Improving Resident Education and Patient Safety: A Method to Balance Initial Caseloads at Academic Year-End Transfer

Reference:

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Tags

**Clinical domain**
Manager

**Educational domain**
Patient Safety
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Fatigue
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**Psychiatry**
Ambulatory Care
Learning Science

Background

With a greater emphasis on ambulatory clinic experiences for clinical training and greater attention to patient safety in medicine, the issue of unbalanced workloads in resident clinic practices has appeared. The authors connect clinic patient scheduling with care transitions, resident learning, mental workload, human factors, patient safety, and resident satisfaction.

Purpose

This study compared a novel method of educational clinic organization that redistributes patients to residents based on a more sophisticated workload model to the traditional head count method.
Type of paper

• Research: Observational

Key Points on the Methods

The authors used validated models of mental workload (derived from a NASA taskload index) applied to medicine to define the workloads of patients seen in a Psychiatry medication clinic by residents. They compared a novel method to allocate patients to residents to a traditional method that would simply ensure all residents had the same number of patients. The novel caseload method operationalized and took into account “acuity, complexity, time demands outside regular clinic, number of patients, treatment refractoriness, and amount of interprofessional collaboration required.” The primary outcome measure was the amount of variability between resident caseloads on the index, as captured by a coefficient of variation (CoV). Four academic years worth of data was included.

Key Outcomes

The authors found that there was much greater inter-resident caseload variability in the traditional method (e.g. acuity 0-44% vs. 22-33%). CoV was 50-61% less with the new method.

Key Conclusions

*The authors conclude*...that the new method is superior because it decreased inter-resident variation in important ways.

This paper is novel for its clever application of a mental workload model to the organization of a clinic practice caseload for resident education.

However, as in the development of any novel model, this paper makes a number of assumptions and compromises (e.g. important patient characteristics were ejected from the model due to lack of consistent data) that limit its generalizability.

There are also two other important criticisms of this paper in the form of potential workup bias and the outcomes chosen. Since the model, by definition, defined that a heavy workload included certain factors, and they study then looked to see if using the model was better for having a patient population with those factors, it risks creating a kind of verification bias effect. (Of course the model should be better at organizing patients on the elements used to define the model.) This is related to the outcomes used, which was a process measure more than a high-impact outcome. The authors pitch to the reader that caseload affects resident satisfaction, burnout, error, patient safety, etc, but never report on these higher-order outcomes. The “so what?” question is answered by references to other literature.
Overall, clinician-educators should note this clever and novel publication as a good example of cross-disciplinary research that apples concepts from a broad range of fields to front-line medical education. Those interested in optimizing ambulatory clinic experiences, in considering human factors or patient safety in curriculum design should give this a read.