Twenty-four–Seven In-house Faculty and Resident Education

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An increasing number of departments with radiology residency programs have implemented 24-7 in-house attending coverage. Reported positive effects include decreased report turnaround time (RTAT) and greater referral satisfaction, whereas negative effects include potential decrease in resident education and independence.

Perspective of a Program Director Without 24-7 In-house Faculty

Your department chair wants to implement 24-7 in-house faculty coverage in 6 months. How might resident call be structured to maximize the positive effects on patient care and minimize the negative impact on resident education? How might resident independence be preserved and feedback optimized?

This is the author's manuscript of the article published in final edited form as:

Deitte, L. A., Chen, P.-H., Scanlon, M. H., Heitkamp, D. E., Davis, L. P., Urban, S., ... Slanetz, P. J. (2018). Twenty-four–Seven In-house Faculty and Resident Education. *Journal of the American College of Radiology*, 15(1, Part A), 90–92. <https://doi.org/10.1016/j.jacr.2017.10.011>

What would your residents think about changing to a 24-7 in-house attending system? Are there other options?

Response from University of Pennsylvania former chief resident, Po-Hao Chen, MD, MBA, and program director, Mary H. Scanlon, MD, without 24-7 in-house faculty

At our institution, we faced the exact scenario proposed for this commentary—prepare the program for a potential switch from “independent” night float call to 24-7 in-house faculty within 6 months. We immediately elicited trainee opinions through town hall meetings and anonymous surveys. Our trainees particularly valued the following three aspects of independent call.

Serving as an Independent Practitioner

The scope of the trainee’s independence is a function of both the report’s content and its visibility to referring clinicians. In transitioning to 24-7 in-house coverage, we considered the following to preserve trainee educational experience:

- Position the in-house attending at a different physical location to preserve trainee sense of independence.
- Allow trainees’ reports to be available to clinicians before attending finalization.
- Allow trainees to dictate full reports.

Exposure to High Volume

Our trainees depend on overnight call to hone diagnostic skills in a high-volume setting. Therefore, we asked these issues to be addressed:

- Determine which diagnostic modalities would be primarily covered by in-house faculty and which would remain primarily covered by trainees.

- Create a policy to “push” trainees to keep up with volume by having the in-house attending only start reading independently when a predetermined number of patients had delayed preliminary readings on advanced imaging studies by a preset time.

Obtaining Feedback

We asked to maintain our existing standardized language to denote the level of attending agreement.

Individual and programmatic trends would continue to be tracked.

Engaging trainees early was critical to preserving the educational value of a strong training program.

Although our hospital system ultimately decided against implementing 24-7 in-house faculty after reviewing our resident preliminary versus faculty final report concordance data, it was only when this key trainee experience faced serious dismantling risk that we appreciated its true value.

Response from Indiana University program director, Darel E. Heitkamp, MD, both 24-7 in-house faculty and no in-house faculty call

I would ask my chair to reconsider any plan for 24-7 in-house faculty coverage. The opportunity for residents to function independently is essential to their stepwise transition to autonomous practice. This vital educational experience is too important to sacrifice solely for the sake of improving RTAT during the overnight hours. Moving to 24-7 in-house faculty coverage would damage resident maturation and certainly trigger a larger discussion within our department about mission.

It is possible, however, to implement overnight faculty coverage while still preserving resident autonomy by using the “periodic remote staffing” workflow model. Three conditions are vital to this arrangement. First, the resident remains on-site while the faculty member staffs them remotely from another hospital. Second, residents predictate all studies into “preliminary status,” allowing ordering providers to see their preliminary reports. This ensures that residents perform real-time actionable work and commit to their diagnoses. Third, all studies need to be staffed together by phone approximately every 2 hours. Staffing should not be so frequent that residents have insufficient time to manage the service. Under no

circumstances should radiology faculty take studies from resident dictation queues and sign them without reviewing them together. This practice, shockingly quite common throughout the country, is a direct product of today's RTAT culture and completely undermines resident education.

