The Moderating Effects of Race on Return Visits to the Psychiatric Emergency Room

W. Dean Klinkenberg, Ph.D.
Robert J. Calsyn, Ph.D.

Objective: **Racial differences in variables that predict return to the psychiatric emergency room were examined.** ***Methods:*** **A random sample of 319 clients was obtained from the logs of a psychiatric emergency room of a state-operated, acute care psychiatric hospital. The dependent variable was a return visit to the psychiatric emergency room within 18 months of the index visit. Separate logistic regression equations were calculated for African Americans (N=163) and Caucasians (N=156) to estimate the moderating effects of race.** ***Results:*** **Four variables predicted return to the emergency room for both African Americans and Caucasians: previous visits to the psychiatric emergency room, previous psychiatric hospitalizations, current receipt of outpatient treatment, and nonreceipt of aftercare following the index visit to the emergency room. Three unique predictors were found for African Americans: never having been married, not living in stable housing, and not being admitted at the index visit.** ***Conclusions:*** **Generally, repeat visitors from both racial groups tended to be chronic users of psychiatric services who may be using the psychiatric emergency room for routine psychiatric care. However, race was also an important moderator variable; several risk factors predicted a return visit only for African Americans. (*Psychiatric Services* 48:942–945, 1997)**

The psychiatric emergency room has developed into an important resource in the fragmented system of mental health services (1). It plays a key role not only in managing clients in acute distress but also in helping clients with chronic disorders (1). Several studies found that 5 to 15 percent of users of the psychiatric emergency room account for as many as one-third to one-half of all visits (2–5).

Ten studies predicting repeat use of the psychiatric emergency room were reviewed (2,5–13). Most were conducted at private general hospitals. The only client background variables that consistently predicted repeat visits were indicators of social isolation—being unmarried (5–8) and being unaccompanied to the emergency room (2,7,9,10). Men were more likely to have repeat visits to the psychiatric emergency room in three of the ten studies (5,6,11), while younger clients were more likely to have a return visit in four of the ten studies (5,6,11,12). Finally, two of nine studies reported that nonwhite persons were more likely to return to the psychiatric emergency room (5,13).

Dr. Klinkenberg is research assistant professor at the Missouri Institute of Mental Health. Address correspondence to him at the institute at the University of Missouri School of Medicine, 5247 Fyler Avenue, St. Louis, Missouri 63139. Dr. Calsyn is professor of psychology at the University of Missouri–St. Louis.

Three variables pertaining to psychiatric history have consistently predicted repeat visits to the psychiatric emergency room—a diagnosis of psychosis (2,3,5–7,9,11) and current psychiatric treatment or previous psychiatric treatment (2,7,9). Diagnoses other than psychosis have been inconsistent predictors of return visits, with four of nine studies finding that repeaters were more likely to have a substance use disorder (5,8,9,13) or a personality disorder (5,7,9,11) and two of nine reporting that repeaters were more likely to have an affective disorder (6,11).

However, few studies have examined the role of the responsiveness of the treatment system in predicting return to the psychiatric emergency room. For example, most studies have not examined whether admitting patients to the hospital on the index visit—or not admitting them—has an impact on future visits. In addition, studies of referrals to the psychiatric emergency room have compared the dispositional patterns of repeaters and nonrepeaters without examining whether referrals for outpatient treatment decreased the likelihood of repeat visits (3,6,7, 9,11).

Most previous research has serious methodological weaknesses. With the exception of one study (13), research on repeat visitors to the psychiatric emergency room has not used multivariate analyses. Further, researchers have not examined the impact of moderating variables such as race. A moderating variable is one that affects the direction or the strength of a relationship between a

predictor (independent) variable and a dependent variable (14). For example, if lack of social support predicted a return visit for African Americans but not for Caucasians, then race would be a moderator of the relationship between social support and repeat visits.

Race has been an important moderator variable in previous studies of mental health treatment outcome. In one report an assertive community treatment program was effective in assisting homeless mentally ill Caucasian clients but not African-American clients (15). Another study reported that more aftercare visits helped prevent rehospitalization for African Americans but not for Caucasians (16).

In addition, several studies have found racial and ethnic differences in the use of specific treatment resources. For example, one study reported that African Americans were more likely than Caucasians to rely on emergency room services for psychiatric care and were less likely to use outpatient services (17). Thus it would not be surprising if race was an important moderator in predicting repeat visits to the psychiatric emergency room.

