JAMA Network Open

Invited Commentary | **Medical Education**

Reimagining Block Scheduling to Address Resident Well-Being

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The current study by Heppe et al[1] examines the impact of the implementation of a novel block schedule at a large, academic, internal medicine residency program. This intervention was designed to change the training framework to promote physician well-being and mitigate burnout. The study included a shift from a predominantly inpatient X+Y 4 + 1 (4 inpatient weeks plus 1 outpatient week) schedule, to a 4 + 4 (4 inpatient weeks plus 4 outpatient weeks) strategy, allowing for inpatient and outpatient rotations to alternate every 4 weeks over 2 years. Measurement consisted of burnout metrics as measured by the Maslach Burnout Inventory, and self-reported professional engagement and development, as well as scores on In-Training Examinations. Results showed that this intervention improved subscores in emotional exhaustion and depersonalization and did not impact personal achievement. In another measure of professional development, the iCOMPARE questionnaire, study participants had statistically significant improvements in 12 of 15 questions or domains. Finally, study participants had similar In-Training Examination scores across the study period, suggesting the change in balance between inpatient and outpatient, as well as other composite changes, did not alter competencies measured by board-style testing.[1]

The increase in implementation of X+Y scheduling models is largely attributed to the 2009 Accreditation Council for Graduate Medical Education recommendation for changes to internal medicine resident scheduling in a manner that would reduce conflicts between inpatient and outpatient care responsibilities.[2] A 2018 review[3] of internal medicine program scheduling models found that approximately 44% of programs had adopted an X+Y schedule. Of those, more than half of the program directors anecdotally noted benefits of this change, including improved ability to focus on the rotation at hand and relief following intensive inpatient rotations, with the inference that these changes improved resident well-being.[3]

There are a variety of models of the X+Y schedule, most commonly 3 + 1, 4 + 1, 4 + 2, or 6 + 2. Although a 2017 meta-analysis[4] found that decreasing work hours is associated with lower rates of emotional exhaustion and burnout, Heppe et al[1] are the first to investigate the effects of transitioning from a 4 + 1 to a novel 4 + 4 schedule and demonstrate a reduction in domains of burnout. This change reduces inpatient time by approximately 40%, and more than doubles outpatient or elective time. Their approach looks at work hours in a more dynamic and nuanced way (ie, manipulation of total hours worked vs hours worked doing certain tasks). It could be argued that these 2 approaches train physicians to have distinct skill sets. Although In-Training Examination scores remained the same, their sample did indicate that residents raised concerns about decreased inpatient care hours.

Physician training that starts in medical school and translates across residency and fellowship is a critical period to support well-being and to prevent burnout. Dyrbye et al[5] have shown that high levels of burnout, specifically depersonalization, fatigue, and poor quality of life, are significantly higher in residency and improve in early career for academic physicians in a large sample population of the Association of American Medical Colleges.

It should be noted that until recently, a training program's duty was considered to be solely the production of physicians able to deliver high-quality patient care. Burgeoning burnout literature over the last few decades has demonstrated growing agreement that there is also a responsibility to attend to the well-being of physicians during this vulnerable window.[6,7]

The Stanford Model of Professional Fulfillment suggests 3 domains that require attention to achieve physician well-being. These include a culture of wellness, efficiency of practice, and personal resilience.[6] There have been few studies that have looked at interventions that address all 3 domains.

Within the realm of well-being research, 2 main categories of burnout reduction strategies have been used: (1) organizationally focused interventions that address schedule, work environment, or other systematic changes; and (2) physician focused interventions that include strategies meant to improve an individual's well-being. Mental health supports, education on coping strategies, sleep health, and mindfulness are some that have been commonly implemented.

Burnout has long been conceptualized as an individual problem, requiring only improved personal resiliency to return to a steady state. However, studies demonstrate that the major determinants of physician well-being are more broadly determined by workplace conditions and systems in place than by individual characteristics.[7] It makes sense, then, that organization-directed interventions may yield greater results, as seen in this study.[1] In a 2017 systematic review and meta-analysis[8] of studies that evaluated burnout interventions, 1723 individual studies on burnout in physicians were identified, but only 19 were able to be included in the meta-analysis owing to a lack of robust data, control groups, and underpowering. What is interesting to note, however, is that although most of the interventions used were physician-directed, it was the organization-directed interventions that were associated with a higher reduction in burnout.[8]

Organization-directed interventions are contingent on leadership buy-in, as was present at this institution,[1] given there may be financial considerations associated with making adjustments that will lead to improved resident well-being. In addition, interventions that receive institutional support may have a greater chance of longevity, as resident-directed interventions may fade with yearly turnover.

Medical education will always require academic rigor in clinical training. However, it remains a question whether our current models, which tend toward higher inpatient demands, are reflective of the needs of training or the vestiges of tradition. This study[1] demonstrates creativity and flexibility to challenge seemingly fixed structures of medical training. Moving forward, it will remain important to root resident well-being efforts in a broader reimagining of our medical systems.

ARTICLE INFORMATION

Published: February 28, 2024. doi:10.1001/jamanetworkopen.2024.0017

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Conflict of Interest Disclosures: None reported.

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