

Preventing Inpatient Suicides

An Analysis of 84 Suicides by Hanging In New York State Psychiatric Facilities (1980-1985)

NYS Commission on



**QUALITY
OF CARE**

for the Mentally Disabled

Clarence J. Sundram
CHAIRMAN

Irene L. Platt
James A. Cashen
COMMISSIONERS

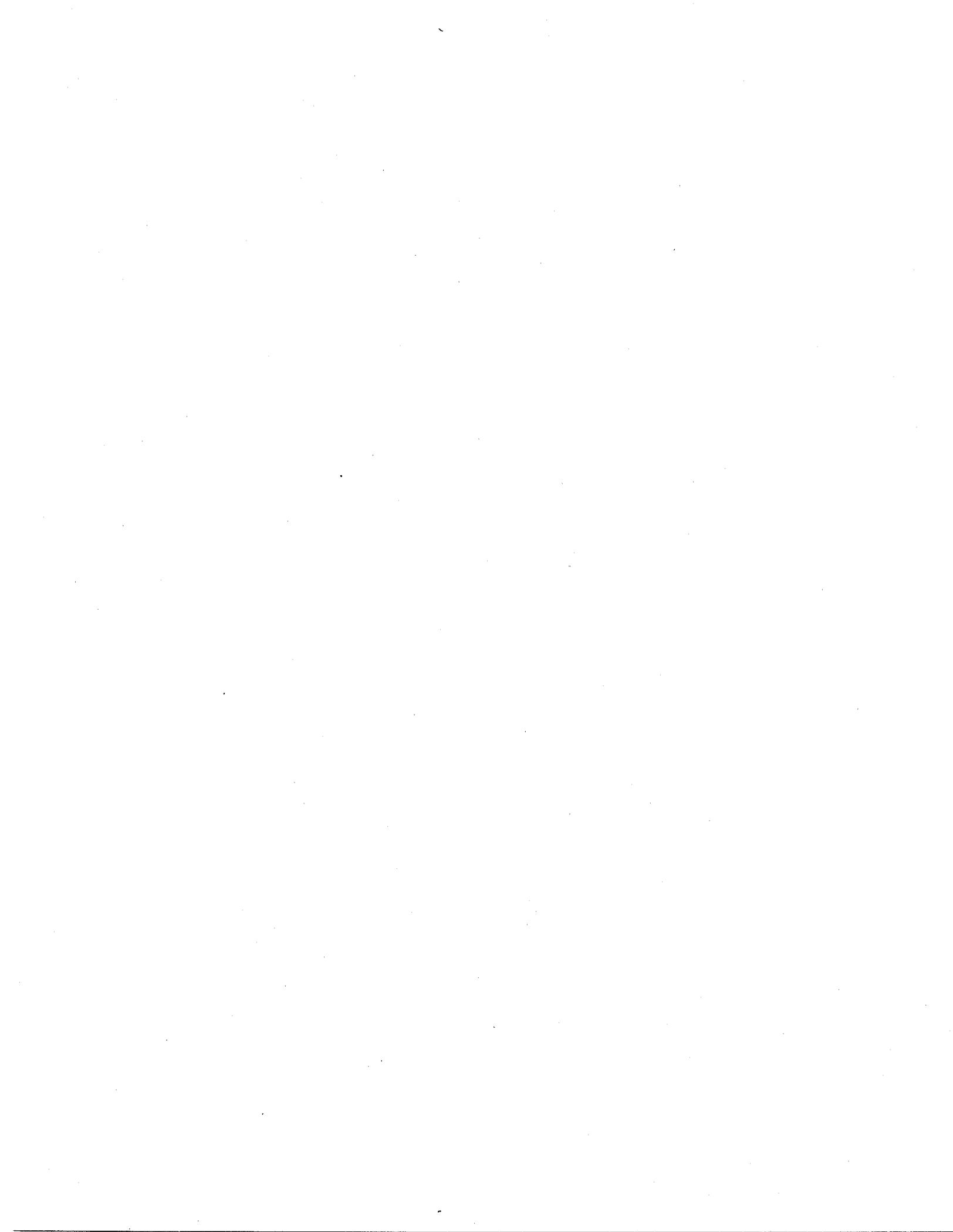
May 1989

©1989 Commission on Quality of Care for the Mentally Disabled

Preventing Inpatient Suicides:

**An Analysis of 84 Suicides by Hanging
In New York State Psychiatric Facilities
(1980-1985)**

**New York State Commission on Quality of Care
for the Mentally Disabled**



Preface

The Mental Hygiene Law requires the Commission, with the assistance of the Mental Hygiene Medical Review Board, to investigate unusual or unnatural deaths of people receiving services from the mental hygiene system (Article 45, Mental Hygiene Law). Suicides of inpatients and outpatients of mental health programs represent the largest subset of unnatural deaths and, as such, have been of particular concern to the Commission and the Mental Hygiene Medical Review Board.

In addition to investigating the circumstances surrounding individual suicides, the Commission and the Board have been interested in identifying methods by which mental health programs might strengthen their ability to prevent such deaths. Our research has focused on describing demographic and clinical characteristics of suicide victims, as well as the circumstances surrounding their deaths, with a view to providing clinicians with information that might prove useful in assessing the risk of suicide and in instituting more effective preventive measures.

Two years ago, the Commission concluded a study of all of the outpatient suicides in the mental health system in the year 1982. This study examines all of the inpatient suicides by hanging in psychiatric facilities in New York over the period 1980-1985. For inpatients of psychiatric facilities, suicide by hanging is the most common method.

Research has generally revealed that inpatient suicides are difficult to predict or prevent based on the clinical risk factors of patients alone. In this study, therefore, the Commission examined a broader range of possible risk factors, including environmental risk factors, other circumstantial factors, and the availability of special suicide precautions, to determine if the identification of other risk factors may enhance suicide prevention efforts of inpatient psychiatric facilities.

The study's findings confirmed the desirability of this broader approach. Specifically, the study clearly identified that inpatient suicides by hanging were significantly more likely to occur in certain places on inpatient units and at certain times. For example:

- eighty-three (83) percent of the suicides occurred in bathrooms or private/semi-private bedrooms. In these areas, patients generally used easily accessible non-breakaway overhead bars or pipes, showerheads, or window grates/latches to hang themselves;
- half of the reported suicides (51 percent) by hanging occurred within 30 days of the patients' admission;
- by day of week, the greatest number of reported suicides by hanging occurred on Mondays and Fridays (37 percent), the days immediately preceding and following weekends, while the smallest percentage occurred on Saturdays and Sundays (21 percent). Additionally, nearly half of the reported suicides occurred proximate to a holiday or other significant anniversary of the suicide victim (44 percent); and,
- a disproportionately high percentage of the reported suicides (44 percent) were found to have occurred during the evening shift (3:00 - 11:00 p.m.) when patients are awake but staffing levels are lower, while relatively few (24 percent) of the suicides reportedly occurred during the night shift.

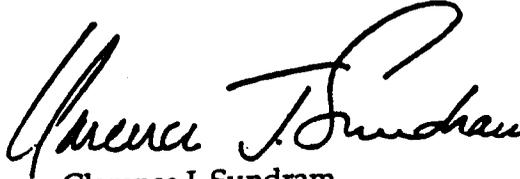
Over three-fourths of the suicide victims (80 percent) had a documented history of suicidal ideation within 30 days of their suicide, but for 19 percent of these patients there were no record notes referencing treatment interventions to address their suicidal ideation. Additionally, while 34 percent of these patients were on some form of suicidal precautions, in nearly half of these cases (43 percent) the suicidal precaution was not being carried out by staff at the time of the patient's suicide. The analysis further revealed that non-compliance with suicide precaution orders was significantly more likely when such orders were written in vague code word terminology (e.g., "suicide precaution level 1") than when these

orders were written to more specifically direct staff action (e.g., observe every 15 minutes). Noncompliance was noted in 56 percent of the cases where the orders were written in vague code word terminology, but only in 37 percent of the cases where orders were written more explicitly.

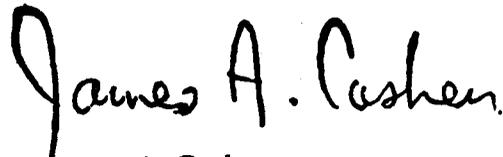
The study also suggests that clinical suicide risk profiles must be tailored more specifically to enhance their effectiveness in identifying patients at risk of suicide. In particular, broad aggregate profiles may not be reliable predictors for subgroups like females, geriatric patients or non-white patients. In the same vein, facilities need to develop different clinical profiles based upon the type of population they serve. The study notes that the profiles of suicide victims served by State institutions differed significantly from profiles of patients served by private and voluntary hospitals.

In summary, the study's findings identified four ways of improving the suicide prevention safety net. First, the desirability of ridding bathrooms and private/semi-private bedrooms, especially on acute units, of obvious structural hazards (exposed sprinkler pipes, non-breakaway shower and closet rods, etc.) was noted. Second, more diligent clinical attention to suicide precautions in the first 30 days after a patient's admission, during the evening shift, on Mondays and Fridays, and proximate to holidays and other significant anniversaries of the patients, seemed to be warranted. Third, the findings clearly highlighted that many patients known to have been recently suicidal are afforded no special precautions or treatment interventions specifically targeted to their suicidal ideation. Even more critically, suicidal precaution orders, especially vaguely written orders, are often not carried out. These findings suggested that periodic facility evaluations of existing practices in ordering and in ensuring the full implementation of suicidal precaution orders may offer enhanced suicide prevention safeguards. Finally, the findings suggested that suicide risk profiles normed on specific easily recognizable subgroups of patients may offer significant clinical advantages over aggregate profiles in identifying high risk suicidal patients.

The findings and conclusions in this report reflect the unanimous views of the Commission members. A draft of this report has also been circulated to the New York State Office of Mental Health. In its response to the report (Appendix B), the Office endorsed the clinical usefulness of the report's findings and indicated planned steps to ensure their communication to State-operated and -licensed inpatient psychiatric units in New York.


Clarence J. Sundram
Chairman


Irene L. Platt
Commissioner


James A. Cashen
Commissioner

Staff

Project Director

Nancy K. Ray, Ed.D.
Policy Director and Special
Assistant to the Chairman

Research Associate

Natalie J. Russo
Policy Analysis and Development
Specialist II

Research Assistant

Mindy T. Becker
Program Research Specialist II

Sefi Richer, M.D.
Program Research Specialist

Susan Brownlee
Program Research Specialist

Cecile Wilson
Assistant Policy Analysis and
Development Specialist

Graphic Design

Harriet Rubenstein
Program Research Specialist II

Publishing Editor

Maureen E. Jones
Senior Stenographer

Stenographer

Kathleen A. Runkle
Principal Stenographer

Table of Contents

Introduction	1
Review of the Literature	2
Methodology	4
Major Findings	5
Discussion of the Findings	19
Conclusions	21
Appendix A: Tabulated Study Data	25
Appendix B: Office of Mental Health Response to Draft Report	43

Listing of Figures

- Figure 1: **Reported Suicide Rates Statewide and in New York State Psychiatric Inpatient Facilities by All Methods and by Hanging**
- Figure 2: **Location and Structure Used for Inpatient Suicides by Hanging**
- Figure 3: **Time Lapse Between Last Staff Observation and Discovery of Suicide**
- Figure 4: **Profile of Suicide Victims**
- Figure 5: **Suicide Victims' Length-of-Stay Prior to Suicide**
- Figure 6: **Suicide Precaution Orders at Time of Death by Type and Implementation**
- Figure 7: **Suicide Victims' Recent Changes in Treatment**

Introduction

The Mental Hygiene Medical Review Board has been particularly troubled by the inpatient suicide deaths which have been reported because of the degree of supervision and control inpatient facilities presumably exercise over patients in their care

The New York State Commission on Quality of Care for the Mentally Disabled is a statutorily created independent oversight agency for mental hygiene services in New York State. Established in 1977, the agency has, among other responsibilities, a statutory mandate to review the circumstances surrounding all deaths of individuals receiving services from State-operated and -licensed mental hygiene outpatient and residential treatment facilities, and to investigate all such deaths which appear to be due to unnatural causes or unusual circumstances.

