Predicting Patient Patterns in Veterans Administration Emergency Departments

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Predicting Patient Patterns in Veterans Administration Emergency Departments

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INTRODUCTION

Over the past two decades, the role of the emergency department (ED) has evolved from its intended function of providing acute emergent care to become the “safety net” of the healthcare system, providing both urgent and non-urgent care to millions of patients who have no alternative. From 1995 to 2005, annual ED visits in the United States increased by 20%, from 96.5 million to 115.3 million per year, and the number continues to rise. Despite the increased consumption of emergency services, EDs nationwide are struggling to keep their doors open. Saddled with heavy operating costs and growing rates of non-reimbursed care, the number of EDs has decreased by nearly 10% over the last five years. Moreover, the number of hospitals and hospital beds has also dropped, creating a dangerous bottleneck for sick patients waiting to be admitted to the hospital.

Veteran’s Affairs (VA) hospitals represent a unique patient population within the healthcare system; for example, they have few female and pediatric patients, typically do not see many trauma cases and often do not accept ambulance runs. As such, veteran-specific studies are required to understand the particular needs and stumbling blocks of VA emergency department (ED) care. The purpose of this paper is to analyze the demographics of patients served at VA EDs and compare them to the national ED population at large. Our analysis reveals that the VA population exhibits a similar set of common chief complaints to the national ED population (and in similar proportions) and yet differs from the general population in many ways. For example, the VA treats an older, predominantly male population, and encounters a much lower incidence of trauma. Perhaps most significantly, the incidence of psychiatric disease at the VA is more than double that of the general population (10% vs. 4%) and accounts for a significant proportion of admissions (23%). Furthermore, the overall admission percentage at the VA hospital is nearly three times that of the ED population at large (36% versus 13%). This paper provides valuable insight into the make-up of a veteran’s population and can guide staffing and resource allocation accordingly. [West J Emerg Med. 2011;12(2):204-207.]
Table 1. Top 10 diagnoses at presentation and admission in the veteran's affairs emergency department.

<table>
<thead>
<tr>
<th>Presenting complaint</th>
<th>Primary admission diagnosis</th>
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<tbody>
<tr>
<td>1 Psychiatric (inc. substance abuse)</td>
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<tr>
<td>2 Heart disease (excl. ischemia)</td>
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<tr>
<td>3 Respiratory (URI, asthma, COPD)</td>
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<td>4 Chest pain</td>
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<td>5 Trauma</td>
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<td>6 Cellulitis/abscess</td>
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<td>7 Spinal disorders</td>
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<td>8 Abdominal pain</td>
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<td>9 Musculoskeletal</td>
<td></td>
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<tr>
<td>10 Shortness of breath</td>
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</table>

URI, upper respiratory infection; COPD, chronic obstructive pulmonary disease

telemetry and intensive care. Twenty-three percent were admitted to the psychiatric unit. The average length of stay in the ED for admitted patients (from time of triage to admission to the inpatient ward) was three hours and six minutes. Length of stay in the national survey was three hours and 18 minutes; this difference was not statistically significant.

The most common presenting complaints at the VA were psychiatric in nature (including substance abuse), accounting for over 10% of all visits. This was followed by non-ischemic heart disease, respiratory complaints, chest pain and trauma. The most common diagnoses leading to admission were psychiatric, followed by non-ischemic heart disease. Chest pain, respiratory complaints and abdominal pain complete the top five diagnoses leading to admission. A list of the top 10 presenting and admitting diagnoses is provided in Table 1. The majority of visits were of a moderate severity (45%), followed by high and low severity. Problems categorized as “highest severity” accounted for only a small percentage of visits (2%).

Table 2 provides a comparison of primary diagnosis, problem severity, admissions and length of stay in the VA and national ED populations.

DISCUSSION

The data in this survey provide information about the veteran population that may be used to better anticipate and guide staffing needs in VA EDs and communities where veterans reside. The overall admission rate for the VA ED was 36% significantly higher than that of the ED population nationally (13%). This percentage is partially explained by the large proportion of psychiatric illness, which surpassed all other diagnoses, including cardiac disease, and led to nearly one-fourth of all admissions. Such a high incidence of
Beyond psychiatric disease, the top diagnoses in the VA appear in similar proportions to the general ED population, with a few notable exceptions. First, non-ischemic cardiac disease is seen in a significantly higher percentage at the VA. This may be attributable to the older age of the VA population. Second, the incidence of trauma was significantly lower at the VA – as this institution is not a trauma referral center, a lower percentage is not surprising. Finally, musculoskeletal complaints were also significantly lower at the VA. This may be associated with the scarcity of minor trauma in the older VA population.

**LIMITATIONS**

This study has a number of limitations. First, the study was retrospective in nature and relied heavily on subjective diagnostic coding for analysis. Government-funded VA hospitals place less emphasis on insurance providers and billing than non-government centers. Accordingly, the CPT coding may not be reliable.

The study was conducted at a single urban veteran’s hospital, which may not be “typical.” As such, the data may not be generalizable to the VA population as a whole. During the study, morning shifts (1 AM - 9 AM) were staffed almost exclusively by internists and an assortment of residents, while other hours of the day were staffed by a combination of internists, emergency physicians and residents. Data regarding specific staffing are not available, and the impact this has on admissions is unknown. Finally, though comparison data from the CDC NHAMC Survey was generally analogous to our data, certain information was not equivalent. For example, admission level (general, ICU, etc.) was not broken down into the same categories as our data and thus required some extrapolation.

**CONCLUSION**

This paper yields practical data that characterizes the VA ED patient population and aids practitioners in determining the unique needs of this demographic. There are limited data pertaining specifically to the VA population and this study will allow a re-evaluation of resource allocation within the VA ED to ensure satisfactory staffing and ancillary services are available. With ongoing wars in Iraq and Afghanistan, increasing numbers of women serving in the armed forces, and an aging veteran population, the VA ED remains a dynamic place. As such, this paper not only provides insight into current ED trends, but can act as a baseline for future research.

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all authors are required to disclose all affiliations, funding sources, and financial or management relationships that could be perceived as potential sources of bias. The authors disclosed none.

REFERENCES: