
Physician Staffing and Patient Violence

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We found an inverse relation between physical aggression by patients and physician staffing—when more physicians were available, physical aggression decreased. Episodes of nonphysical aggression increased with higher levels of psychiatrist staffing, but were not related to general physician staffing.

There is considerable interest in identifying factors related to violent behavior by psychiatric inpatients. A number of studies have been performed identifying variables related to patient violence. These include admission BPRS schizophrenic symptoms, act leading to admission, military experience, neuroleptic serum levels, childhood discipline,¹ primary diagnosis,² age, duration of hospitalization, and presence of a seizure disorder.³ As inpatient violence has a significant effect both on staff and treatment milieu,⁴⁻⁶ it is important to identify as many factors as possible that can be used to reduce the level of violence.

A factor potentially related to inpatient violence is the level of staffing. No pre-

vious study has examined this question. To examine the relationship of staffing to violence by patients, one must have a series of observations of both types of variables over a period of time in a treatment setting, thereby permitting a correlational analysis. The goal of this article is to present such an analysis based upon an extensive database available at a major forensic mental hospital in California.

Methods

The Setting Atascadero State Hospital is a 973-bed maximum security forensic hospital located in central California. All of its patients were men; 99 percent of the patients were committed under a provision of the state penal code. The majority of patients were diagnosed with schizophrenia, most commonly paranoid schizophrenia. The average length of stay was 15.5 months. Of the patients, 53 percent were white, 30 percent black, and 12 percent Hispanic. The mean age of the patients was 35.3 years and the mean years of reported

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education was 10.7.⁷ Other characteristics of the hospital are described elsewhere.⁶

Measures of Staffing In the period under study, the hospital was organized into wards of 19–46 patients, each generally with a full-time psychiatrist assigned. The psychiatrist is primarily responsible for the care of each patient assigned to the ward, generally focusing on psychiatric care; nonpsychiatric medical issues are generally referred to members of the Department of Medicine. In the period under study, the number of psychiatrists varied from 20 to 31 and the number of patients per psychiatrist varied from 29.59 to 43.85.

A Department of Medicine, including general physicians, internists, and a neurologist, provided general medical care to the patients in the hospital. These services were provided through an inpatient medical-surgical ward, medical clinics, and through daily visits by a member of the Department of Medicine to each treatment ward. In the period under study, the number of general physicians varied from 5 to 8.5 and the number of patients per general physicians varied from 105.77 to 190.88.

Measures of Incidents The Atascadero Monthly Massed Special Incident Data Base includes monthly data on special incident reports (category, time, location), physician staffing, patient census, and weather data from January 1985 to the present. The data file for the first 56 months of this data base, through August 1989 (the period under study), includes 13,209 special incident reports of all types (including 7,389 incidents of patient aggression) and 1,578,391 pa-

tient-days (4,321.4 patient-years). Incidents of patient aggression include physical aggression against both patients and staff ($N = 3,755$) and other episodes of dangerous behavior that include verbal aggression ($N = 914$) and interventions to prevent attack, such as seclusion and restraint ($N = 2,720$).

Results

Product-moment correlations were calculated between measures of physical aggression and other incidents and number of patients per psychiatrist and number of patients per general physician.

Physical Aggression The rate of physical aggression was correlated positively with both the number of patients per general physician ($r = .38$, $df = 54$, $p < .005$) and the number of patients per psychiatrist ($r = .35$, $df = 54$, $p < .01$). This means that physical aggression increases as the number of patients per physician increases: the higher the physician staffing—both general physician and psychiatrist—the less physical aggression. The number of patients per general physician and the number of patients per psychiatrist were also positively correlated with one another ($r = .45$, $df = 54$, $p < .001$), suggesting that a common factor may underlie both of these relationships. The correlation between physical aggression and the number of patients per general physician was somewhat smaller when the number of patients per psychiatrist was partialled from each of these variables ($r = .26$, $df = 52$, $p < .06$). Similarly, the partial correlation between physical aggression and the number of patients per psychiatrist, controlling for the number of pa-

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tients per general physician, was also reduced ($r = .22$, $df = 52$, ns).

Other Episodes The rate of other episodes was negatively correlated with the number of patients per psychiatrist ($r = -.32$, $df = 54$, $p < .02$). However, the number of patients per general physician was not significantly correlated with these episodes ($r = -.17$, $df = 54$, ns). This means that such episodes were significantly correlated with psychiatrist—but not general physician—staffing.

Discussion

It is intuitively obvious that increased levels of physician staffing should result in observable improvements in patient care. These improvements should lead to decreases in patient violence. However, data for this have been lacking.

Our data indicate that the relationship between levels of physician staffing and patient violence is somewhat complex. In this sample, the relationship between physical aggression by patients and levels of general physician staffing was approximately the same as the relationship between physical aggression and levels of psychiatrist staffing. The overlap between the two types of staffing suggests that a common mechanism may partially account for the relationship of physician staffing to patient violence.

Our data are consistent with the clinical observation that the attention given to patients' physical complaints by general physicians may be related to physical aggression. This is understandable, as, first, physical illnesses may be related to patient agitation and violence, and, second, appropriate attention to patient complaints, such as medical complaints,

may serve to reduce frustration and resulting violent behavior by psychiatric inpatients.

We also found that there was a significant negative correlation between the rate of nonphysical aggression and the number of patients per psychiatrist, but not between the rate of nonphysical aggression and the number of patients per general physician. As the level of psychiatrist staffing improves, nonphysical aggression increases as physical aggression decreases. This suggests that as more psychiatrists are available, it is more likely that patient aggression is identified and responded to earlier in the cycle of patient aggressiveness. A given episode of agitated behavior is therefore less likely to include physical aggression and more likely to be counted as an incident of nonphysical aggression.

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