Each year approximately 2,800 deaths are reported to the Commission, and approximately 15 percent are identified as possibly being due to unnatural causes or unusual circumstances. The largest subgroup of these deaths are suicides.

In accordance with the Commission's statute, all such deaths are referred to the Mental Hygiene Medical Review Board, a volunteer panel of physicians, appointed by the Governor. This panel is statutorily responsible for determining the cause of death, and making appropriate recommendations for corrective or preventive actions.

Over the past 10 years, the Mental Hygiene Medical Review Board has been particularly troubled by the inpatient suicide deaths which have been reported because of the degree of supervision and control inpatient facilities presumably exercise over patients in their care. Additionally, the Board has noted that these suicides are largely accomplished by hanging on readily accessible environmental structures on inpatient wards, including non-breakaway partitions and shower curtain and towel rods in bathrooms, exposed overhead pipes, and clothing hooks and rods in closets and wardrobes.

In this study, the Commission conducted a more systemic and focused examination of the relevance of environmental safeguards to inpatient suicide prevention. We decided to focus on the dominant method of suicide among psychiatric inpatients – suicide by hanging – and to consider, in addition to a broad range of demographic and clinical variables associated with the suicide victims, an assessment of the immediate circumstances and environmental conditions associated with the suicide event. It was our hypothesis that greater emphasis on the method and circumstances of inpatient suicides would help clinicians in identifying high-risk suicide situations within an inpatient setting, enabling them to concentrate remedial actions to these areas, and that this approach would create a broader safety net than the reliance on high-risk patient profiles alone.

The Commission was also interested in determining if readily identifiable subgroups of suicide victims (e.g., males versus females, older versus younger patients, whites versus non-whites, etc.) differed, and if the refinement of suicide risk profiles for such subgroups could assist in better targeting suicide prevention efforts. Finally, where data were available, we compared the characteristics

Longitudinal studies of inpatient suicide rates have noted that the incidence of suicides has been unaffected by the major changes in psychiatric treatment post World War II

Review of the Literature

of the suicide victims to the overall population served by inpatient psychiatric facilities in New York. Although available data were limited, we hoped that these analyses would be helpful in assessing the degree to which basic demographic characteristics of suicide victims, including age, sex, and race, were related to inpatient suicide risk or simply a reflection of the characteristics of the population served.

A major factor influencing the Commission's research design was the "pessimistic" conclusion of many researchers who had tried to build predictive suicide prevention models based on retrospective aggregate analyses of the characteristics of patients who had committed suicide in inpatient settings.

"This is a small number of completed suicides out of a very large potentially suicidal population. There are no crucial characteristics that differentiate those who will suicide from those who might but will not." (Schwartz, D.A., Flinn, D.E., Slawson, P.F., 1975)

"It is becoming evident, then, that there is little correlation between possibility and actuality. The important factor would seem to be not the identification of predisposition to suicide in this patient, or the lack of it in that one, but the recognition that such prediction is unreliable." (Banen, D. M., 1954)

Additionally, the few researchers who have conducted longitudinal studies of inpatient suicide rates have noted that the incidence of these suicides has been unaffected by the major changes in psychiatric treatment post World War II (Chapman, R.F., 1965; Beisser, A.R., Blanchette, J.E., 1961).

Conduct of this broad-based study was greatly facilitated by the agency's activities in investigating inpatient suicide deaths in New York State since 1978, and especially the agency's broad authority to obtain facility and clinical records and to interview facility staff associated with the clinical care and supervision of suicide victims. Simultaneously, access to the volunteer panel of physicians has allowed professional psychiatric, medical, and pathological review and interpretation of Commission investigative findings.

A review of the literature revealed limited research focusing on suicides in inpatient psychiatric settings, and no studies which specifically examined suicides by hanging in these settings. Additionally, only one of the reviewed studies targeted a sample inpatient population larger than 70 suicide victims (Beisser et al., 1961), and most examined inpatient suicide populations of less than 30 victims (Banen, 1954; Chapman, 1965; Morgan, H.G., Priest, P., 1984; Schwartz et al., 1975; Sletton, I.W., Brown, M.L., Evenson, R.C., Altman, H., 1972). Further com-

Available research consistently indicated that hanging is the predominant method of suicide among psychiatric inpatients

pounding the limitations of the small sample sizes of the cited studies was that only four reviewed studies considered suicide victims from more than two hospitals (Crammer, J.L., 1984; Gale, S.W., Mesnikoff, A., Fine, J., Talbott, J.A., 1980; Schwartz et al., 1975; Sletton et al., 1972).

In addition, with the exception of method of suicide, few researchers examined other circumstances surrounding the suicide event, including time of day, day of week, proximity to a holiday, location, and nature and accessibility of the suicide vehicle. Further, none of the studies compared the suicide victims studied to the general population of the treatment facility(ies).

In part due to these methodological limitations, inpatient suicide research has yielded few findings of significant practical utility in suicide prevention. For example, whereas most studies have presented a fairly consistent profile of psychiatric inpatient suicide victims as male, between the ages of 30-50, and white (Busteed, E.L., Johnstone, C., 1983; Gale et al., 1980; Langley, G.E., Bayatti, N.N., 1984; Roy, A., Glaister, J., 1984), this profile is not particularly helpful to treating clinicians whose caseloads, particularly of new admissions, often include a large percentage of patients who share these characteristics. Similarly, while researchers report that most inpatient suicide victims carry a psychiatric diagnosis of a schizophrenic or affective disorder, this diagnostic profile is also consistent with the majority of patients in inpatient psychiatric facilities.

Additionally, among the four studies which examined the predictability of suicides based on the suicide victims' improving or deteriorating condition, two found evidence that the conditions of the majority of the victims were noted to be improving (Banen, 1954; Gale et al., 1980), and two found evidence that conditions of the majority of the victims were deteriorating (Beisser et al., 1961; Chapman, 1965). Similarly, while most authors agreed that suicide risk was greatest soon after admission to a psychiatric facility, only five researchers empirically examined length-of-stay data, and their mixed conclusions that the danger period extended from the first week to the first six months of treatment covered a wide time frame (Gale et al., 1980; Beisser et al., 1961; Copas, J.B., Robin, A., 1982; Salama, A.E., Sizemore, D.M., 1982; Levy, S., Southcombe, R.H., 1953).

There is also little consensus in the research on the advisability of suicidal precautions for psychiatric inpatients. Beisser and Rotov strongly argued against the use of seclusion, maintaining that its ill effects outweigh possible safeguards, and Salama went further to argue that even less restrictive observation techniques may inhibit suicidal patients' "expression of hostility and enhance the likelihood that they will kill themselves" (Beisser et al., 1961; Rotov, M., 1970; Salama et al., 1982).

Notwithstanding these variable findings, it was noteworthy that the available research consistently indicated that hanging is the predominant method of suicide among psychiatric inpatients, and that psychiatric inpatients are much more likely than other suicide victims to choose this suicide method. Among the five studies which reported suicide method for psychiatric inpatients, findings

Researchers have suggested that the availability and easy accessibility of suicide vehicles may be a critical factor in these suicides

Methodology

indicated that between 64 and 100 percent of these victims committed suicide by hanging (Banen, 1954; Beisser et al., 1961; Chapman, 1965; Gale et al., 1980; Sletton et al., 1972).

In contrast, statistics from the New York State Bureau of Vital Statistics indicate that only 22 percent of the suicide victims in the general population for the six-year study period (1980-1985) committed suicide by hanging. Researchers who have studied suicides among psychiatric outpatients have similarly found that hanging was the chosen method for 0-16 percent of the victims studied (Banen, 1954; Beisser et al., 1961; Chapman, 1965; Gale et al., 1980; Ray, N., Corrado, T., Street, H., 1988; Sletton et al., 1972).

Many researchers have also commented on the apparent impulsivity of suicides among psychiatric patients, who frequently leave no suicide note and who often do not verbalize specific suicide plans (Hankoff, L.D., 1980; Roy et al., 1984; Langley et al., 1984; Salama et al., 1982). Although some researchers, like Banen (1954) and Roy (1984), have argued that this impulsivity bodes poorly for prevention efforts, others have stressed that the lack of planning among many inpatient suicide victims attests to their ambivalence, and suggests the strong potential for clinical intervention efforts in preventing these suicides (Hankoff, 1980; Langley et al., 1984; Schwartz et al., 1975).

These researchers have particularly suggested that the availability and easy accessibility of suicide vehicles may be a critical factor in these suicides. For example, Langley (1984) reports, "Method seems to have been strongly influenced by availability, and there is a secondary suggestive effect of a method being available and being seen to be used." Sletton et al. (1972) similarly states, "Hanging is by far the most common method for hospitalized patients, probably because of convenience."

The entire set of 84 inpatient suicides by hanging, reported by 46 inpatient psychiatric facilities, including 21 State-operated psychiatric centers and 25 inpatient psychiatric units of general hospitals, in New York State over the six-year period 1980-1985, was examined. Over 50 different variables were included in the assessment of these cases, including a range of demographic and clinical variables associated with the suicide victims, characteristics of their recent psychiatric treatment, and their assessed clinical condition immediately prior to their suicide. The location of the suicide event, the nature and availability of the suicide vehicle, and the time, day, and date of the suicide was also examined.

Data sources for the 84 case reviews were numerous and included the deceased's inpatient clinical record, autopsy and/or medical examiner reports, and interviews with staff on duty at the time of the suicide and the clinical staff directly associated

Major Findings

The suicide incidence rate in inpatient psychiatric facilities is five times the statewide rate and suicides in inpatient settings are three times as likely to be achieved by hanging

with the suicide victim's treatment. In addition, during on-site visits, the scene of the suicide, as well as the suicide implements, were inspected.

Incidence Rates

A total of 131 inpatient suicides were reported by New York inpatient psychiatric facilities for the period 1980-1985.* Based on available data on the number of patients served, the incidence rate for inpatient suicides ranged from 38 per 100,000 patients served in 1985 to 71 per 100,000 patients served in 1982, with a general recent trend toward a declining incidence of inpatient suicides (Figure 1). The average incidence rate for the six-year period was 48 suicides per 100,000 inpatients served.**

Eighty-four (84) of these 131 reported inpatient suicide victims, or 64 percent, took their lives by hanging. Notably, the rate of inpatient suicides by hanging ranged from 22 per 100,000 patients served in 1983 to a high of 43 per 100,000 patients served in 1982, with no consistent trend of decreasing or increasing incidence over the six-year period.

