Differential Use of Admission Status in a Psychiatric Emergency Room

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The goal of this study is to understand how different admission statuses of varying degrees of restrictiveness (informal, voluntary, emergency admission, and involuntary admission on medical certification) are used in the psychiatric emergency room. The study included 656 consecutively admitted patients from a psychiatric emergency room over 28 months. Data were analyzed univariately and using two discriminant function models. Only six (0.9%) patients were informal admissions. Voluntary admissions (24.9%, n = 163) tended to be for patients with affective disorders, those who were self-referred, suicidal risks, those who had a marital or family problem, and those who were over age 60. Nonvoluntary admissions (74.2%) tended to be for patients with schizophreniform symptoms and those referred by police or court. Involuntary admission on medical certification (53.2%, n = 349) tended to be for patients who were family referred, younger than 20 years old, had social interpersonal nonfamily stressors, were suicidal risks, were or had been married, had organic psychotic disorder, history of violence, and manic episode or schizophrenia. Emergency admission patients (21%, n = 138) were characterized by being between 40 to 50 years old, having a diagnosis of psychoactive substance abuse, having previous outpatient treatment, and having been referred by emergency service. The major difference between involuntary admissions and voluntary was that the former were more often actively psychotic or referred by police or court. The major difference between emergency admission and involuntary admission on medical certification seemed to be that patients with a more available support system, whose primary diagnoses was not substance abuse and who were suicidal, were preferred for involuntary admission on medical certification.

One of psychiatry's most controversial roles is that of suspending the civil liberties of patients by forcibly admitting them to a psychiatric hospital. The commitment statutes have wavered between stressing the civil liberties of patients to being overly protective of them.[1] Appelbaum[1] has commented that possibly more relevant than the statutes and changes in the statutes that regulate the practices of civil commitment is the behavior of the participants in the system. Laws can and

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do change, yet changes in practice are often slow or nonexistent. One of the key places to study commitment practices is the psychiatric emergency room. The current study attempts to understand how different admission and commitment statuses are applied in the psychiatric emergency room.

Studies are divided on the question of how closely legal standards prevail in the decision to involuntarily admit a patient to a psychiatric hospital. Some studies have suggested that psychiatrists do not necessarily adhere to legal standards.[2–12] Studies have identified many variables that have no relationship to legal standards, yet appear to influence the commitment decision. Variables such as age, sex, race, economic resources, marital status, previous treatment, attitude, and education were as strongly related to admission status as were legal criteria such as dangerousness and suicidal risk.[13–15] These studies give partial support to what Warren[16] has described as a "common sense model" that guides commitment hearings. Using this approach, patients who were obviously disturbed and in need of care were committed even if they did not meet formal legal criteria.

Another group of studies suggests that legal standards are more closely adhered to.[15, 17–21] In two studies in which clinicians rated the relevance for commitment of legal, social, and interpersonal variables, they found that relevant legal criteria carried the most weight in predicting commitment recommendations.[15, 18] A study that compared the role of dangerousness and other psychiatric symptoms on the commitment decision found that dangerousness was the best predictor.[19]

Bagby *et al.*,[20] using hypothetical case vignettes, found that the 495 psychiatrists in Ontario, Canada included in their study relied primarily on legally mandated criteria. However, they found that 25.9 percent of the people described in the vignettes, who clearly met the criteria for commitment, were not recommended for commitment, while 19.9 percent of those who did not meet the legal criteria were recommended for commitment. The psychiatrists in that study were prone to commit individuals who were dangerous to themselves irrespective of the presence of psychotic symptoms. Yet patients dangerous to others were committed only in the presence of psychotic symptoms.

Another finding of Bagby *et al.*[20] that is particularly salient for the current study is that there was apparently almost no difference between the standards clinicians used for their brief detention of 72 hours for assessment (Application for Psychiatric Assessment) and their more restrictive Certificate of Involuntary Hospitalization, which requires the signature of an additional physician and is good for 14 days. They found that 93 percent of the people hospitalizable for psychiatric assessment were also hospitalizable on certificate and that 93 percent of the individuals found not hospitalizable on application were also not hospitalizable on certificate.

Previous studies in this area have focused on understanding which criteria are used to admit patients involuntarily or to commit them. With the exception of *Bagby et al.*[20] studies, for the most part,

have not attempted to understand the differential use of the types of involuntary admissions. Furthermore, studies have focused on understanding who was admitted involuntarily and have not compared patients admitted informally or voluntarily with those admitted involuntarily.

