COVID-19 and Radiology Resident Imaging Volumes - Differential Impact by Resident Training Year and Imaging Modality

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Abstract

Introduction: The COVID-19 pandemic has greatly impacted radiology departments across the country. The pandemic has also disrupted resident education, both due to departmental social distancing efforts and reduced imaging volumes. The purpose of this study was to assess the differential impact the pandemic had on radiology resident imaging volumes by training year and imaging modality.

Methods: All signed radiology resident reports were curated during defined pre-pandemic and intra-pandemic time periods. Imaging case volumes were analyzed on a mean per resident basis to quantify absolute and percent change by training level. Change in total volume by imaging modality was also assessed. The number of resident workdays assigned outside the normal reading room was also calculated.

Results: Overall percent decline in resident imaging interpretation volume from the pre-pandemic to intra-pandemic time period was 62.8%. R1s and R2s had the greatest decline at 87.3% and 64.3%, respectively. Mammography, MRI and nuclear medicine had the greatest decline in resident interpretation volume at 92.0%, 73.2%, and 73.0%, respectively. During the intra-pandemic time period, a total of 478 resident days (mean of 14.5 days per resident) were reassigned outside of the radiology reading room.

Conclusion: The COVID-19 pandemic caused a marked decrease in radiology resident imaging interpretation volume and has had a tremendous impact on resident education. The decrease in case interpretation, as well as in-person teaching has profound implications for resident education. Knowledge of this differential decrease by training level will help residency programs plan for the future.