The New York State Bureau of Vital Statistics reports an average statewide suicide incidence rate of 9 suicides per 100,000 persons in the general population for this six-year period. Only approximately 21 percent of these suicides statewide were achieved by hanging. Thus, the overall suicide incidence rate in New York inpatient psychiatric facilities is five times higher than the rate in the general population, and suicides in inpatient facilities are three times as likely as those in the general population to be achieved by hanging.

Fifty-one (51) of the reported inpatient suicides by hanging occurred in State-operated psychiatric centers, and 33 occurred in licensed psychiatric facilities, including psychiatric wards of general hospitals, inpatient units of community mental health centers and private psychiatric facilities. Due to the larger number of patients served by State-operated facilities, however, the overall incidence rate of inpatient suicides by hanging in State-operated psychiatric centers was actually significantly lower than the incidence rate in licensed psychiatric facilities (21 victims per 100,000 patients served versus 51 victims per 100,000 patients served).

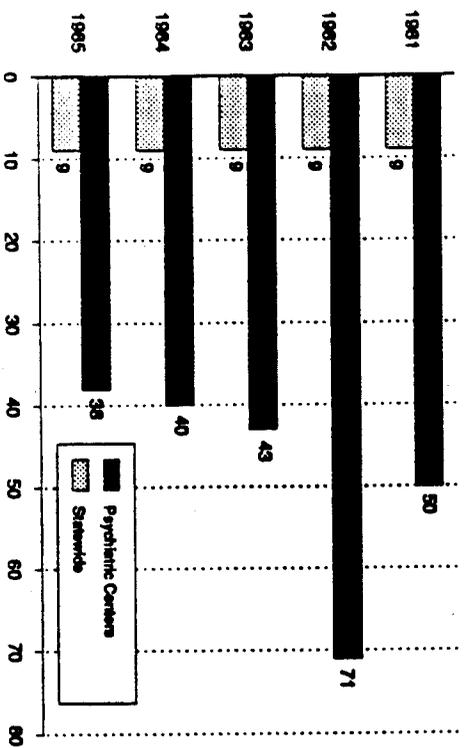
* Reported figures include only inpatients who committed suicide inside a psychiatric facility. Inpatients who committed suicide while "on pass from the facility" or "on leave without medical consent" from the facility were excluded.

** By comparison, a recent study of suicides among psychiatric outpatients in New York State conducted by the Commission (Ray et al., 1988) revealed suicide incidence rates ranging from 78 to 116 suicides among 100,000 outpatients served for the period 1982-1985, with a recent trend toward an increasing rate.

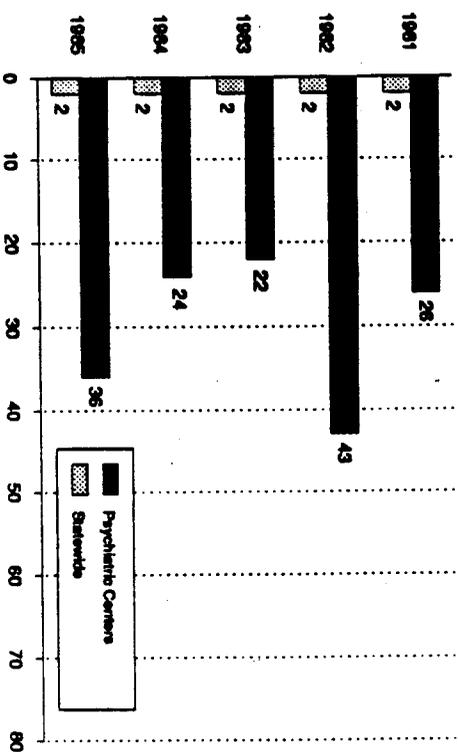
Figure 1

Reported Suicide Rates Statewide and in NYS Psychiatric Inpatient Facilities by All Methods and by Hanging (Rates per 100,000 Adult Residents)

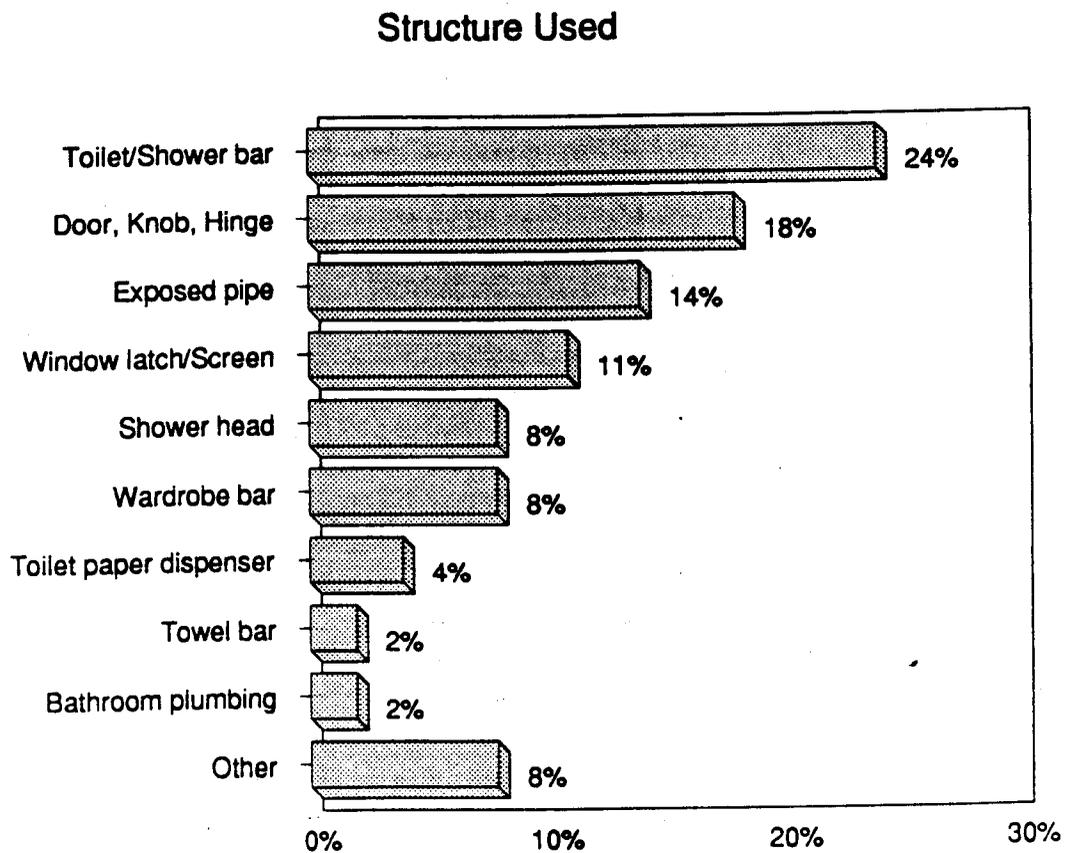
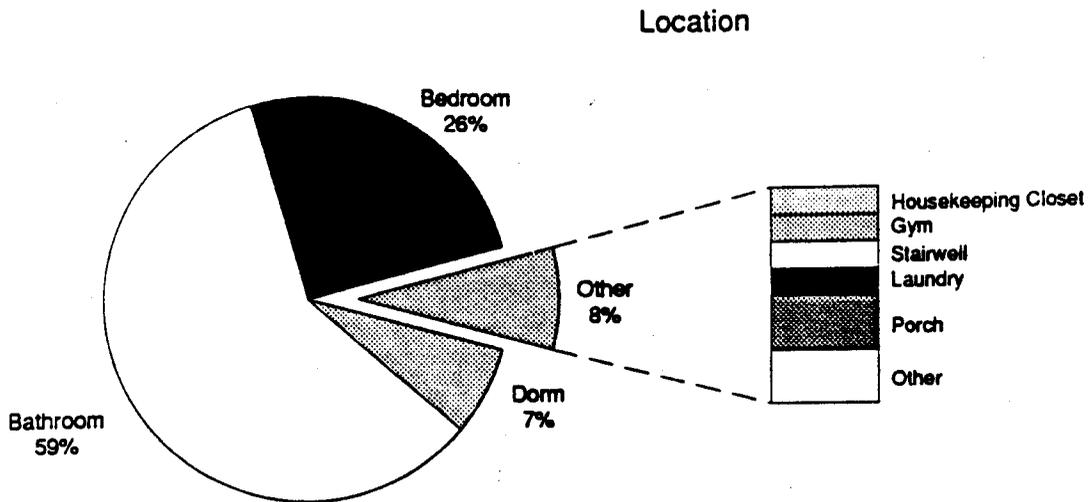
Suicide Rates by All Methods
(1980-1985)



Suicide Rates by Hanging
(1980-1985)



Location and Structure Used for Inpatient Suicides by Hanging (1980-1985) (N=84)



Most suicides by hanging took place in relatively secluded areas of the inpatient facility, and most suicide victims chose readily available structural hazards in these areas to hang themselves

The higher incidence rate of inpatient suicides by hanging in licensed facilities reflects the greater acute care role of these psychiatric facilities in New York.* When only the short-term populations (less than 90 days) of both subgroups of facilities were considered, the relative incidence rates of the two types of facilities reversed. The incidence rate of inpatient suicides by hanging in State-operated psychiatric centers increased to 63 suicides per 100,000 short-term patients served, while the incidence rate in licensed facilities decreased to 47 suicides per 100,000 short-term stay patients served.

The Suicide Event

Most of the reported inpatient suicides by hanging took place in relatively secluded areas of the inpatient facility, and most suicide victims chose readily available structural hazards in these areas to hang themselves (Figure 2). Eighty-three (83) percent of the suicides took place in bathrooms (58 percent) or private or semi-private bedrooms (25 percent). Other chosen locations included laundry rooms, closets, stairwells and porches. The data also showed that female victims exclusively chose bathrooms or sleeping areas as the locations for their suicides. Of the nine suicides which did not occur in these locations, all involved males. Additionally, female victims appeared most likely to choose bathrooms. Seventy-eight (78) percent of the suicides studied among females occurred in bathrooms versus only 51 percent of the suicides studied among males.

Shower heads and non-breakaway toilet or shower stall bars or partitions were the chosen suicide vehicle for nearly one-third (32 percent) of the victims. Other commonly used structures included easily accessible exposed overhead pipes (14 percent), window grates or latches (11 percent), non-breakaway bars in wardrobes (8 percent), and doorknobs, hinges, or hooks (18 percent). Only a few of the victims chose relatively difficult-to-use structures to hang themselves, including toilet paper dispensers (4 percent), towel bars (2 percent), and toilet plumbing fixtures (2 percent). Commonly found items on most psychiatric wards, including belts, bed linens, and other articles of clothing, were the chosen hanging ligatures for 84 percent of the victims.

Analysis of the date, day, and times of the reported suicides revealed that nearly half of the suicides (44 percent) occurred within two days of a holiday or a significant anniversary of the victim. Christmas, New Year's, Easter, and the victim's birthday appeared to be particularly high-risk times. More than one-fourth of the reported suicides (26 percent) occurred proximate with these holidays and anniversaries. Non-white suicide victims also appeared

* The NYS Office of Mental Health reports that approximately 98 percent of the patients served by licensed facilities during the period 1980-1985 were short-term patients, whereas only approximately 15 percent of the patients served by State psychiatric centers during the same period were short-term patients.

