

**Improving Patient Care and
Disposition by Deploying an
Unconventional Partially Offsite
After-Hours Workforce at a Large
Academic Medical Center**

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Disclosures: None



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PURPOSE AND BACKGROUND

- To evaluate the feasibility of deploying an after-hours partially offsite workforce in order to provide cost effective, subspecialized radiology coverage and thereby improve patient care, patient disposition, and radiology resident supervision.
- **Problem:** Limited evening coverage by daytime staff between 5-10PM was not feasible given significantly increased clinical demands, the short period of resident supervision, and the significant financial impact of hiring additional full-time daytime radiologists required to cover these shifts and avoid physician burnout.
- **Solution:** Investigate alternate, cost-effective staffing solutions to maintain subspecialized after-hours coverage while delivering a higher level of patient care, more rapid patient disposition, and greater radiology resident supervision.

MATERIALS AND METHODS

- Methods for increasing subspecialized after-hours staff coverage to replace the prevailing practice of limited after-hours coverage from 5-10 PM by daytime staff were investigated.
- Feasibility analysis of hiring a new after-hours workforce versus increasing the daytime workforce in a formidable job market limiting availability of qualified radiology applicants.
 - Jobs posted for each alternative.
 - IT analysis and investigation of potential use of remote radiologists to attract increasing number of candidates interested in remote reading.
- Financial analysis regarding comparative cost of hiring an Emergency Radiology Division versus a larger daytime workforce.

MATERIALS AND METHODS

- Mean report turn-around-time (TAT) for a finalized subspecialty radiology report was recorded for a 6 month period prior to and following the hiring of the new Emergency Radiology Division.
- Comparative impact of extended after-hours coverage on residents and referring clinicians evaluated via anonymous survey.
 - Impact on resident education and supervision.
 - Referring provider satisfaction.

RESULTS

- A total of six new part-time after-hours subspecialized staff radiologists (3 body imaging, 3 neuroradiology) were successfully hired to produce an Emergency Radiology Division.
- Two radiologists (1 body imaging and 1 neuroradiology) worked in tandem each night.
- Each staff radiologist would primarily read their own subspecialty, but also provide cross coverage as needed depending on volumes in order to further reduce TAT.
 - Staffing Model: 1-week on followed by 2-weeks off.
 - Covering a significantly longer shift from 5 pm- 3 am.
- This required offering qualified subspecialty candidates highly desired remote offsite reading opportunities which are classically unconventional for academic practices, although necessary due to the inherent limitations of a less desirable geographic location and a challenging radiology job market.

RESULTS

Successfully hired a dedicated Emergency Radiology Division (6 total radiologists) to cover after-hours imaging (5PM-3AM CST).

- 2 from Phoenix, AZ
- 2 from Omaha, NE
- 1 from Tucson, AZ
- 1 from Denver, CO



Figure 1. Geographic depiction of the combined on-and-off site Emergency Radiology Division staff locations.

RESULTS

- The Emergency Radiology Division provided an 11% savings in salary and bonuses when compared with the alternative of hiring the full-time equivalent (FTE) of four new daytime radiologists to supplement the current daytime workforce in covering only limited evening hours.
- Lower salary and bonus standards for a 1-week on, 2-weeks off position relative to a conventional fulltime radiologist accounted for this difference.