Similar to many states, in New York State, where this study took place, the Mental Hygiene Law* defines four categories of admissions to psychiatric hospitals that differ on the extent to which they are restrictive of a person's civil liberties. The four categories are: Informal, Voluntary, Emergency Admissions, and Involuntary Admission on Medical Certification. Informal admissions (Section 9.15 of the law), allow the admission of persons in need of care who request to be admitted, without their having to make formal written application. These patients are free to leave the hospital at any time.

Voluntary admissions (Section 9.13 of the law) require the patient's written application. Voluntary patients are to be released promptly after giving written notice to the hospital that they wish to be released. According to the law, if there are "reasonable grounds" to believe that the "patient may be in need of involuntary care and treatment, the director may retain the patient for a period not to exceed seventy-two hours from receipt of such notice." During this time the patient is released, or the hospital must make application to the Supreme Court for an order "authorizing involuntary retention of such patient."

A patient can be admitted involuntarily as an Emergency Admission (Section 9.39 of the law) for immediate observation, care, and treatment or as an Involuntary Admission on Medical Certification, also known as 2PC (Section 9.27). The Emergency Admission form, issued by the State of New York Office of Mental Health, requires that a physician who has examined the patient certify that the (1) "patient has a mental illness for which immediate observation, care, and treatment in a hospital is appropriate," (2) "and which is likely to result in serious harm to him/herself or others;" (3) "and that the hospitalization can reasonably be expected to improve the patient's condition or at least prevent the patient's deterioration." The law defines *serious* as "substantial risk of physical harm to him/herself as manifested by threats of or attempts at suicide or serious bodily harm or other conduct demonstrating that s/he is dangerous to him/herself, or a substantial risk of physical harm to other persons as manifested by homicidal or other violent behavior by which others are placed in reasonable fear of serious physical harm." Emergency admission patients can be retained for up to 48 hours. After that time they can be held for 15 more days after examination by a second physician, who is "a member of the psychiatric staff of the hospital" and who confirms in writing the admitting physicians findings.

Admission on Medical Certification, 2PC (Section 9.27 of the law), allows admitting a patient involuntarily for up to 60 days based on medical certification by two examining physicians accompanied by an application by a family member, a

*NY Mental Hygiene Law (McKinney 1994).

person residing with the patient, officers of various social, health, and mental health agencies, or a licensed psychiatrist. Patients can be held longer than 60 days on the basis of a court order. The first section of the certification for this is almost the same as for emergency admissions, with the exception of the absence of the word "observation." The third section is identical. The second section for 2PC also sets a standard for harmfulness. Here the standard appears to be broader than for emergency admissions. The 2PC standard is: "that as a result of this mental illness, the patient poses a substantial threat of harm to him/herself or others ('substantial threat of harm to him/herself' shall include the inability to safely survive in the community)."

A major difference between 2PC and emergency admission is that 2PC, while it is more difficult to implement as it requires two physicians' signatures and the application of an interested party, once implemented is more restrictive of a persons' civil liberties. 2PC admissions are for 60 days; emergency admissions are for 48 hours and, with a second physician's certification, for 15 days. On the other hand, the criteria for 2PC seem to be broader, since they have a broader definition of harm that includes persons unable "to safely survive in the community."

In view of the importance of the clinician's role in influencing how commitment laws are actually applied, the objective of the current study is to understand how the different admission and commitment statuses are applied in practice. We were particularly interested in patient variables suggesting dangerousness to self and others—for example a presenting problem of violence or suicide—because of their importance in the law as criteria for involuntary admission. Because of the lack of consistent findings in previous studies, we were not able to make specific hypotheses. We attempted to identify key clinical and demographic variables that discriminate between patients committed voluntarily and those committed involuntarily, and to identify variables that discriminate between patients committed involuntarily under the less restrictive Emergency Admission status and those committed under the more restrictive 2PC status. To best capture practice we used a retrospective design.