Many suicide victims were reportedly observed by staff and noted to be alright within a short time of their suicide

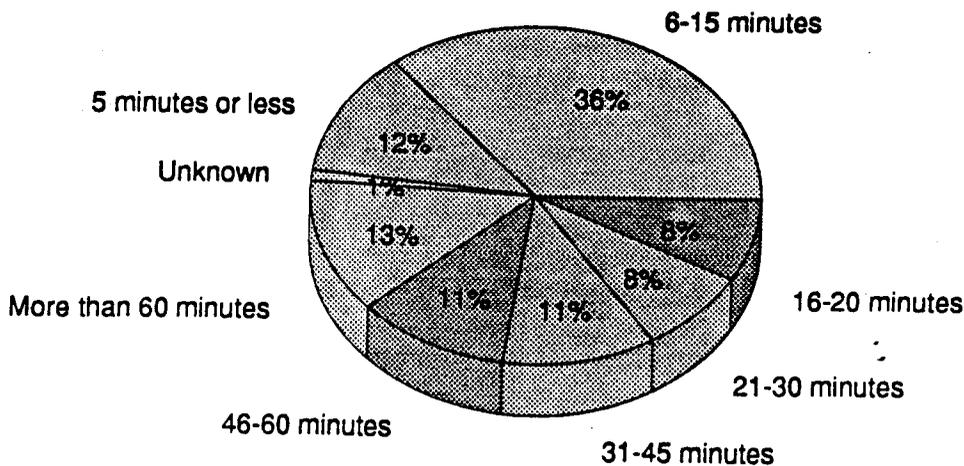
significantly more likely than white suicide victims to commit suicide proximate with a holiday (62 percent versus 35 percent, Chi-square = 4.77, df = 1, p < .05).

The data also showed that the greatest number of reported suicides occurred on Mondays and Fridays (18 and 19 percent, respectively), and that the fewest occurred on Saturdays and Sundays (11 and 10 percent, respectively). It appeared that whereas weekends were relatively low-risk time periods, the days immediately preceding and following weekends were relatively high-risk times.

By time of day, significantly more of the suicides occurred during the evening shift (3:00 PM - 11:00 PM) than during the day or night shifts. Forty-four (44) percent of the suicides occurred during the evening shift, while only 30 and 24 percent of the suicides occurred during the day and night shifts, respectively (Chi-square = 9.98, df = 2, p < .01). Perhaps predictably, the lowest risk time period was between 12 midnight and 5:00 AM, when the incidence rate of reported suicides by hanging (6 cases) was nearly 300 percent less than one would have expected assuming all times of day were equally hazardous. Notably, change of shift times did not surface as high-risk times.

Other data indicated that many of the suicide victims were reportedly observed by staff and noted to be alright within a short time of the discovery of their suicide (Figure 3). Twelve (12) percent of the victims were reportedly observed to be alright within five

Figure 3
Time Lapse Between Last Staff
Observation and Discovery of Suicide
(N=84)



minutes of the discovery of their suicide; 36 percent were reportedly observed within 6 to 15 minutes of the discovery of their suicide; and 16 percent were reportedly observed within 16 to 30 minutes of the discovery of their suicide. More than one-third of the victims (35 percent), however, were last observed by staff more than 30 minutes prior to the discovery of their suicide, including 11 victims (13 percent) who had last been observed by staff more than an hour before their suicide was discovered. The data also showed that older suicide victims (over 55) were significantly less likely than younger victims to have been observed by staff within 15 minutes of the discovery of their suicide (45 percent versus 74 percent, Chi-square = 3.66, df = 1, $p < .05$).

Except in the few areas noted above, male and female victims, older and younger victims, white and non-white victims, and victims being treated by State-operated and -licensed psychiatric facilities did not differ significantly in where or when they committed their suicides, or in the recency of their last observation by staff.

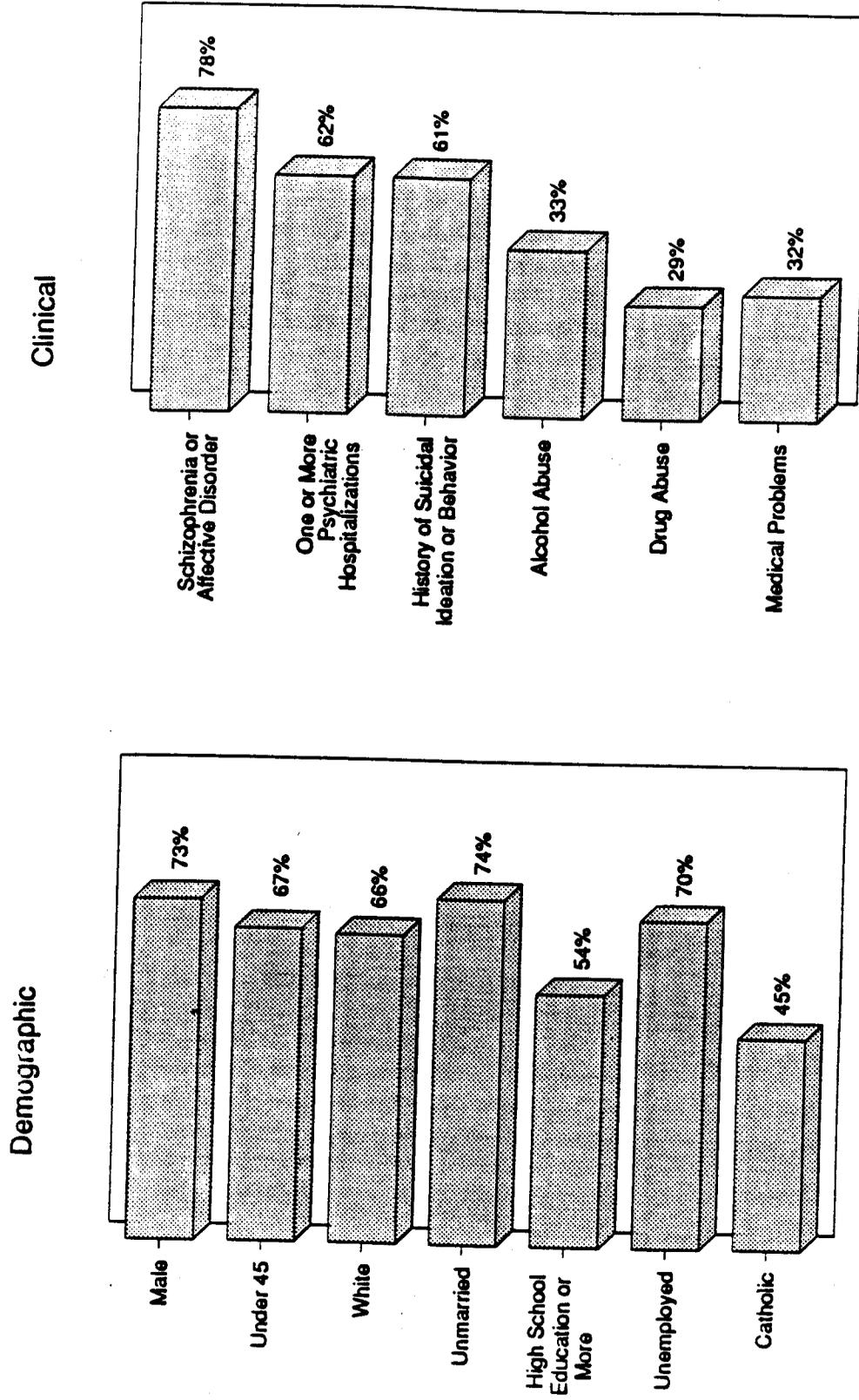
The Suicide Victims

Most of the suicide victims studied were males between the ages of 19 and 44, white, and unmarried at the time of their suicide

Consistent with previous suicide research, most of the suicide victims studied were males (73 percent), between the ages of 19 and 44 (63 percent), white (66 percent), and unmarried at the time of their suicide (74 percent) (Figure 4). Most of the suicide victims, for whom educational data were available, were also fairly well-educated. Over one-half (54 percent) had finished high school, and 29 percent had attended some college. Available employment data on 82 percent of the victims indicated that 70 percent had been unemployed for the past year, and that 61 percent had been unemployed for the previous three years. As is usually reported in suicide research, Catholics rather than Protestants, were the dominant religious group (45 percent). This finding most likely reflects the greater proportion of Catholics in New York than in the nation as a whole (37 percent versus 22 percent) (*The Official Catholic Directory*, 1986).

Further analysis also revealed that the predominance of whites in the sample was reflective of their generally greater prevalence in New York's inpatient psychiatric population, and not necessarily a higher suicide risk for white psychiatric inpatients. When considered in the context of their representation in the State's overall inpatient psychiatric population, white suicide victims were actually underrepresented. Whites represented approximately 75 percent of the inpatients served for the six-year period, but only 66 percent of the suicide victims. Additionally, among the short-term stay inpatient psychiatric population (less than 90 days), white and non-white patients appeared to be of equal suicide risk (i.e., whites represented 70 percent of the short-term stay patients served, and they represented 68 percent of the short-term stay suicide victims).

Figure 4
Profile of Suicide Victims
(N=84)



Considerably more significant than the general comparison of whites and non-whites was that Native Americans constituted 13 percent of the suicides studied

Suicide victims generally had significant and longstanding psychiatric conditions, which were often complicated by other non-psychiatric disabilities/conditions

Considerably more significant than the general comparison of whites and non-whites was that Native Americans constituted 13 percent of the suicide sample studied. Native Americans comprise only .2 percent of New York's total population, and although reliable comprehensive data are not available relative to their presence in New York's inpatient psychiatric population, available data suggest that they comprise less than 2 percent of the patients served.

Additionally, although older victims (over 55) were under-represented in comparison to the overall population served by New York inpatient psychiatric facilities (i.e., 51 percent of the victims versus 67 percent of the patients served), among the short-term population, older and younger patients appeared at equal risk for suicide by hanging. Specifically, patients over 55 represented approximately 21 percent of the reported short-term suicide victims and also 21 percent of the short-term stay population served.

Clinical Histories and Conditions

Analysis of the clinical histories of the suicide victims revealed that they generally had significant and longstanding psychiatric conditions which were often complicated by other non-psychiatric disabilities/conditions. Three-fourths of the victims had a primary psychiatric diagnosis of a major schizophrenic disorder (46 percent) or a major affective disorder (32 percent). Consistent with other research, a higher percentage of the male suicide victims carried a primary diagnosis of a schizophrenic disorder (49 percent versus 39 percent).

Sixty-two (62) percent of the victims had at least one previous psychiatric hospitalization, and 40 percent had at least three previous psychiatric hospitalizations. Nearly two-thirds of the victims (61 percent) had a documented clinical history of suicidal behavior (51 percent) and/or suicidal ideation (26 percent). Forty-eight (48) percent had a documented history of a prior suicide attempt.

Forty-three (43) percent of all the victims had a documented history of drug and/or alcohol abuse, and nearly one-fifth of the victims (19 percent) had a documented history of both disorders. Additionally, the data showed that male suicide victims were significantly more likely than female victims to have drug or alcohol abuse histories (51 percent versus 22 percent, Chi-square = 5.77, df = 1, $p < .05$). Concomitant serious medical conditions were also noted among nearly one-third of the suicide victims (32 percent).

