% for subsequent treatment; p=.002).
- On multivariate analysis, patient age <60 (OR 1.63, CI 1.08, 2.44, p=.019), first treatment course (OR 2.75, CI 1.16, 6.54, p=.021), and reviewing IMRT treatment (OR 2.474, CI 1.099, 5.568, p=.029) predicted for spending at least 150s per case (Figure 3).

Conclusions:

- Time spent reviewing each patient’s treatment at chart rounds can be measured, and predictors of lengthier discussion characterized.
- Identification of these factors might facilitate an awareness of cases that might warrant a slower or more deliberate review for quality assurance.