Background/Aims: The 30-day mortality rate is a well-established outcome measure used by surgical specialties and the Centers for Medicare and Medicaid Services, though its validity has been questioned due to the short time-frame. However, this rate has been infrequently reported among oncology patients receiving radiotherapy. We present both the 30- and 90-day mortality rates of patients treated with palliative and curative radiotherapy to provide a reference value for comparison and improvement.

Methods: A retrospective chart review was performed of all patients who received their first fraction of either palliative or curative intent external beam radiotherapy (EBRT) between January 1, 2012 and December 31, 2012. Patient demographics, primary tumor site, treatment site, fractions planned, and fractions delivered were recorded. Thirty- and ninety-day mortality rates were calculated based on time of death within 30 or 90 days of the last delivered fraction of radiation, respectively.

Results & Conclusions: A total of 860 treatment courses were delivered in the stated time span, of which 263 (31%) were of palliative and 597 (69%) were of curative intent. The overall 30-day mortality rate (30 DM) was 4.5%, with a palliative 30 DM of 12.5% and a curative 30 DM of 1.0%. Of the patients who died within 30 days, the most common primary tumor sites were lung (21%), head/neck (13%), and esophagus (10%). The overall 90-day mortality rate (90 DM) was 12.9%, with a palliative 90 DM of 32.7% and a curative 90 DM of 4.2%. Among patients who died within 90 days, the most common primary tumor sites were lung (25%), head/neck (12%), and CNS (9%). Of all patients treated with palliative intent who died within 90 days, 90% of target sites were prescribed 10 or less fractions, and regardless of number of fractions prescribed, 90% of target sites received more than half of prescribed fractions.

We have demonstrated a single institution 30 DM of 4.5% and 90 DM of 12.9% after receiving radiotherapy. As expected, the mortality burden was heavier among patients receiving palliative treatment. The 30 DM of patients receiving palliative intent radiation was comparable to the limited values published in the literature. There is no comparable data in the United States reported for 30 DM of patients treated with curative intent radiotherapy or for 90 DM after radiotherapy. This analysis provides baseline values of 30 and 90 DM for patients receiving either palliative or curative intent radiotherapy, creating a standard of reference internally and for other institutions.