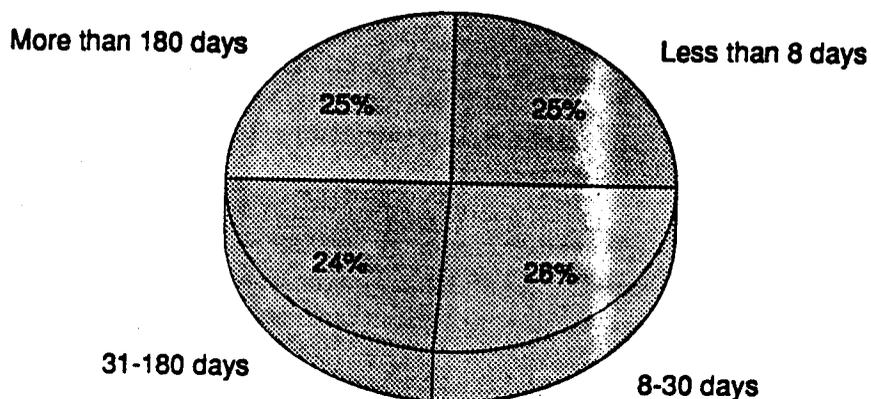
Information on the suicide victims' most recent admissions further confirmed the seriousness of their psychiatric conditions, as well as their tendencies toward depression and/or suicidal ideation or behaviors. Most of the patients (70 percent) had been admitted for multiple symptomatology, and 50 of the 84 victims (60 percent) had been admitted due to depression and/or suicidal ideation or behavior. Depression was docu-

The risk of suicide by hanging was highest in the first 30 days of hospitalization, but half of the reported suicides took place after this high-risk period

mented alone or in combination with other reasons for admission in 39 percent of the cases. Other reasons documented in at least one-fifth of the cases included suicidal ideation, hallucinations, and delusional behaviors or thoughts. A specific reference to a suicide attempt as a reason for admission was noted for 18 percent of the victims.

By length-of-stay in the hospital prior to their suicide, the victims represented a mixed group. One-fourth had been in the hospital one week or less; one-fourth had been in the hospital 7-30 days; one-fourth had been in the hospital 31-180 days; and one-fourth had been in the hospital more than 180 days, including 18 percent who had been in the hospital more than one year (Figure 5). This finding indicates that the risk of suicide by hanging was highest in the first 30 days of hospitalization, but that half of the reported suicides took place after this high-risk period. Perhaps most noteworthy, the number of reported suicides by hanging which took place 31-180 days after admission and which took place more than 180 days after admission were the same, indicating that length-of-stay may not be a particularly reliable risk indicator after the first 30 days of hospitalization.

Figure 5
Suicide Victims' Length-of-Stay
Prior to Suicide
(N=84)



Data on the psychiatric conditions of the suicide victims within three weeks of their suicide revealed *no* significant change for nearly half of the patients (48 percent). The single most commonly cited behavioral change was improved behavior, noted in 26 percent of the cases. Other specific behavioral changes noted in the victims' records included more severe depression (7 percent), more aggressive behavior (5 percent), and more withdrawn behavior (4 percent). For an additional 12 percent of the patients, other behavioral changes (e.g., more agitated, expression of feelings of worthlessness, more anxious) were cited. The data also showed that although "improved behavior" was the most commonly cited behavioral change in the three weeks prior to death for both male and female victims, it was more commonly cited for male victims (30 percent versus 17 percent).

Differences in Subgroups of Victims

While male and female suicide victims were significantly different only in terms of their psychiatric diagnoses and their drug/alcohol abuse histories, older suicide victims (over 55) differed from younger victims on a number of demographic and clinical characteristics. For example, more of the older victims were white (75 percent versus 63 percent), married at the time of their suicide (56 percent versus 17 percent, Chi-square = 21.88, $df = 5$, $p < .05$), and unemployed during the three years prior to their suicide (60 percent versus 47 percent). Older victims were also more likely than younger victims to have been admitted due to depression (55 percent versus 34 percent).

Documented drug and/or alcohol abuse histories were also less common among older victims. Twenty (20) percent of the older victims versus 38 percent of the younger victims had a history of alcohol abuse; and only 5 percent of the older victims versus 36 percent of the younger victims had a history of drug abuse. Somewhat predictably, older victims were also significantly more likely than younger victims to have a major physical health problem (50 percent versus 25 percent, Chi-square = 3.36, $df = 1$, $p < .05$). Notably, older and younger victims did not differ in terms of their lengths-of-stay in the psychiatric facility prior to their suicide.

Even more significant differences were noted between suicide victims reported by State-licensed versus State-operated facilities. Significantly more of the suicide victims reported by State-licensed facilities were female (39 percent versus 20 percent, Chi-square = 3.01, $df = 1$, $p < .05$), white (73 percent versus 61 percent), and married (46 percent versus 14 percent, Chi-square = 14.42, $df = 5$, $p < .05$). Suicide victims reported by State-licensed facilities were also more likely than victims reported by State-operated centers to have been employed in the three years prior to their suicide (46 percent versus 23 percent, Chi-square = 11.25, $df = 3$, $p < .05$).

Older suicide victims differed from younger victims . . . Even more significant differences were noted between suicide victims reported by licensed versus State-operated facilities

Differences among subgroups of suicide victims suggest the limitations of using aggregate suicide risk profiles in judging the suicide risk

Additionally, significantly more of the suicide victims reported by State-licensed facilities:

- carried a diagnosis of an affective disorder (61 percent versus 14 percent, Chi-square = 38.53, $df = 12$, $p < .001$);
- had a documented history of suicidal behavior (76 percent versus 59 percent);
- had no previous psychiatric hospitalizations (42 percent versus 22 percent, Chi-square = 6.13, $df = 2$, $p < .05$); and
- had been admitted due to depression (70 percent versus 20 percent, Chi-square = 19.03, $df = 1$, $p < .001$) or suicidal ideation (36 percent versus 14 percent, Chi-square = 4.64, $df = 1$, $p < .05$).

Many of the noted differences between older and younger suicide victims reflect commonly acknowledged differences between these subgroups in the overall psychiatric inpatient population. Similarly, although comparative demographic and clinical data are not available for psychiatric inpatients in State-operated versus State-licensed psychiatric facilities in New York, the noted differences between suicide victims reported by these two subclasses of facilities appear to reflect differences in their service populations and, more specifically, their service roles in New York's mental health care network.

As in most states, State-operated psychiatric centers in New York have historically been the treatment setting of last resort and the primary provider of long-term inpatient care, while State-licensed psychiatric facilities remain the State's dominant provider of acute psychiatric services. Linked to these differences in service roles, State-licensed facilities tend to serve patients with indicators of a higher socioeconomic status and patients who have had fewer prior psychiatric hospitalizations, while State-operated centers serve an older, more indigent, and chronic population.

Notwithstanding these likely reasons for the significant differences noted, however, differences in the profiles of these subgroups of suicide victims suggest the limitations of using aggregate suicide risk profiles in judging the suicide risk for specific subgroups. These limitations are particularly high for "minority" subgroups of inpatient suicide victims, including females and older patients and, in New York State, patients served by State-licensed rather than State-operated inpatient psychiatric facilities. When subsumed in aggregate profiles of suicide victims, the distinguishing characteristics of suicide victims in these "minority" subgroups tend to be lost, and the emerging risk profile, while reflective of the majority group, does not well describe many specific distinguishing risk factors for these patients.

Among suicide victims who were on suicide precautions at the time of their death, these precautions were not carried out as ordered in 43 percent of the cases

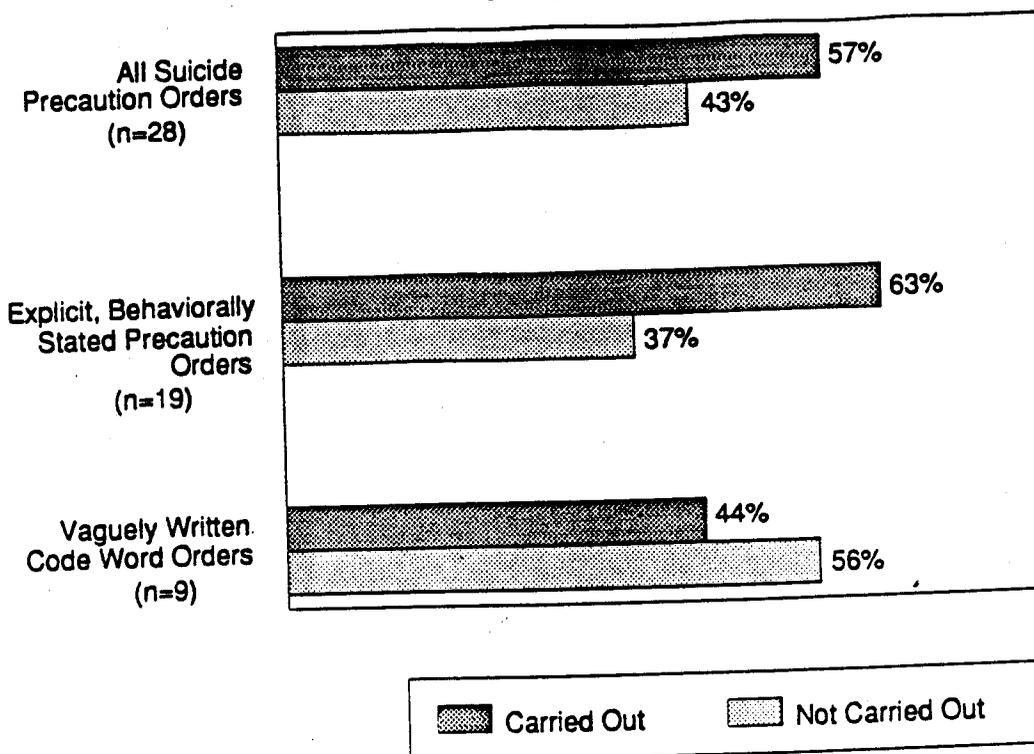
Treatment Services for Suicidal Ideation

Over three-fourths of the suicide victims (80 percent) had a documented history of suicide ideation in the 30 days prior to their suicide. Clinical records documented some specific treatment of suicide ideation for 81 percent of these patients. For the remaining 19 percent, assessments and/or progress notes referenced suicidal ideation, but this issue was not specifically addressed in the patient's treatment plan. Prescribed treatment approaches to documented suicidal ideations included special suicidal precautions (48 percent), psychotherapeutic medications (30 percent), and individual therapy (3 percent).

Special suicidal precaution orders for the victims studied included one-to-one observations (5 victims), 15-minute supervision checks (7 victims); 20-30 minute supervision checks (4 victims), placement on a secure or locked unit (2 victims), and seclusion (1 victim). For the other nine victims, who were on precautions at the time of their suicide, precaution orders were less explicit and included such record notes as "special observation," "close observation," "level one precaution," etc.

Perhaps of greatest interest, among the 28 suicide victims who were on suicide precautions at the time of their death, these precautions were *not* carried out as ordered in 12 of the cases (43 percent) (Figure 6). Explanations offered by the reporting

Figure 6
Suicide Precaution Orders at Time of Death by Type and Implementation



Victims on suicide precautions were less likely than victims not on suicide precautions to have a schizophrenic disorder, to be receiving psychotherapeutic medications, and to have had one or more previous psychiatric hospitalization

facilities for failure to comply with ordered suicide precautions ranged from staff diversion to attend to other patients, to poor communication of the order, to staff negligence.