This study used logistic regression to examine the moderating effects of race on predictors of return to the psychiatric emergency room. The predictor variables were grouped into three categories: client background characteristics, client psychiatric status, and treatment system responsiveness. This study was exploratory; nevertheless, we expected that race would moderate the effects of predictors of return to the psychiatric emergency room.

Methods

Setting and sample

The setting for this study was an acute care public psychiatric hospital serving a metropolitan region of approximately two million people. The psychiatric emergency room is open 24 hours a day and is staffed primarily by nurses, psychiatric residents, and social workers. In 1994 about 5,400 visits to the emergency room were recorded, and about one-third of visits resulted in admission.

The name of every fifth visitor to the emergency room between December 1, 1991, and May 31, 1992, was selected from the emergency room logs (duplicate names were deleted) until a sample of 400 was achieved. Data for 49 people were dropped from the analyses because they did not have a major axis I disorder. Data were dropped for 32 others because of missing information on one or more of the several variables. The variables were education (data missing for 17 people), marital status (data missing for eight), and whether medications were prescribed at the index visit (data missing for 23). As a result, the regression models were based on a sample of 319.

Nearly two-thirds of the 319 subjects were male. Half were African American, and 52 percent had never married. The mean±SD age of the sample was 35.7±11 years. Forty-one percent of the sample had a psychotic disorder, 28 percent an affective disorder, 21 percent a personality disorder, and 36 percent a substance use disorder. Some patients had more than one diagnosis. The sample is representative of the population typically treated at the hospital.

Dependent and predictor variables

The dependent variable was return to the psychiatric emergency room, coded as a dichotomous variable indicating whether an individual came back to the emergency room during the 18 months after the index visit. The follow-up interval was chosen based partly on previous research, with the expectation that approximately 50 percent of the sample would return within 18 months.

Except where noted, predictor variables were coded dichotomously (0=no, 1=yes). Background variables included age, gender (0=female, 1=male), education (in years), marital status (0=never married, 1=previously or currently married), whether the person was accompanied to the psychiatric emergency room by family or friends or by police or ambulance, and whether he or she was living in stable housing.

Variables about psychiatric history included three diagnostic categories (psychosis, personality disorder, and substance abuse or dependence), the number of previous visits to the psychiatric emergency room, whether the person was currently receiving outpatient treatment (an outpatient contact less than three months before the index visit) or had formerly received outpatient treatment (more than three months before the index visit), and whether the person had at least one previous psychiatric hospitalization.

Measures of responsiveness of the treatment system included whether the person was admitted at the index visit, received mental health aftercare before returning to the psychiatric emergency room, received substance abuse treatment before returning, and received medications at the index visit.

Procedure

Information from the psychiatric emergency room logs was supplemented with detailed utilization and service information provided by the state department of mental health for all of its psychiatric and substance abuse treatment facilities. In addition, utilization data on psychiatric and substance abuse treatment services were retrieved from the local Veterans Affairs medical center. Moderating effects were estimated by creating separate logistic regression models for African Americans and Caucasians (14); all predictor variables were entered in a single step. Because moderator analyses often have low statistical power (18), we chose to adopt a more generous significance level ($p<.10$).

Results

Fifty-six percent of the 319 individuals in the sample made a repeat visit to the psychiatric emergency room in the 18 months after the index visit. Sixty percent of the African Americans in the sample and 52 percent of the Caucasians made a repeat visit, a difference that was not significant.

Table 1 presents the separate models predicting return to the emergency room by race. The model for African Americans was significant ($\chi^2=73.50$, df=18, $p<.01$), as was the model for Caucasians ($\chi^2=48.54$, df=18, $p<.01$). Classification analyses indicated that the model correctly predicted return or nonreturn to

the emergency room for about 77 percent of the African-American sample and about 72 percent of the Caucasian sample.

Four variables predicted return to the psychiatric emergency room for both groups: more lifetime visits to the psychiatric emergency room, one or more previous psychiatric hospitalizations, current receipt of outpatient treatment, and nonreceipt of aftercare following the index visit. The odds ratios in Table 1 are directly interpretable for these variables. For example, African Americans with previous hospitalizations were about eight times more likely to return than African Americans without previous hospitalizations. Further, Caucasians who did not receive aftercare were about five times more likely to return than Caucasians who received aftercare.

