43 Impact of Novice and Advanced Assistants on Clinical Efficiency of Emergency Physicians

Wei G, Xu HF, Arya R, Ohman-Strickland P, McCoy JV/Rutgers - Robert Wood Johnson Medical School, New Brunswick, NJ

Background: EM physicians operate as a team with assistance from students, physician assistants (PA), residents and other health care providers. A concern is how novice and advanced assistants impact the clinical efficiency of physicians.

Study objective: We hypothesize that advanced assistants will positively impact inefficient physicians more than efficient physicians, while novice assistants will negatively impact inefficient physicians more than efficient physicians.

Methods: This was a retrospective review of EM attending physicians' clinical efficiency with no assistant, a novice assistant (medical/PA students or EM interns), or an advanced assistant (PA or EM residents). The ED electronic medical record was reviewed for a year at an urban level 1 trauma center with a new EM residency. Clinical efficiency was defined as ED length of stay (LOS) for discharged patients. Mixed linear models compared log-transformed LOS between patient visits with and without assistants, on average, and differences in these effects among physicians.

Results: Nineteen physicians covering a total of 44,839 discharged patient visits were included for analysis. With novice assistants, LOS was 60% longer (95% CI: 44%, 77%) compared to no assistant, with similar results for 17 of the 19 physicians, while 2 physicians had essentially no change. LOS with advanced assistants was not different from no change (95% CI: -11%, 8%); however, there was significant variation among physicians. 6 physicians saw significant increases, 4 saw significant decreases, and 10 saw no change in their LOS. The 6 physicians with significant increases also had some of the shortest median LOS with no assistants, while those with decreases were physicians who had the longest median LOS with no assistants.

Conclusion: Novice assistants almost uniformly reduced attending physician efficiency, while advanced assistants decreased the differences between more and less efficient physicians.