Further analysis of the data indicated that explicitly written special observation orders were more likely to be followed than vaguely written orders. While 63 percent, or 12 of the 19 explicit, behaviorally stated orders were reportedly carried out, only 44 percent, or 4 of the 9 vaguely written orders were carried out.

Although facility clinicians often indicated that less explicit "code word" suicidal precaution orders had specific meanings in their facility's suicide prevention policy, it seemed that these meanings were often not so clear to on-duty ward staff. It also seemed that explicit, behaviorally stated precaution orders inherently connoted more importance to ward staff.

Further analysis indicated that suicide victims on and not on suicide precautions did not differ in terms of the circumstances of their suicide (e.g., location, suicide vehicle, time, day, and date), but that they did differ on several clinical and demographic variables. Not surprisingly, victims on suicide precautions were *more* likely than those not on suicidal precautions to have been admitted due to suicidal ideation (43 percent versus 13 percent, Chi-square = 8.17, $df = 1$, $p < .01$) or depression (50 percent versus 34 percent), to have a documented history of suicidal behavior (89 percent versus 54 percent, Chi-square = 9.01, $df = 1$, $p < .05$), and to have a documented history of a suicidal attempt (68 percent versus 38 percent, Chi-square = 5.73, $df = 1$, $p < .05$).

Less predictably, victims on suicide precautions were *less* likely than victims not on suicide precautions to have a primary diagnosis of a schizophrenic disorder (21 percent versus 59 percent, Chi-square = 22.2, $df = 12$, $p < .05$), to be receiving psychotherapeutic medications (75 percent versus 98 percent, Chi-square = 11.75, $df = 2$, $p < .01$), and to have had one or more previous psychiatric hospitalizations (57 percent versus 77 percent). Victims on suicide precautions were also *less* likely to have been unemployed in the year prior to their suicide (24 percent versus 42 percent).

These findings suggest that clinicians, in making the difficult and necessarily restrictive selection of patients who will receive special suicide precautions, tend to base their decisions on apparent symptomatology of suicide intent, prior suicidal behavior, or depression. An implicit limitation of these decision-making criteria appears to be that chronic schizophrenic patients, who often do not evidence explicit symptomatology, are less likely to be afforded special suicidal precautions.

Other Treatment Services

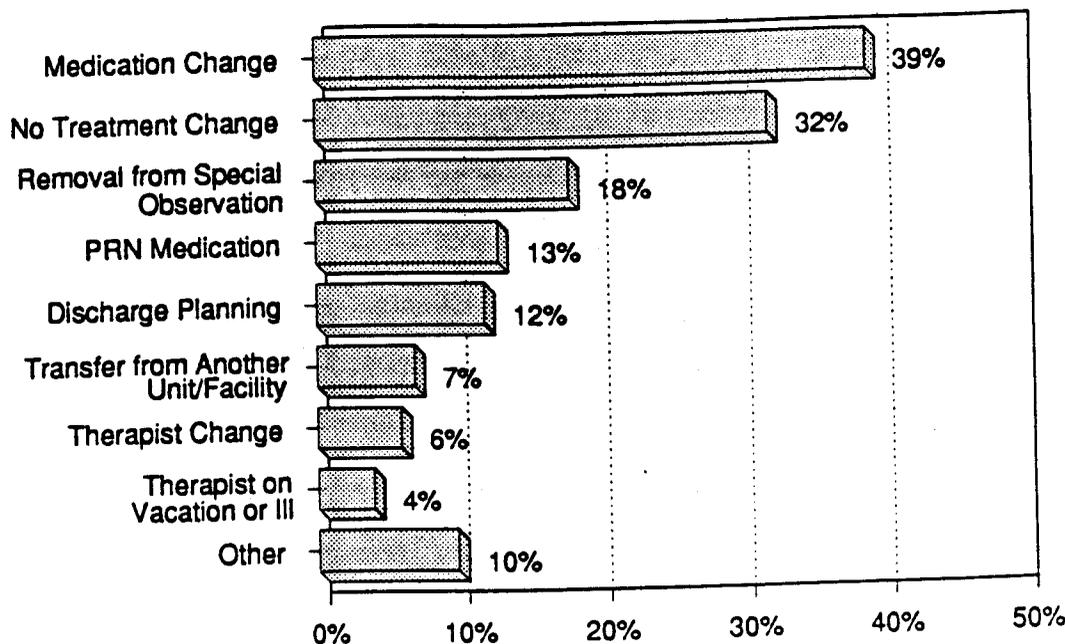
Data on other inpatient treatment services offered to the suicide victims indicated that 86 percent were receiving psychotherapeutic medications and that 8 percent (all males) had received electroconvulsive treatments during their current admission. Psychotherapeutic drug regimens for 36 percent of the victims included at least two psychotherapeutic medications, and 25 percent of the

... 82 percent of the suicide victims had experienced at least one change in their psychiatric treatment within three weeks of their suicide

victims were receiving three or more psychotherapeutic drugs at the time of their suicide. Neuroleptics were prescribed to nearly two-thirds (65 percent) of the victims, whereas antidepressants, antianxiety drugs, and antiparkinsonism drugs were each prescribed to approximately one-fourth (26 percent) of the victims.

In addition, 82 percent of the suicide victims had experienced at least one change in their psychiatric treatment within three weeks of their suicide, and 31 percent had experienced at least two such changes (Figure 7). In the three weeks prior to their suicide, 39 percent of the victims had experienced at least one medication change; 18 percent had been taken off suicide precautions; 10 percent had experienced a change or absence of their primary therapist; and 7 percent had been transferred from another facility or treatment unit. Clinical records also indicated plans to discharge 12 percent of the victims within three weeks of their suicide.

Figure 7
Suicide Victims' Recent
Changes in Treatment
(N=84)



*Percentages exceed 100 percent because 31 percent of the suicide victims' records cited more than one recent change in treatment.

Discussion of the Findings

The greatest similarities among the 84 inpatient suicides by hanging lay in their surrounding environmental characteristics

Despite their different clinical profiles, male and female victims, older and younger victims, and victims treated in State-operated versus State-licensed psychiatric facilities evidenced few significant differences in treatment regimens. The data did show, however, that whereas the majority of all subgroups of victims were receiving psychotherapeutic drugs, the incidence of psychotherapeutic drug use was lower among victims receiving services from State-licensed versus State-operated facilities (79 percent versus 98 percent) and for victims who were on special suicide precautions (75 percent versus 98 percent).

The greatest similarities among the 84 inpatient suicides by hanging lay in their surrounding environmental characteristics. All but a small percentage of these suicides (83 percent) took place in bathrooms or private or semi-private bedrooms. Additionally, the victims almost universally utilized readily available "hanging" structures to accomplish their suicides. For most patients both "on" and "not on" suicide precautions, access and use of these suicide vehicles seemed achievable within 30 minutes. Moreover, there seemed to be a variety of easily accessible suicide hanging structures in relatively secluded ward areas for patients to choose. Even brief lapses of patient supervision or in implementation of suicide precaution orders, and all but the most stringent of such orders, seemed to allow patients sufficient time to use these accessible suicide vehicles to hang themselves.

There were also other common circumstances surrounding these suicides. For example, nearly half (44 percent) of these suicides occurred during the evening shift and proximate to holidays or other significant anniversaries for the patient. Additionally, while relatively fewer suicides by hanging occurred on weekends, Mondays and Fridays, the weekdays immediately preceding and following weekends, emerged as high-risk days for these suicides. The findings also isolated the first 30 days of hospitalization as the highest risk time period for inpatient suicides by hanging, although half of the suicides occurred after this time period. There was also evidence that patients were at greater suicide risk shortly after changes in their psychiatric treatment regimen.

The findings also showed marked differences in the demographic and clinical characteristics of readily identifiable subgroups of the suicide victims, especially older and younger victims and suicide victims served by State-licensed versus State-operated facilities. To a somewhat lesser extent, significant differences were also noted between males and females. These findings highlighted the limitations of aggregate profiles of suicide victims in predicting suicide risk, especially for significant and readily identifiable subgroups of patients served. They also emphasized the significant challenge for clinicians in predicting suicide risk for individual patients.

The findings also added a new dimension to the continuing debate over the prevention value of patient-specific suicidal precautions. While confirming that the fundamental limitation of this

There was a high probability that suicide precaution orders, and especially vaguely written orders would not be faithfully carried out by ward staff

approach is the apparent clinical difficulty in identifying the relatively small number of patients for whom a hospital can afford such precautions and that such precautions do not guarantee that a patient will not attempt suicide, the findings also suggest that facility suicide precaution policies and practices may not always be effectively designed or implemented.

Assuming the veracity of facility reports that nearly two-thirds of the suicide victims had been observed by staff within 30 minutes of the *discovery* of their suicide, and that 48 percent were observed within 15 minutes of their suicide, the prevention value of precaution orders that do not ensure continual patient supervision is questionable.

More seriously, there was a high probability that suicide precaution orders, and especially vaguely written orders would not be faithfully carried out by ward staff. Whereas the researchers could not always determine from the records why suicide precaution orders were not carried out, failure of clinical staff to communicate the order, its importance, and the need for its diligent implementation to ward staff were clearly important factors. Vaguely written and "code word" orders appeared to be particularly susceptible to these limitations.

These findings implied that current efforts and resources devoted to patient-specific suicidal precautions may be reaping less than optimal benefits, not because the concept of special precautions is a flawed prevention tool, but because certain precautions may not offer sufficient patient protection and because clinicians may not always assure sufficient direction and supervision to ward staff in ensuring that their orders are actually carried out.

The importance of maintaining demographic and clinical trend data on patients who attempt or commit suicide, and who were not on suicide precautions was also reinforced. The findings suggested that certain subpopulations of suicide victims, especially chronic schizophrenic and unemployed patients, may be inadvertently bypassed in clinician assessments of suicide risk.

Finally, this study reinforced the importance of more sophisticated research protocols and data analysis for suicide prevention research. Reliance on a broader scope of variables, as well as greater analytical attention to comparing suicide populations to the overall population served, appeared not only to be justified, but to be critical to a more accurate interpretation of the data.

Specifically, reliance on a broad range of patient-specific, as well as environmental, variables in this study allowed the researchers to clarify that the latter set of variables, often ignored or not fully explored in inpatient suicide research, may provide reliable avenues for suicide prevention. The comparative analyses also suggested that older patients and non-white patients,

Conclusions

The study suggests the promise of an environmental safeguard strategy in preventing inpatient suicides by hanging--by far the largest type of inpatient suicides

who are assumed to be at low risk of suicide in inpatient psychiatric facilities, may actually be at comparable risk when their risk is measured relative to their prevalence in the total inpatient psychiatric population served.

Suicide prevention among psychiatric inpatients remains an enigmatic challenge for clinicians. While inpatient status, alone, appears to be a powerful prevention strategy for the vast majority of psychiatric inpatients, this study confirmed that aggregate risk profiles of suicide victims have significant error rates in identifying the suicide risk of individual patients, or even in identifying the suicide risk for certain readily identifiable subgroups of suicide victims. The relative suicide risk by hanging among older short-term inpatients, as well as among all non-white inpatients, appears to be especially underestimated by aggregate profiles. The study also demonstrates that suicide precautions which do not specifically require continuous observation can fail in preventing suicides.

