The effects of a surrogate provider system for asynchronous computerized notifications of test results in a primary care resident clinic

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**METHODS**

A covering or surrogate resident from within the same residency program on elective rotation was assigned to cover the view alerts of the patients paneled to another resident on rotation in the inpatient setting (i.e., working on the medical wards or intensive care unit). This surrogate resident was familiar and had their own panel of patients at the same VA clinic location. All residents received an email detailing the expectations of the surrogacy and surrogate residents is little to no incentive to respond to an alert. While there is a great amount of pressure to clear the number of alerts quantitively, there is little to no incentive to respond to an alert appropriately. Covering for another resident involves having more view alerts than before and without proper education, residents are unequipped to combat “alert fatigue.”

**PROBLEM & BACKGROUND**

Termed “view alerts,” computerized notifications are the primary way information such as test results or nursing concerns are conveyed to the provider asynchronously (Fig. 1). Within the Veteran Affairs (VA) system, 37% of primary care providers report at least one patient missed result test within the previous two weeks leading to a diagnostic delay. One study showed that VA providers received 58 “view alerts” per day with providers spending an average of 69 minutes processing these view alerts with an estimated 7% of abnormal laboratory and imaging being missed. In a study of 1196 critical imaging results sent through computerized notifications, 92 results (7.7%) had no follow-up at 4 weeks after transmission even after being sent to 2 providers. While a surrogate resident did shorten the time to response of alerts by a significant number of days, the percentage of actionable alerts that had no evidence of timely follow-up (Fig. 5). While the surrogate resident program was in place) with had no evidence of timely follow-up (Fig. 5).

**RESULTS**

A total of 12,225 view alerts were reviewed but only 10.3% were found to be actionable. These actionable alerts were further categorized into Lab Results, Imaging Results, and Nursing Notes (Fig. 2). We found that a surrogate provider shortened the time to response of a view alert by more than 50% from a resident or intern physician and increasing the percentage of view alerts that were first addressed by a resident (Fig. 3 and 4). The surrogate provider also decreased the percentage of alerts by two-thirds that the attending physician responded to first. However, this did not necessarily lead to appropriate management as a large amount of actionable view alerts (almost doubled in amount while the surrogate resident program was in place) with had no evidence of timely follow-up (Fig. 5).

**DISCUSSION & NEXT STEPS**

While a surrogate resident did shorten the time to response of alerts by a significant number of days, the percentage of actionable alerts that had no action taken by the resident almost doubled with the use of a surrogate resident. We theorize some reasons for this discrepancy: Due to the pressure to process alerts quickly residents may “sign off” on the alert assuming that another provider will “take care of it” without taking the necessary action. While there is a great amount of pressure to clear the number of alerts quantitively, there is little to no incentive to respond to an alert appropriately. Covering for another resident involves having more view alerts than before and without proper education, residents are unprepared to combat “alert fatigue.” We envision that the next steps in implementing this vital skill for residents in their future practice might include dedicated time for view alert processing and attending supervision on the appropriateness of processing. This will likely add education on triaging and managing view alert asynchronously as residents have experience managing results synchronously with the patient available. Such a system can also increase resident engagement and comfort with managing asynchronous view alerts, which will become a large component of their post-training work life.

**REFERENCES**