Periodic remote staffing is a good solution to our hypothetical dilemma because it supports resident independence. Trainees are still allowed to learn from the hustle of overnight solo call: answering phone calls, helping clinical colleagues in the reading room, dictating trauma cases, performing emergent procedures, relaying critical results, and managing patients. Only by remaining independent can residents learn to balance the heavy demands of a busy clinical service, deal with inevitable problems that arise, and fully mature into critically thinking radiologists. Done carefully, this workflow model can provide both improved service for the clinical mission and preservation of resident autonomy for the education mission.

Perspective of a Program Director With 24-7 In-house Faculty

How is balance achieved between the positive effects on patient care and the potential negative impact on resident education with your 24-7 in-house faculty system? How is resident call structured to preserve resident independence and optimize feedback? What do your residents think about the 24-7 in-house faculty system? Are there other options?

Response from Hofstra/Northwell program director, Lawrence P. Davis, MD, 24-7 in-house faculty

Previously, the department relied on residents to independently dictate preliminary reports on overnight cases. The residents did a great job but made occasional errors. Subsequently, we started using a "nighthawk" service for attending preliminary overreads; however, this was not optimal. In 2011, we developed internal overnight emergency radiology coverage with five radiologists on duty each night. I feel this was the correct decision. Patient care must be our number one priority. All overnight cross-sectional studies are preliminarily dictated by the resident, reviewed by the onsite radiologist, and then signed off as the final report. Referring physicians and the administration now expect this. Surgeons feel

more comfortable taking patients to the operating room. The emergency department is grateful because there are no cross-sectional discrepancy reports requiring patient callbacks in the morning. There is another major advantage. In the past, residents were put in an uncomfortable position of trying to convince a referring physician that a requested study was inappropriate. As expected, sometimes the clinician became irate and the residents were put in a no-win situation. With on-site overnight radiologists, these discussions are at an attending-to-attending level. Our residents continue to be taught about appropriateness and how to handle these calls during daytime rotations.

Obviously it was a trade-off because the residents' feeling of independence was diminished. We structured this to minimize impact on education. Residents predictate all cross-sectional studies to overnight attendings, similar to the day workflow. Unfortunately, there is less time for face-to-face feedback compared with the daytime. However, residents are indeed notified of significant discrepancies in person or via e-mail. Residents still independently predictate all plain films, which are not reviewed until the next morning. Additionally, senior residents moonlight in our outpatient centers, providing preliminary dictations on cross-sectional studies, which are reviewed the next morning.

The overall sentiment is that residents feel the advantages of having attendings on-site working side by side with them far outweigh the minor impact on training.

Response from University of Southern California resident, Seth Urban, MD, and program director, M. Victoria Marx, MD, with 24-7 in-house faculty

Our department implemented 24-7 faculty coverage in July 2016. The change was made to enhance the quality and efficiency of care provided to emergency department patients. Previously, the only radiologist on-site overnight was a postgraduate year PGY4 or PGY5 resident. Residents took overnight call on a rotating basis during clinical rotations and were off the next day. Off-site faculty provided backup, but reporting occurred the following day.

With the advent of 24-7 on-site faculty, the residency program decided that emergency radiology (ER) should function as a defined rotation just like other clinical rotations with a focused educational mission. Residents rotate on ER each year with graduated responsibility as they progress through training. PGY2 residents rotate through required core rotations before their first ER experience. Day shifts are covered primarily by PGY2 residents, and evening shifts involve PGY2 and PGY3 residents. PGY4 and PGY5 residents cover most of the overnight shifts.

This block schedule for ER has definite benefits over the prior call system. The residents receive focused, incremental ER experience and responsibility. Additionally, staffing disruptions to other clinical services from post-call days off have ceased; all faculty and residents appreciate this. Finally, the ER rotation is included in the residency program ACGME evaluation processes and committees.

Resident feedback regarding the overnight ER experience has been positive, with consensus that levels of responsibility and supervision are appropriate. Residents predetermine ER studies before faculty review. The high emergency department volume, coupled with ER faculty responsibilities to other sites, necessitates independent decision making by the resident, preserving autonomy. Additionally, residents retain independent duties, such as preliminary interpretation of inpatient studies. This partial separation of duties, in addition to the large volume of emergency department studies, ensures that the ER radiology faculty and residents work in collaboration but with some independence from each other.

In summary, the implementation of a formal ER rotation involving 24-7 coverage by faculty and residents has had a positive effect on patient care and resident education at this medical center.