More positively, however, the study suggests the promise of an environmental safeguard strategy in preventing inpatient suicides by hanging--by far the largest type of inpatient suicides. Specifically, the findings of this study clarified that inpatient suicides by hanging are best characterized by the locations in the inpatient facility where they occur, as well as their other surrounding environmental circumstances. Taking steps to remove potential "hanging hazards" from bathrooms and semi-private and private bedrooms, especially on acute wards, appears to have significant potential in reducing these suicides. The findings also suggest that increased clinical supervision and attention to suicide risk during the evening shift, on Mondays and Fridays, and during the first 30 days after admission may be warranted.

Finally, the study reinforces the need for inpatient psychiatric facilities to carefully evaluate the effectiveness of patient-specific suicidal precaution orders. The effectiveness of these precautions appears to rest not only on the appropriate identification of "at risk" patients, but also on careful assurances by senior clinical staff that their ordered precautions ensure very frequent patient observation and that ward staff fully understand and faithfully carry out their prescribed precautions.

References

1. Anonymous: A suicide epidemic in a psychiatric hospital. *Diseases of the Nervous System* 38:327, 1977.
2. Banen, D.M.: Suicide by psychotics. *Journal of Nervous and Mental Diseases* 120:349, 1954.
3. Beisser, A.R., Blanchette, J. E.: A study of suicides in a mental hospital. *Diseases of the Nervous System* 22:365, 1961.
4. Busted, E.L., Johnstone, C.: The development of suicide precautions for an inpatient psychiatric unit. *Journal of Psychosocial Nursing and Mental Health Services* 21:11, 1983.
5. Capodanno, A.E., Tarbum, S.D.: Assessment of suicide risk: some limitations in the prediction of infrequent events. *Journal of Psychosocial Nursing and Mental Health Services* 21:11, 1983.
6. Chapman, R.F.: Suicide during psychiatric hospitalization. *Bulletin of the Menninger Clinic* 29:35, 1965.
7. Clayton, P.J.: Suicide. *Psychiatric Clinics of North America* 8:203, 1985.
8. Copas, J.B., Robin, A.: Suicide in psychiatric inpatients. *British Journal of Psychiatry* 141:503, 1982.
9. Cotton, P.G., Drake, R.E., Whitaker, A., Potter, J.: Dealing with suicide on a psychiatric inpatient unit. *Hospital and Community Psychiatry* 34:55, 1983.
10. Crammer, J.L.: The special characteristics of suicide in hospital inpatients. *British Journal of Psychiatry* 145:460, 1984.
11. Friedman, R.C., Aronoff, M.S., Clarkin, J.F., Corn, R., Hurt, S.W.: History of suicidal behavior in depressed borderline inpatients. *American Journal of Psychiatry* 140:1023, 1983.
12. Gale, S.W., Mesnikoff, A., Fine, J., Talbott, J.A.: A study of suicide in state mental hospitals in New York City. *Psychiatric Quarterly* 52:201, 1980.
13. Goren, K.D., Bruner, C.A.: Suicidal behavior among patients in Bavarian mental hospitals. *Acta Psychiatrica Scandinavica* 71:468, 1985.
14. Hankoff, L.D.: Suicidal behavior in the institutional setting. *Journal of Psychiatric Treatment and Evaluation* 2:19, 1980.
15. Hoenig, J., Hamilton, M.W.: Mortality of psychiatric patients. *Acta Psychiatrica Scandinavica* 42:349, 1966.
16. Langley, G.E., Bayatti, N.N.: Suicides in Exe Vale Hospital, 1972-1981. *British Journal of Psychiatry* 145:460, 1984.

17. Levy, S., Southcombe, R.H.: Suicide in a state hospital for the mentally ill. *Journal of Nervous and Mental Diseases* 117:504, 1953.
18. Morgan, H.G., Priest, P.: Assessment of suicide risk in psychiatric inpatients. *British Journal of Psychiatry* 145:467, 1984.
19. Ray, N., Corrado, T., Street, H.: *Outpatient Suicide: A Descriptive Study of 172 Outpatient Suicides Reported by New York State Mental Health Programs in 1982*. NYS Commission on Quality of Care for the Mentally Disabled; Albany, New York, July 1988.
20. Rotov, M.: Death by suicide in the hospital. *American Journal of Psychotherapy*. 24:216, 1970.
21. Roy, A., Glaister, J.: Suicide in psychiatric patients. *The Psychiatric Journal of the University of Ottawa* 9:42, 1984.
22. Roy, A.: Suicide and psychiatric patients. *Psychiatric Clinics of North America* 8:227, 1985.
23. Roy, A.: Depression, attempted suicide and suicide in patients with chronic schizophrenia. *Psychiatric Clinics of North America* 9:193, 1985.
24. Salama, A.E., Sizemore, D.M.: Observations on suicide among hospitalized schizophrenic patients. *Hospital and Community Psychiatry* 33:940, 1982.
25. Schwartz, D.A., Flinn, D.E., Slawson, P.F.: Suicide in the psychiatric hospital. *American Journal of Psychiatry* 132:150, 1975.
26. Shaw, S., Sims, A.: A survey of unexpected deaths among psychiatric inpatients and ex-patients. *British Journal of Psychiatry* 145:473, 1984.
27. Sletton, I.W., Brown, M.L., Evenson, R.C., Altman, H.: Suicide in mental hospital patients. *Diseases of the Nervous System* 33:328, 1972.
28. Temoche, A., Pugh, T.F., MacMahon, B.: Suicide rates among current and former mental institution patients. *Journal of Nervous and Mental Diseases* 138:124, 1964.

Appendix A

Tabulated Study Data

Listing of Tables

- Table 1: Number and Rate of Reported Suicides by Method, Statewide and Among Patients in New York Psychiatric Facilities (1980-1985)
- Table 2: Number and Percent of Reported Inpatient Suicides by Hanging by Location of Suicide Event and Suicide Structure and Ligature Used (1980-1985)
- Table 3: Number and Percent of Reported Inpatient Suicides by Hanging by Month of Year, Day of Week, Proximity to a Holiday, and Time of Day (1980-1985)
- Table 4: Number and Percent of Reported Inpatient Suicides by Hanging by Number of Minutes Lapsed Between Discovery of Suicide and Time Last Observed by Staff (As Documented in the Chart) (1980-1985)
- Table 5: Number and Percent of Reported Inpatient Suicides by Hanging by Sex, Age, Race, and Marital Status of the Suicide Victim (1980-1985)
- Table 6: Number and Percent of Reported Inpatient Suicides by Hanging by Educational and Employment Status, and Religious Preference of the Suicide Victim (1980-1985)
- Table 7: Number and Percent of Reported Inpatient Suicides by Hanging by Most Recent Primary and Secondary Psychiatric Diagnosis (1980-1985)
- Table 8: Number and Percent of Reported Inpatient Suicides by History of Previous Psychiatric Admissions, History of Suicidal Ideation or Behavior and Other Concomitant Conditions (1980-1985)
- Table 9: Number and Percent of Reported Inpatient Suicides by Hanging by Reason(s) for Admission and Days Between Admission and Suicide (1980-1985)
- Table 10: Number and Percent of Reported Inpatient Suicides by Hanging by Presence of Documented Behavior Change Within Three Weeks of Death (1980-1985)
- Table 11: Number and Percent of Reported Inpatient Suicides by Hanging by Treatment Intervention for Suicide Ideation (1980-1985)
- Table 12: Number and Percent of Reported Inpatient Suicides by Hanging by Presence, Type, and Compliance of Physician Orders for Special Observations at Time of Death or Within One Week of Death (1980-1985)

Table 13: Number and Percent of Reported Inpatient Suicides by Hanging by Treatment with Psychotherapeutic Medications During Current Psychiatric Hospitalization (1980-1985)

Table 14: Number and Percent of Reported Inpatient Suicides by Hanging by Changes in Psychiatric Treatment Regimens Within Three Weeks of Death (1980-1985)

Table 1

**Number and Percent of Reported Suicides
by Method, Statewide and Among Patients
in New York Psychiatric Facilities (1980-1985)***

Year	Number of Suicides	Statewide 1980-1985		New York Psychiatric Facilities 1980-1985		Rate Per 100,000 Patients Served
		NYS Resident Population	Rate Per 100,000 Residents	Number of Suicides	Patients Served	
All Suicides						
1980	1665	17,558,072	9.5	20	Unknown	Unknown
1981	1585	17,496,000	9.1	23	46,373	49.6
1982	1576	17,458,100	9.0	33	46,611	70.8
1983	1556	17,529,000	8.9	20	46,471	43.0
1984	1602	17,529,100	9.1	18	45,321	39.7
1985	1544	17,658,400	8.7	17	44,920	37.8
Total	9528			131		
Suicides by Hanging						
1980	336	17,558,072	1.9	15	Unknown	Unknown
1981	313	17,496,000	1.8	12	46,373	25.9
1982	357	17,458,100	2.0	20	46,611	42.9
1983	335	17,529,000	1.9	10	46,471	21.5
1984	391	17,529,100	2.2	11	45,321	24.3
1985	330	17,658,400	1.9	16	44,920	35.6
Total	2062			84		

* Statewide data was obtained from the New York State Bureau of Health Statistics; psychiatric facility data was obtained from the New York State Office of Mental Health.

Table 2

**Number and Percent of Reported Inpatient Suicides by
Hanging by Location of Suicide Event and Suicide
Structure and Ligature Used (1980-1985)**

Location	Number (N=84)	Percent*
Bathroom	49	58
Dorm	6	7
Bedroom	21	25
Laundry Room	1	1
Porch	2	2
Stairwell	1	1
Gym	1	1
Housekeeping Closet	1	1
Other	2	2
Structure Used		
Shower head	7	8
Non-breakaway toilet/shower bar or partitions	20	24
Non-breakaway wardrobe bar	7	8
Exposed overhead pipe	12	14
Window latches/screening grates	9	11
Door, door knob, door hinge, door hook	15	18
Toilet paper dispenser	3	4
Towel bar	2	2
Bathroom plumbing	2	2
Other	7	8
Ligature Used		
Belt	29	35
Bed linen	26	31
Bath linens	4	5
Clothing	15	18
Shower hose	4	5
Other	6	7

* Does not total to 100 percent due to rounding error.

