



Effect of the Work Environment on Physician Self-Prediction of Future Error

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BACKGROUND

- Medical errors are a leading cause of death in North America, with at least 44,000 deaths occurring annually.
- To date, most research has focused on medication errors in hospitals; thus causes of error in primary care are not well understood.
- Most research on medical errors has focused on the risk of experiencing an adverse event due to medical errors
- We may be vastly underestimating the incidence of medical errors in clinical practice due to the focus on adverse events rather than focusing specifically on medical errors.
- The purpose of this study was to examine the impact of ambulatory care workplace factors on physician self-prediction of future errors.

Figure 1. Types of Future Errors Predicted by Physicians.

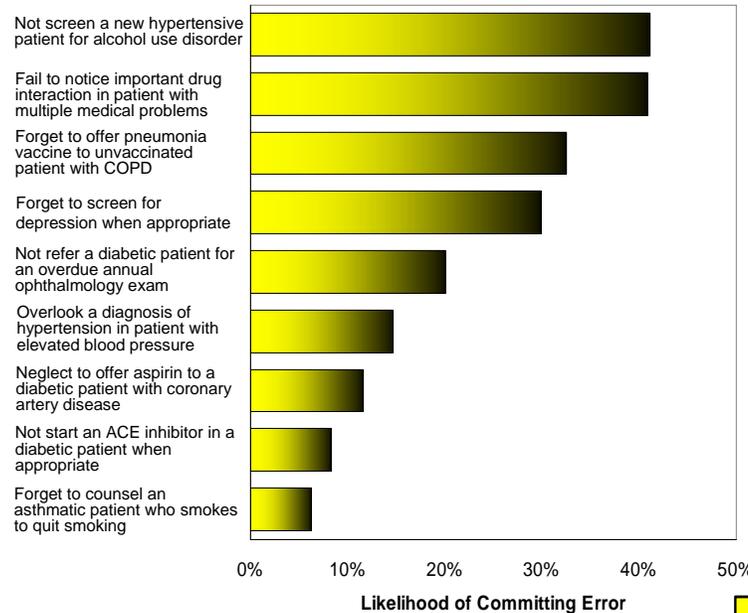


Figure 2. Likelihood of Committing any Type of Error in the Next Month.

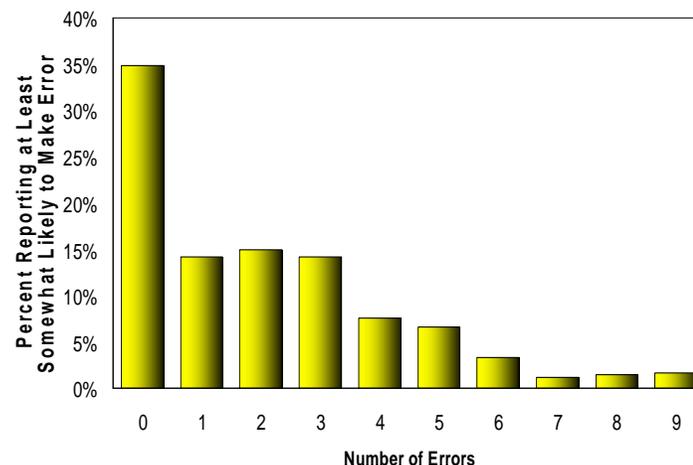


Table 1. Significant Predictors of Error and Results of Poisson Regression Analysis.

Characteristics	Percent Likely to Commit at Least One Future Error	Crude RR of Future Medical Error (95% CI)	Adjusted RR of Future Medical Error** (95% CI)
Physician Race/Ethnicity			
Non-Hispanic White	67.5	1.0	1.0
Non-Hispanic Black	61.5	0.84 (0.62, 1.13)	0.69 (0.50, 0.96)
Other*	57.5	0.78 (0.65, 0.94)	0.72 (0.59, 0.88)
Professionalism Among Clinicians and Staff			
Emphasized in clinic	62.3	1.0	1.0
Not emphasized in clinic	79.7	1.41 (1.20, 1.67)	1.22 (1.02, 1.47)
Training for Dealing with Quality of Care Issues			
Provided to physicians	56.4	1.0	1.0
Not provided to physicians	72.9	1.64 (1.43, 1.89)	1.43 (1.22, 1.67)

*Other includes American Indian or Alaska native, Native Hawaiian or Pacific Islander, Asian, and Hispanic.
 **Model is adjusted for age, gender, income, race/ethnicity, marital status, overall health of physician, burnout, overall control of clinic, chaos, professionalism in clinic, physician/staff communication, quality of care monitoring, job stress, and internal reporting of errors in clinic.

METHODS

The MEMO Study

- The Minimizing Error, Maximizing Outcome (MEMO) Study surveyed 422 family physicians and general internists from 97 clinics in five regions (New York City, Chicago, Milwaukee, Madison, and rural/small town Wisconsin).
- The self-administered, 15-minute survey queried workplace culture, work structure, and personal stress, satisfaction, and burnout.
- A new 9-item Occupational Stress and Preventable Error (OSPRE) measure asked physicians to predict how likely they were to make errors in the management of common chronic medical conditions over the next month (scale of "1=very unlikely" to "6=very likely"). A response of 4 (somewhat likely) or greater was used as a definition of an error.

Data Analysis

Multivariate Poisson regression analysis was used to examine the association between organizational characteristics and error. SAS v. 8.2 was used for data analysis.

RESULTS

- Not screening a new hypertensive patient for alcohol use disorder was reported to be the most likely form of error to be committed within a month.
- Most physicians (65.2%) reported that they would make at least one medical error in the coming month.
- Not emphasizing professionalism among clinicians and staff was associated with a 22% higher risk of a future error.
- Not providing training to physicians for dealing with quality of care issues was associated with a 43% higher risk of a future error.

- CONCLUSIONS -

In primary care, remediable factors may affect the perceived likelihood of future medical error. Ensuring that a professional atmosphere exists in the clinic and providing training for dealing with quality of care issues may decrease the incidence of medical errors in primary care clinics.

Acknowledgements

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