

Poisoning Hospitalization Correlates with Poison Center Call Frequency

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ABSTRACT

Introduction: Poison Control Centers (PCCs) have been shown to reduce health expenditures by reducing emergency department and clinic visits. The effect or association of PCC call frequency on acute hospitalization rates for poisonings has not been studied extensively.

Methods: All nonfederal hospital discharges for acute poisoning principal diagnosis codes (960–979, 980–989, 9956X, 3030, and 005) in California between October 1999 and June 2002 were examined. Approximately 3.3% of the discharges had county/hospital information suppressed in the public-use database because of confidentiality criteria and were excluded from the analysis. U.S. Census Bureau population estimates for appropriate years by counties were also obtained. The 58 California counties were condensed to 48 counties and 3 “small-county” geographic groupings. Exposure calls by counties/groupings to the California Poison Control System (CPCS) for the same period were tabulated.

Results: In California, rates of hospital discharges for poisoning averaged 0.54/1000 person years with a range of 0.25/1000 person years (Central Counties) to 1.53/1000 person years (Del Norte County). Poison call rates averaged 8.5/1000 person years with a range of 4.9/1000 person years (Los Angeles County) to 19.6/1000 person years (Napa County). Poisoning discharges per 1000 person years positively correlated with PCC calls per 1000 person years (Spearman correlation 0.41, $p = 0.0003$). The average hospital length of stay (LOS) did not correlate with PCC call frequency or poisoning discharges per 1000 person years.

Conclusion: The CPCS call frequency or county penetrance was not correlated with a reduction in the number of hospitalizations for poisoning nor was it associated with reduced average LOS in this study. Further study is needed to understand the etiology of the large differences in county rates of poisoning hospitalization and average LOS.

INTRODUCTION

Poisoning represents a significant health-care burden on the United States, with 28,700 poisoning deaths in 2003, of which 19.3% were intentional and 80.7% were unintentional and undetermined

exposures. Intentional poisonings led to 279,802 emergency department (ED) visits; of these, 203,849 (72.8%) were hospitalized in 2004 [1]. Unintentional poisonings in the U.S. during this same time resulted in 577,886 ED visits with 25% of these visits leading to a hospitalization or transfer to another facility [1]. In

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