However, race clearly moderated the effects of predictors of a return visit because three additional variables were predictors only for African Americans. They were that the client had never married, was not in stable housing, and was not admitted to the hospital at the index visit. Unmarried African Americans were about three times more likely to return to the emergency room than married African Americans. In addition, African Americans who were not in stable housing were about four times more likely to return than African Americans who lived in stable housing.

Table 1

Logistic regression of variables predicting return to the psychiatric emergency room within 18 months among 319 visitors to the emergency room, by race

Variable	African Americans (N=163)			Caucasians (N=156)		
	Beta	SE	Odds ratio	Beta	SE	Odds ratio
Background characteristics						
Age	.02	.02	1.02	.01	.02	1.01
Gender	−.81	.52	.44	−.69	.44	.50
Education	−.03	.09	.97	.02	.08	1.02
Marital status	−1.15**	.53	.32	-.51	.43	.60
Accompanied to the emergency room by family	−.66	.77	.52	.43	.62	1.54
Accompanied to the emergency room by police	−.36	.73	.70	−.40	.60	.67
Lives in stable housing	−1.45*	.75	.24	.17	.60	1.18
Psychiatric status						
Diagnosis						
Psychosis	.19	.54	1.21	.60	.53	1.83
Personality disorder	−.62	.69	.54	−.06	.54	.94
Substance abuse or dependence	−.29	.53	.75	.35	.47	1.42
N previous visits to the psychiatric emergency room	.03**	.01	1.03	.07*	.04	1.07
Previous psychiatric hospitalizations	2.13***	.61	8.45	1.28**	.60	3.60
Current outpatient treatment	1.61**	.70	5.02	1.65***	.64	5.18
Former outpatient treatment	.26	.57	1.29	.24	.51	1.27
Treatment system responsiveness						
Admitted at the index visit to the emergency room	−1.57**	.69	.21	−.53	.69	.59
Received aftercare after the index visit	−.97*	.51	.38	−1.58***	.50	.21
Received substance abuse treatment after the index visit	−.53	.64	.59	−.87	.58	.42
Received medications at the index visit	.06	.63	1.06	−.16	.53	.86
Constant	−.85	.57		−.73	1.07	

*p<.10
**p<.05
***p<.01

Discussion and conclusions

The results of this study strongly suggest that race is an important moderator variable for the prediction of return to the psychiatric emergency room. Four of the variables predicted return for both African Americans and Caucasians—more lifetime visits to the psychiatric emergency room, one or more previous psychiatric hospitalization, current receipt of outpatient treatment, and nonreceipt of aftercare following the index visit. These data are consistent with previous studies reporting that current or previous involvement with psychiatric treatment predicted return to the psychiatric emergency room (2,7,9).

However, two other conclusions appear warranted. First, the predictors common to both racial groups are measures of involvement with the mental health system. Given that greater previous use of mental health resources predicted return to the psychiatric emergency room, it appears that repeat users of emergency room services are chronic clients of the mental health system. Second, that involvement in aftercare reduced the likelihood of a repeat visit suggests that at least some clients with chronic disorders may be using the emergency room for routine psychiatric care. If they are, emergency room staff may need to develop new strategies to link clients to more appropriate outpatient services.

Although no other predictors of return emerged for Caucasians, three other variables were predictors for African Americans—never being married, not residing in stable housing, and not being admitted to the hospital at the index visit. Because this study was conducted at a public hospital, most of the people in the sample were of lower socioeconomic status. Previous research found that African Americans of lower socioeconomic status experience greater psychological distress than African Americans of higher status or Caucasians from any socioeconomic group (19,20). One explanation for the greater level of distress among African Americans of low socioeconomic status is that distress results from both racial discrimination and poverty. Some resources that help people adjust to lower socioeconomic status may be less available to or

less frequently used by lower-income African Americans compared with lower-income Caucasians or higher-income African Americans. Our results appear to be consistent with that view.

Social support is clearly known to buffer the effects of stress (21). In fact, two of the three unique predictors of return visits by African Americans—never being married and not living in stable housing—reflect tenuous social connections. Social connections and support may help prevent the use of emergency room services by African Americans who have a serious mental illness and may help reduce their distress. Therefore, treatment staff should consider routinely conducting thorough assessments of the social networks of clients. Identifying important social network members and enlisting their support may help reduce use of the emergency room as well as distress in this group.