Table 3

**Number and Percent of Reported Inpatient Suicides by
Hanging by Month of Year, Day of Week, Proximity
to a Holiday, and Time of Day (1980-1985)**

	Number (N=84)	Percent
Month		
January	7	8
February	12	14
March	3	4
April	6	7
May	11	13
June	7	8
July	6	7
August	5	6
September	5	6
October	10	12
November	7	8
December	5	6
Day of Week		
Monday	15	18
Tuesday	10	12
Wednesday	13	15
Thursday	13	15
Friday	16	19
Saturday	9	11
Sunday	8	10
Within Two Days of a Holiday/Anniversary		
No	47	56
Yes	37	44
Shift/Time of Day		
Day Shift (7:00 a.m. - 2:59 p.m.)	25	30
Evening shift (3:00 p.m. - 10:59 p.m.)	37	44
Night shift (11:00 p.m. - 6:59 a.m.)	20	24
Unknown	2	2

Table 4

**Number and Percent of Reported Inpatient Suicides by Hanging
by Number of Minutes Lapsed Between Discovery of
Suicide and Time Last Observed by Staff
(As Documented in the Chart)
(1980-1985)**

Number of Minutes	Number (N=84)	Percent
Five minutes or less	10	12
6-15 minutes	30	36
16-20 minutes	7	8
21-30 minutes	7	8
31-45 minutes	9	11
46-60 minutes	9	11
More than 60 minutes	11	13
Unknown	1	1

Table 5

**Number and Percent of Reported Inpatient Suicides
by Hanging by Sex, Age, Race, and
Marital Status of the Suicide Victim
(1980-1985)**

	Number (N=84)	Percent
Sex		
Male	61	73
Female	23	27
Age		
< 19	3	4
19-24	11	13
25-34	25	30
35-44	17	20
45-54	8	10
55-64	13	16
> 64	7	8
Race		
White	55	66
Black	11	13
Hispanic	5	6
Asian	1	1
Native American	11	13
Unknown	1	1
Marital Status		
Never married	51	61
Married	22	26
Divorced	3	4
Separated	4	5
Widowed	3	4
Unknown	1	1

Table 6

**Number and Percent of Reported Inpatient Suicides by
Hanging by Educational and Employment Status,
and Religious Preference of the Suicide Victim
(1980-1985)**

	Number	Percent
Educational Status		
(n=65)*		
Less than high school	11	17
Some high school	19	29
High school graduate	16	25
Some college	11	17
College graduate	6	9
Some graduate education	2	3
Employment Status		
(n=69)*		
Employed last year	21	30
Periodic employment in past three years	6	9
Unemployed past three years	42	61
Religious Preference		
(n=55)*		
Catholic	25	45
Protestant	14	25
Jewish	10	18
Other	6	11

* Educational data were unavailable for 19 of the reported suicide victims; employment data were unavailable for 15 of the reported suicide victims; and, religious preference data were unavailable for 29 of the reported suicide victims.

Table 7

**Number and Percent of Reported Inpatient Suicides
by Hanging by Most Recent Primary and
Secondary Psychiatric Diagnosis
(1980-1985)**

	Number (N=84)	Percent
Primary Diagnosis		
Adjustment disorder	1	1
Affective disorder	27	32
Alcoholism*	1	1
Anxiety disorder	1	1
Conduct disorder	1	1
Mental retardation	1	1
Organic brain syndrome	2	2
Paranoid disorder	4	5
Personality disorder	2	2
Psychotic disorder	3	4
Schizophrenia	39	46
Substance abuse*	1	1
Unknown	1	1
Secondary Diagnosis		
Affective disorder	2	2
Alcoholism*	4	5
Anxiety	1	1
Impulse	1	2
Personality	14	17
Psychotic	1	1
Substance abuse*	4	5
Unknown	57	68

* Although relatively few of the suicide victims carried an official diagnosis of alcoholism or a substance abuse disorder, 43 percent had a documented history of alcohol or drug abuse. In part, this discrepancy reflects the tendency of clinicians in psychiatric facilities not to document/record alcoholism and substance abuse diagnoses.

Table 8

**Number and Percent of Reported Inpatient Suicides by Hanging
by History of Previous Psychiatric Admissions, History of
Suicidal Ideation or Behavior and Other
Concomitant Conditions (1980-1985)**

	Number (N=84)	Percent
Previous Psychiatric Hospitalization		
None	24	29
One previous admission	10	12
Two previous admissions	8	10
Three previous admissions	7	8
Four previous admissions	4	5
Five or more previous admissions	23	27
Unknown	8	10
History of Suicidal Ideation or Behavior*		
No prior documented history of suicide behavior or ideation	29	35
Documented history of suicide attempt	40	48
Documented history of suicidal gesture	8	10
Documented history of suicidal ideation	22	26
Other Concomitant Conditions/Disabilities		
Alcohol and drug abuse	16	19
Alcohol abuse only	12	14
Drug abuse only	8	10
Medical health problem(s)	27	32

* Percentages exceed 100 percent because documentation in 19 percent of the suicide victims' clinical records cited a history of more than one of the following: suicide attempt, gesture, and ideation.

Table 9

**Number and Percent of Reported Inpatient Suicides
by Hanging by Reason(s) for Admission and Days
Between Admission and Suicide
(1980-1985)**

	Number (N=84)	Percent
Reason for Admission*		
Depression	33	39
Attempted suicide	15	18
Suicide ideation	19	23
Hallucinations	18	21
Delusional behavior/thoughts	18	21
Other aggressive behaviors to others	14	17
Self-injurious behavior	3	4
Agitation	11	13
Other	36	43
Days Between Admission and Suicide		
Less than 3 days	13	15
3 - 7 days	8	10
8 - 14 days	4	5
15 - 21 days	12	14
22 - 30 days	6	7
31 - 60 days	4	5
61 - 90 days	6	7
91 - 120 days	5	6
121 - 150 days	2	2
151 - 180 days	3	4
181 - 365 days	6	7
More than 1 year	15	18

* Percentages exceed 100 percent because documentation in 70 percent of the suicide victims' clinical records cited more than one reason for admission.

Table 10

**Number and Percent of Reported Inpatient Suicides
by Hanging by Presence of Documented
Behavior Change Within Three
Weeks of Death (1980-1985)**

Behavior Change	Number (N=84)	Percent*
No noted behavior change	40	48
More depressed	6	7
More withdrawn	3	4
More aggressive	4	5
Improved behavior	22	26
Other behavioral change	10	12
Unknown	8	10

* Percentages exceed 100 percent because documentation in 8 percent of the suicide victims' clinical records cited more than one behavior change.

Table 11

Number and Percent of Reported Inpatient Suicides
by Hanging by Treatment Intervention
for Suicide Ideation (1980-1985)

Treatment Intervention	Number (N=67)*	Percent
Suicide ideation documented, but no treatment documented	13	19
Suicide ideation treated with medications	20	30
Suicide ideation addressed by individual therapy	2	3
Suicide ideation addressed by physician orders for special observation	32	48

* Percentages are based on a sample of 67 of the 84 victims whose clinical records indicated suicide ideation in the 30 days prior to death.

Table 12

**Number and Percent of Reported Inpatient Suicides by
Hanging by Presence, Type, and Compliance of
Physician Orders for Special Observations
at Time of Death or Within One Week
of Death (1980-1985)**

	Number	Percent
Physician-ordered suicide precaution at time of death	(n=28)	
Order carried out at time of death	16	57
Order not carried out at time of death	12	43
Explicit, behaviorally stated suicide precaution order	(n=19)	
Order carried out at time of death	12	63
Order not carried out at time of death	7	37
Vaguely written, code word precaution order	(n=9)	
Order carried out at time of death	4	44
Order not carried out at time of death	5	56

Table 13

**Number and Percent of Reported Inpatient Suicides
by Hanging by Treatment with Psychotherapeutic
Medications During Current Psychiatric
Hospitalization (1980-1985)**

	Number (N=84)	Percent
Not treated with psychotherapeutic medications	12	14
Treated with psychotherapeutic medications	72	86
One psychotherapeutic drug	42	50
Two psychotherapeutic drugs	9	11
Three psychotherapeutic drugs	16	19
Four psychotherapeutic drugs	5	6
Neuroleptics	55	65
Antidepressants	27	32
Antianxiety drugs	19	23
Antiparkinsonism drugs	22	26
Other	6	7

Table 14

**Number and Percent of Reported Inpatient Suicides
by Hanging by Changes in Psychiatric Treatment
Regimens Within Three Weeks of Death
(1980-1985)**

Treatment Changes	Number (N=84)	Percent*
No treatment change	27	32
Therapist change	5	6
Therapist on vacation or ill	3	4
Medication change	33	39
Transfer from another unit/facility	6	7
Removal from special observation	15	18
PRN medication administered	11	13
Discharge planning	10	12
Other	8	10

* Percentages exceed 100 percent because documentation in 31 percent of the suicide victims' clinical records cited more than one recent change in treatment.

Appendix B

**Office of Mental Health's
Response to
Draft Report**



RICHARD C. SURLLES, Ph.D., Commissioner

October 31, 1988

Mr. Clarence J. Sundram
Chairman
Commission on Quality of Care
for the Mentally Disabled
99 Washington Avenue, Suite 1002
Albany, New York 12210

Dear Mr. Sundram:

I have reviewed your recent report on 84 inpatient suicides by hanging over the period 1980-1985 in state-operated and licensed inpatient facilities. I concur that the value of the study is to alert inpatient psychiatric facility clinicians to the importance of environmental safeguards in preventing inpatient suicides by hanging. The study also highlights other points which are relevant for suicidal precautions in our facilities. Information on the location of the suicide event, data suggesting that nearly half of the suicides (44 percent) occurred within two days of a holiday or significant anniversary of the victim such as a birthday, the identification of Mondays and Fridays as the days of the week on which the greatest number of suicides occurred, that the evening shift is the shift most likely on which suicides will occur, and that more than one third of the victims (35 percent) were last observed by staff more than 30 minutes prior to the discovery of their suicide need to influence our management strategies for suicidal patients.

The data also suggest that older suicide victims, those over 55, were significantly less likely than younger victims to have been observed by staff within 15 minutes of the discovery of their suicide. Your finding that 42 percent of all the victims had a documented history of drug and or alcohol abuse is particularly significant at this time when we are seeing more dually diagnosed patients in our facilities. Your recommendation that written special observation orders that were very explicit in terms of staff expectations were more likely to be followed than vaguely written orders is one that we need to convey to our facilities.

The stress literature emphasizes that changes in people's lives often preclude major events. This report highlights that 82 percent of the suicide victims had experienced at least one major change in their psychiatric treatment within three weeks of their suicide. These changes included changes in medication, changes in primary therapist, transfer from another facility or treatment unit, or having been removed from suicide precautions. Our tripwire and transfer projects need to include plans for increased suicide precautions during the initial phases of patient adjustment to their new environs.

Your finding that certain sub-populations of suicide victims, especially chronic schizophrenic and unemployed patients, may be bypassed in clinician assessments of suicidal risk highlights the need for us to add these variables to risk-rating procedures. Your cautions regarding the use of aggregate risk profiles of suicide victims are very well taken. Your data suggest that the relative suicide risk by hanging among older short term patients as well as among all non-white inpatients appear to be underestimated by aggregate profile.

I have asked Drs. Sandra Forquer and Alice Lin to be responsible for disseminating this information to the field and developing a process that allows us to track our own follow-through and attention to the issues you have so succinctly identified. Please feel free to contact either of them with follow-up inquiries.

Sincerely yours,



Richard C. Surles, Ph.D.
Commissioner

cc: John Oldham, M.D.
Sandra Forquer, Ph.D.
Alice Lin, ACSW, DSW

Copies of this report are available in large print, braille, or voice tape. Please call the Commission for assistance in obtaining such copies at 800-624-4143

The Commission on Quality of Care for the Mentally Disabled is an independent agency responsible for oversight in New York State's mental hygiene system. The Commission also investigates complaints and responds to requests concerning patient/resident care and treatment which cannot be resolved with mental hygiene facilities.

The Commission's statewide toll-free number is for calls from patients/residents of mental hygiene facilities and programs, their families, and other concerned advocates.

Toll-free Number:

1-800-624-4143 (Voice/TDD)



In an effort to reduce the costs of printing, please notify the Commission if you wish your name to be deleted from our mailing list or if your address has changed. Contact:

Commission Publications
NYS Commission on Quality of Care
for the Mentally Disabled
401 State Street
Schenectady, NY 12305-2397

www.cqcapd.state.ny.us