Method

Study Population We studied the 656 admitted patients out of 2,073 consecutive visits over 28 months by 1,604 patients to the psychiatric emergency room of North Central Bronx Hospital, a New York City public hospital emergency room. Fifty-three percent of the patients were male. The average patient was 36 years old, and the largest ethnic group was Spanish. Almost 60 percent had no special legal status when coming to the emergency room. Almost one-half of the visitors were referred by themselves, approximately another one-quarter by the police or emergency services personnel, and another 10 percent by family members. Table 1 presents clinical and other demographic characteristics of the patients. Elsewhere we have presented a detailed description of the study population[22] and an analysis of how admission

Table 1
Differences in Admission Type by Patient Characteristics (N = 650)

Characteristic	Admission Type		
	Voluntary (n = 163, 25%)	Emergency (n = 138, 21%)	2PC (n = 349, 54%)
Presenting symptoms			
Violence (N = 158, 24.3%)	13.3	23.4	63.3
Suicide (N = 172, 26.5%)	35.5	13.4	51.2
Schizophreniform (N = 298, 45.8%)	15.8	24.5	59.7
Anxiety or panic (N = 52, 8%)	34.6	19.2	46.2
Depression or mood (N = 234, 36%)	36.8	15.4	47.9
DSM-III-R disorders[a]			
Schizophrenia (N = 223, 34.3%)	14.3	22.0	63.7
Depressive (N = 111, 17.1%)	43.2	13.5	43.2
Psychotic (N = 96, 14.7%)	12.7	26.3	61.0
Bipolar (N = 79, 12.2%)	19.0	25.3	55.7
Substance use[b] (N = 44, 6.8%)	47.7	25.0	27.3
Other diagnostic groups[c] (N = 97, 14.9%)			
Stressors at time of admission			
Marital or family problems (N = 207, 31.8%)	34.3	15.9	49.8
Social interpersonal (nonfamily) (N = 314, 48.3%)	24.2	18.8	57.0
Referral source			
Self-referred (N = 230, 35.4%)	35.2	23.0	41.7
Family-referred (N = 97, 14.9)	18.6	6.2	75.3
Police or court (N = 58, 8.9%)	6.9	32.8	60.3
Emergency services (N = 213, 32.8%)	21.1	22.1	56.8
Previous history			
Mania (N = 60, 9.2%)	10.0	20.0	70.0
Psychotic episode (N = 235, 36.2%)	16.2	22.1	61.7
Violence (N = 94, 14.5%)	13.8	19.1	67.0
History of drug abuse (N = 132, 20.3%)	31.8	19.7	48.5
Other			
Weekend (N = 123, 18.9%)	31.7	20.3	48.0
Weekday (N = 527, 81.1%)	23.5	21.4	55.0
Previous inpatient treatment (N = 428, 65.8%)	22.7	22.2	55.1
No previous inpatient treatment (N = 222, 34.2%)	29.7	19.4	50.9
Patient is currently medicated (N = 119, 18.3%)	18.5	25.2	56.3
Patient is not currently medicated (N = 531, 81.7%)	26.6	20.3	53.1
Patient was never married (N = 582, 89.5%)	24.4	22.3	53.3

[a] Diagnostic groups with more than five percent prevalence.
[b] Organic or psychoactive.
[c] No single group had more than five percent prevalence.

decisions are made in this emergency room by comparing admitted and nonadmitted patients.[23]

Procedure All patient records were scanned into a computer database using machine-readable case records as described by Salamon *et al.*[24] Patient records included information about presenting problem, referral source, previous treatment, substance abuse, clinical impressions, symptoms, and formal DSM-III-R diagnosis. Different sections of the case record were completed by clerical staff, nursing staff, and physicians.

Analytic Plan The data were first analyzed using univariate analysis. The distribution of the demographic and clinical characteristics of the patients in the different groups were compared. This allowed a comparison of each group of patients with the other groups. Later, to estimate the relative contribution of each variable on the admission type, we used stepwise discriminant analysis, as has been used in other similar studies.[25–27] This procedure is used to develop a model in which each variable is given a weight, and the equations obtained are then used to predict the group to which each patient belongs. We used this procedure to develop two models. The first model differentiated patients admitted voluntarily from those admitted involuntarily. The second model differentiated patients who were emergency admissions from those were committed on the basis of medical certification. The accuracy of the models was evaluated on the basis of the proportion of patients who were correctly classified and the theoretical significance of the information used in making these correct classifications.

Results

The most frequently used admission type was involuntary on medical certification (53.2%, n = 349), followed by voluntary admission (24.9%, n = 163) and emergency admissions (21.0%, n = 138). Only six (0.9%) patients were informal admissions. These patients were excluded from the rest of the analysis because there was not a sufficient number of them for meaningful comparisons.

