



# Relationship Between Clerical Burden and Characteristics of the Electronic Environment With Physician Burnout and Professional Satisfaction

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## Abstract

**Objective:** To evaluate associations between the electronic environment, clerical burden, and burnout in US physicians.

**Participants and Methods:** Physicians across all specialties in the United States were surveyed between August and October 2014. Physicians provided information regarding use of electronic health records (EHRs), computerized physician order entry (CPOE), and electronic patient portals. Burnout was measured using validated metrics.

**Results:** Of 6375 responding physicians in active practice, 5389 (84.5%) reported that they used EHRs. Of 5892 physicians who indicated that CPOE was relevant to their specialty, 4858 (82.5%) reported using CPOE. Physicians who used EHRs and CPOE had lower satisfaction with the amount of time spent on clerical tasks and higher rates of burnout on univariate analysis. On multivariable analysis, physicians who used EHRs (odds ratio [OR]=0.67; 95% CI, 0.57-0.79;  $P<.001$ ) or CPOE (OR=0.72; 95% CI, 0.62-0.84;  $P<.001$ ) were less likely to be satisfied with the amount of time spent on clerical tasks after adjusting for age, sex, specialty, practice setting, and hours worked per week. Use of CPOE was also associated with a higher risk of burnout after adjusting for these same factors (OR=1.29; 95% CI, 1.12-1.48;  $P<.001$ ). Use of EHRs was not associated with burnout in adjusted models controlling for CPOE and other factors.

**Conclusion:** In this large national study, physicians' satisfaction with their EHRs and CPOE was generally low. Physicians who used EHRs and CPOE were less satisfied with the amount of time spent on clerical tasks and were at higher risk for professional burnout.

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These are challenging times for American physicians. The medical field is facing unprecedented changes; declining reimbursements, increased productivity expectations, consolidation of medical practices, and increased price competition have intensified the economic pressures on physicians and health care leaders. New legislation and associated regulations have resulted in pay-for-performance measures (eg, Meaningful Use and the Physician Quality Reporting System), development of new care delivery models that may not necessarily be patient focused, and greater consumerism in patient health care decision making. They have also added several new tasks to each patient encounter (eg, medication/device reconciliation)

and created new approaches for traditional tasks (eg, e-prescribing).<sup>1-3</sup> Studies suggest that more than half of US physicians are now experiencing professional burnout and that burnout is dramatically more common in physicians than in US workers in other fields.<sup>4,5</sup>

The reasons for the increased rate of physician burnout are complex and include individual and organizational factors. Many physicians have speculated that the more widespread penetration of electronic health records (EHRs), electronic prescribing, electronic patient portals, and computerized physician order entry (CPOE) may lead to information overload, frequent interruptions/distractions, and a change in the content of professional work.<sup>6-9</sup> Although it is hoped that these technological advances may