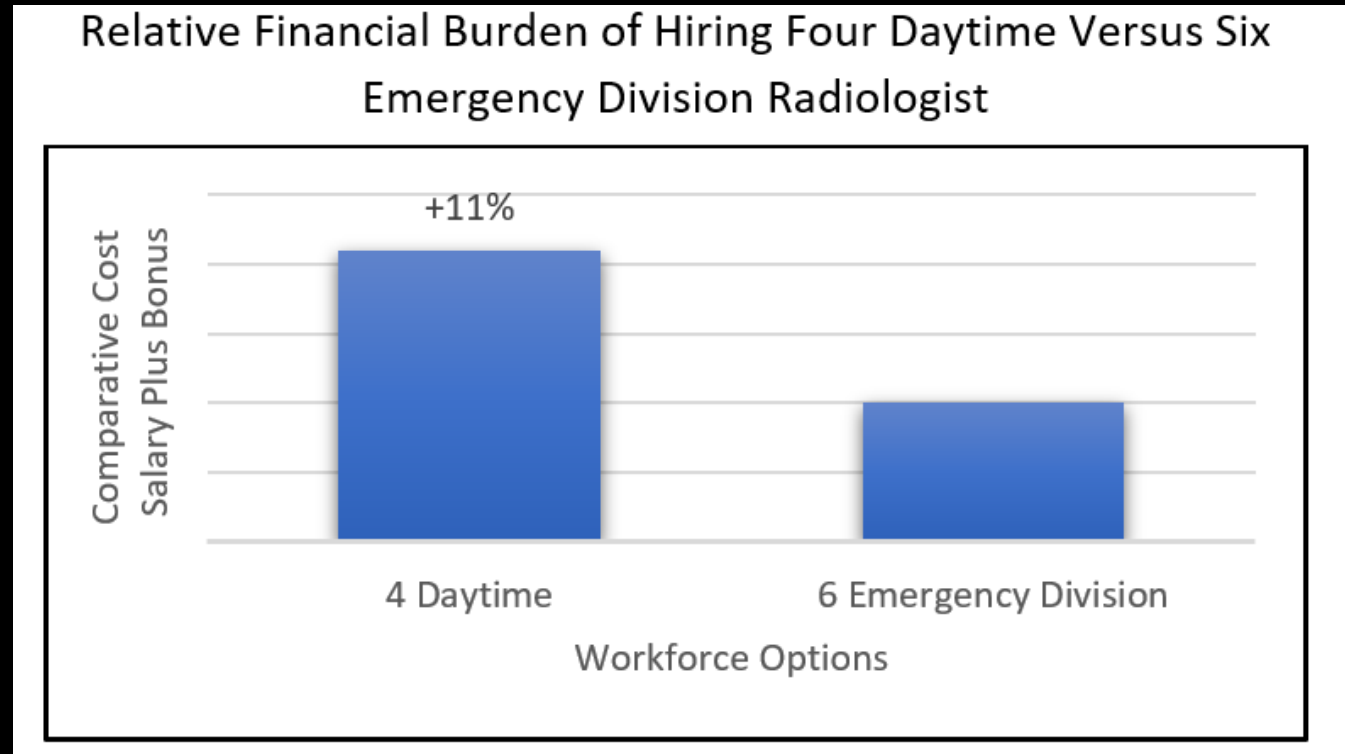


Figure 2. Comparative cost analysis between the newly formed Emergency Radiology Division and the alternative of additional extended daytime staff coverage.

RESULTS

Surveys conducted on radiology trainees and referring Emergency Department providers revealed universal acceptance of the new Emergency Radiology Division as the more desirable option primarily due to greater after-hours coverage, clinical support by staff radiologists, and more rapid TAT of final subspecialty interpretations.

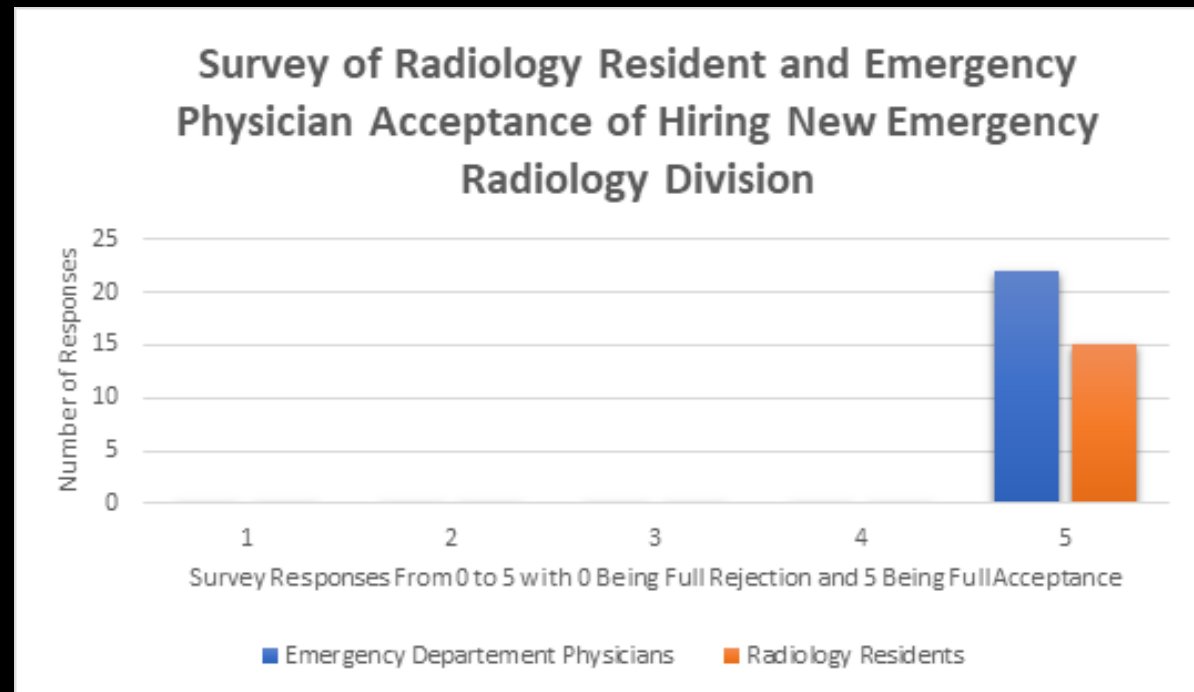


Figure 3. Graphical depiction of Emergency Department provider and Radiology Resident satisfaction/acceptance of the newly formed Emergency Radiology Division.

RESULTS

Mean report TAT for finalized subspecialty interpretations for Emergency Department patients improved from a mean of 2.7 hours for the six months prior to the formation of the new Emergency Radiology Division to 0.83 hours for the six months following, which presumably contributed to an overall improvement in patient care and expedited disposition.

Change in Report TAT Before and After Hiring an Emergency Radiology Division	
	Mean Turnaround Time (TAT)
6 Month Period PRIOR to Emergency Division	2.7 hours
6 Month Period WITH Emergency Division	0.83 hours

Figure 4. Table demonstrating the mean turnaround time for radiology reports before and after the formation of the Emergency Radiology Division.

CONCLUSIONS

An unconventional workforce consisting of mixed onsite and offsite after-hours subspecialized emergency radiologists is a cost-effective alternative to limited evening shift after-hours coverage by daytime radiologists.

- With this approach we have had success with the following:
 - Improved patient care and disposition.
 - Greater resident education and supervision.
 - Increased referring provider satisfaction.
 - Cost savings over hiring a larger conventional daytime workforce.