Table 1 presents the major characteristics of patients by admission status. The numbers and percentages next to the variable names provide a description of the patients. Table 1 also allows for comparison among the three admission status groups. The numbers in the columns show the distribution in percent of the patients with the given characteristic who are in each group. All differences in Table 1 are real differences, since we included the entire population of admitted patients during the study period. Differences are not attributable to sampling error as would be estimated by using significance testing.[28]

Starting from the top of Table 1, it shows that about 63 percent of patients who presented as being violent were 2PC admissions, about 23 percent were emergency admissions, and only 13 percent were voluntary admissions. Suicidal patients were apparently perceived to be at less risk, since slightly more than one-third of them were voluntary admissions, about 13 percent emergency admissions, and about one-half 2PC. Patients who

presented with schizophreniform symptoms had a distribution very similar to violent patients. Patients who presented with symptoms of anxiety or panic, depression, or mood disturbance had a distribution similar to the suicidal patients.

The distributions of the schizophrenic, psychotic, and bipolar patients was very similar, with almost 60 percent of these patients admitted under 2PC and only about 15 percent as voluntary admissions. Psychoactive substance abuse disorder patients were most often voluntary admissions and least often 2PC. Depressive disorder patients were overrepresented among voluntary admissions and underrepresented in the other admission groups.

Patients with marital and family problems had more voluntary admissions than patients with social-interpersonal problems, and they had a lower rate of 2PC and emergency admissions.

Different referral sources were associated with different types of admission. Police- or court-referred patients were least often voluntary admissions. Family-referred patients were most often in the 2PC category and least often emergency admissions. Patients with a history of mania and those with a history of violence or psychotic episode had a similar pattern of low voluntary admissions (10% to 16.2%) and very high 2PC admissions (62% to 70%). Patients with a history of drug abuse had almost the highest rate of voluntary admissions and lowest rate of 2PC admissions. There were about eight percent more voluntary admissions on the weekend than during the week. Patients with previous inpatient treatment, and those who arrived already on psychotropic medications, had somewhat fewer voluntary admissions than patients without previous inpatient treatment. Patients who had never been married had more emergency admissions and fewer voluntary and 2PC admissions.

Admission categorized by age groups is presented in Figure 1. There are some notable differences between age groups, but no apparent trends. As shown, patients under age 20 are rarely admitted as emergency admissions and most frequently as 2PC admissions. Interestingly, the patients in the 50- to 60-year-old range were most often admitted involuntarily (about 80%), as compared with the other groups. For the oldest three groups, emergency admission was about the same (ranging from 17% to 20%). It increased for the age 30 to 40 group. There were no racial or gender differences between the admission groups.

Table 2 presents the results of a discriminant model that distinguishes between patients who were admitted voluntarily and those who were admitted involuntarily. As shown, the best predictors of voluntary admission, from strongest to weakest, are: the presenting problem of affective disorder, a formal DSM-III-R diagnosis of affective disorder, absence of schizophreniform symptoms, self-referral, suicide risk, not being referred by police or court, presence of marital or family problem, and over 60 years old.

Table 3 presents the results of a discriminant model that distinguishes between patients admitted as 2PC admissions and those admitted as emergency