Although this study represents an advance in the understanding of racial differences in mental health utilization, some limitations are apparent. First, because the study relied on archival data, many important variables were not examined. For example, traditional measures of social support were not available. Racial differences in the effects of social isolation suggested by some variables in this study could have been assessed in more depth with better measures. In addition, the study was completed in a metropolitan region of two million people; the results of this study may not generalize to rural areas or very large cities.

Furthermore, the archival data set did not contain information on symptoms, a potentially important variable for the study of psychiatric emergency visits. However, previous research has generally not found psychiatric symptoms to be predictive of return visits (2,7), even if the patients present a suicidal or homicidal risk (2,4,9,12).

In summary, important racial differences were found in variables predicting repeat use of the psychiatric emergency room. Although the specific patterns in this study must be replicated, it is clear that future researchers should examine moderating variables, including race, in analyzing mental health service use and treatment outcome. ♦

References

1. Wellin E, Slesinger DP, Hollister CD: Psychiatric emergency services: evolution, adaptation, and proliferation. Social Science in Medicine 24:475–482, 1987
2. Ellison JM, Blum N, Barsky AJ: Repeat visitors in the psychiatric emergency service: a critical review of the data. Hospital and Community Psychiatry 37:37–41, 1986
3. Hansen TE, Elliot KD: Frequent psychiatric visitors to a Veterans Affairs medical center emergency care unit. Hospital and Community Psychiatry 44:372–375, 1993
4. Munves PI, Trimboli F, North AJ: A study of repeat visitors to a psychiatric emergency room. Hospital and Community Psychiatry 34:634–638, 1983
5. Sullivan PF, Bulik CM, Forman SD, et al: Characteristics of repeat users of a psychiatric emergency service. Hospital and Community Psychiatry 44:376–380, 1993
6. Nurius PS: Emergency psychiatric services: a study of changing utilization patterns and issues. International Journal of Psychiatry in Medicine 13:239–254, 1983
7. Perez E, Minoletti A, Blouin J, et al: Repeat users of a psychiatric emergency service in a Canadian general hospital. Psychiatric Quarterly 58:189–201, 1986
8. Slaby AE, Perry PL: Use and abuse of psychiatric emergency services. International Journal of Psychiatry in Medicine 10:1–8, 1980
9. Ellison JM, Blum NR, Barsky AJ: Frequent repeaters in a psychiatric emergency service. Hospital and Community Psychiatry 40:958–960, 1989
10. Lim MH: A psychiatric emergency clinic: a study of attendance over six months. British Journal of Psychiatry 143:460–466, 1983
11. Surles RC, McGurrin MC: Increased use of psychiatric emergency services by young chronic mentally ill patients. Hospital and Community Psychiatry 38:401–405, 1987
12. Bassuk E, Gerson, S: Chronic crisis patients: a discrete clinical group. American Journal of Psychiatry 137:1513–1517, 1980
13. Snowden LR, Holschuh J: Ethnic differences in emergency psychiatric care and hospitalization in a program for the severely mentally ill. Community Mental Health Journal 28:281–291, 1992
14. Baron RM, Kenny DA: The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology 51:1173–1182, 1986
15. Morse GA, Calsyn RJ, Allen G, et al: Helping the homeless mentally ill: what variables mediate and moderate successful outcomes? American Journal of Community Psychology 22:661–683, 1994
16. McCranie EW, Mizell TA: Aftercare for psychiatric patients: does it prevent rehospitalization? Hospital and Community Psychiatry 29:584–587, 1978
17. Hu T, Snowden LR, Jerrell JM, et al: Ethnic populations in public mental health services: choice and level of use. American Journal of Public Health 81:1429–1434, 1991
18. Mason CA, Tu S, Cauce AM: Assessing moderator variables: two computer simulation studies. Educational and Psychological Measurement 56:45–62, 1996
19. Kessler RC, Neighbors HW: A new perspective on the relationship among race, social class, and psychological distress. Journal of Health and Social Behavior 27: 107–115, 1986
20. Ulbrich PM, Warheit GJ, Zimmerman RS: Race, socioeconomic status, and psychological distress: an examination of differential vulnerability. Journal of Health and Social Behavior 30:131–146, 1989
21. Wethington E, Kessler RC: Perceived support, received support, and adjustment to stressful life events. Journal of Health and Social Behavior 27:78–89, 1986