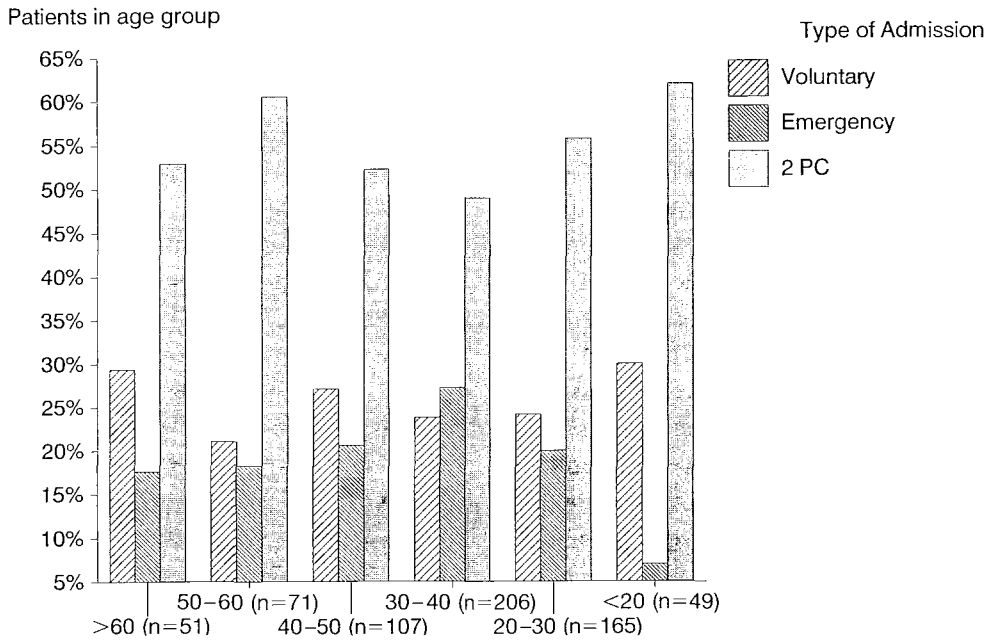

Figure 1. Type of admission by age.

admissions. As shown, the best predictors of 2PC admission, from strongest to weakest, are: family referral, not being 40 to 50 years old, but less than 20 years old, absence of diagnosis of psychoactive substance abuse, social-interpersonal stressors, suicide risk, currently or previously married, no previous outpatient treatment, organic psychotic disorder, history of violence, history of manic episode, DSM-III-R diagnosis of schizophrenia, and not referred by emergency service.

Discussion

We have attempted to understand how physicians apply different legal commitment statuses by looking for different attributes in the patients committed under different statuses. The commitment statuses vary in their extent of restrictive-

Table 2
Relative Importance of Variables in *Predicting* Voluntary Admission (n = 163) over Involuntary Admission (n = 487), Indicated by Correlation Between Variable and Discriminant Function[a]

Variable	Voluntary Admission
Presenting problem of affective disorder	.62
Diagnosis of depressive disorder	.57
Schizophreniform symptoms	−.57
Patient is self-referred	.49
Attempt, threat, or danger of suicide	.43
Referred by police or court	−.38
Marital or family problem	.35
Patient is over 60 years old	.11

[a] The model correctly classified 68.2% of voluntary admission patients and 64.3% of patients who were involuntary admissions. Canonical correlation = .31. Wilks' lambda = .90 ($p \leq .0001$).

Table 3
Relative Importance of Variables in Discriminating Between Involuntary Admission on Medical Certification (n = 349) and Emergency Admission (n = 138), Indicated by Correlation Between Variable and Discriminant Function[a]

Variable	Involuntary Admission on Medical Certification
Referred by family	.55
40 to 50 years old	−.31
Under 20 years old	.27
Diagnosis of psychoactive substance abuse	−.27
Patient has social-interpersonal (non-family) stressor	.24
Attempt, threat, or danger of suicide	.23
Patient has never been married	−.22
Previous outpatient treatment	−.19
Organic psychotic disorder	.17
History of violence	.16
History of manic episode	.14
Schizophrenia	.11
Referred by emergency service	−.17

[a] The model correctly classified 67.2% of emergency admissions and 68.4% of 2PC admissions. Canonical correlation = .35. Wilks' lambda = .88 ($p \leq .0001$).

ness. We found that although the law allows for informal admissions, with no commitment by the patient to remain in the hospital, this type of admission was hardly ever used. About one-half of the admissions were 2PC status, which is the most restrictive of the individual patient's civil liberties, because the patient is confined for the longest period of time under this type of admission. The next largest group was voluntary admissions, followed by emergency admissions.

Voluntary admission tended to be for patients with affective disorders, people who were self-referred, suicidal, had a marital or family problem, and were over 60 years old. Nonvoluntary admissions tended to be for patients with schizophreniform symptoms and those referred by the police or court.

Among the involuntary patients, 2PC admissions tended to be for patients referred by their families, who were younger than 20 years old, had social-interpersonal nonfamily stressors, were suicidal, had been or were married, and had an organic psychotic disorder with history of violence, manic episode, and schizophrenia. Emergency observations tended to be for patients between 40 to 50 years old, who had a diagnosis of psychoactive substance abuse, previous outpatient treatment, and had been referred by an emergency service.

A case can be made that the results suggest that the differential use of voluntary and involuntary admission in this study is consistent with the law. Nonvoluntary admissions were used for police- or court-referred patients—patients likely to be dangerous—and patients with schizophreniform symptoms, who may not have been able to safely care for themselves in the community. Such an interpretation of the results is in accord with studies that found that legal standards are more closely adhered to in the commitment process[15, 17–21] and not in accord with studies that found less adherence to legal standards.[2–12]

It is possible that in some cases the physicians may have recorded their clinical impressions after they had decided on commitment status. This may have resulted in their recording more information in favor of consistency between case

characteristics and the type of commitment chosen. It should be noted, however, that not all of the information in the patient record is recorded by the physician and that items such as referral source, previous treatment, and demographic variables are not subject to the physician's judgment. In addition, it should be noted that we chose a retrospective research design of collecting data from patient records, rather than a prospective one, which would have involved giving the staff forms to complete on each patient or observing the process, to avoid the study influencing the physicians' decision making. We also do not know whether the diagnosis given in the emergency room changed later on. However elsewhere we have found that admission diagnoses at the category level are very stable.[29]

Oddly enough, violence, which was underrepresented in the voluntary group and overrepresented particularly in the 2PC group (as would be expected), was not an influential variable in the discriminant analyses. One explanation that we have ruled out is that patients with schizophreniform symptoms are viewed as more dangerous than those without. In further analysis, we found almost no relationship between a patient's having schizophreniform symptoms and being violent. About 30 percent of patients with those symptoms were violent and 21 percent of patients without such symptoms were violent. Of those patients who were violent, one-half of them had schizophreniform symptoms, and of the nonviolent patients, 43 percent had schizophreniform symptoms. The same pattern (of no relationship between schizophreniform symptoms and being violent) persisted when we looked at patients who were admitted involuntarily. Thirty percent of the patients with those symptoms were violent, and the same percentage applied for patients without such symptoms. Of those patients who were violent, one-half of them had schizophreniform symptoms, and one-half of the nonviolent patients had such symptoms.

We did find an expected overlap between patient violence and police and court referral; yet this was not sufficient to explain the absence of violence from the discriminant models. Almost 40 percent of the court- and police-referred patients were violent, and 22 percent of patients not referred by police or the court were violent. Of those patients who were violent, almost 15 percent were referred by the court or police, as compared with 7 percent of nonviolent patients, who were referred by court or police.

Suicide was unexpectedly overrepresented in the voluntary admission group and underrepresented in the involuntary groups. Similarly, in the discriminant analysis, suicide was a positive correlate of voluntary admission. Interestingly, it was also a positive correlate of 2PC admission for patients admitted involuntarily. This suggests that suicidality is not seen as a condition necessarily requiring restrictive care. This may be because many suicidal patients were more apt to agree to voluntary hospitalization, perhaps suggesting that their suicidality was a call for help.

The fact that almost three-quarters of patients are involuntary admissions raises

questions about the extent to which physicians attempt to use the least restrictive form of care. This heavy reliance on involuntary care, as compared with other studies,[30] may be because only about one-third of the patients who come to this hospital are admitted. Thus, assuming that admission criteria are applied consistently, inpatient care is probably reserved for only the most severely disturbed and dangerous patients. It should be noted that even suicidal patients were overrepresented in the voluntary group. Yet the reason for heavy reliance on 2PC-admission over emergency admission is less clear.

Some of the differences between the two involuntary groups might explain, in part, the heavier reliance on 2PC admission. These differences suggest that 2PC patients are possibly more dangerous, since 2PC admission status was positively correlated with suicide and a history of violence. They also appear to have a stronger and more available support system, since being referred by family and being or having been married were positively correlated with 2PC admission status. The support system might act as a lobby to help "turn the tide" from emergency admission to 2PC, perhaps by providing more information or by exerting pressure to show that the patient is unable to "safely survive in the community," and by being willing to sign for patients commitment. Age also plays a strong role, with patients between 40 and 50 years old favored for emergency admission and those less than 20 years old almost never admitted as emergency admissions. This may be because adolescent patients are more likely to come referred by some source that again mitigates in favor of 2PC admission. The reason for the finding in the 40- to 50-year-old group is not clear. Future research in this area should replicate this study in different hospitals with different mixes of patients in the various admissions categories to make the results more readily generalizable.

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