

**THE UTILIZATION OF INPATIENT
HOSPITALIZATION SERVICES BY
CHILDREN & ADOLESCENTS IN
BROOME COUNTY 1998-2000**

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Overview of Study and Key Findings

- While there is no clear overall trend toward increasing rates of inpatient admissions, younger children are being admitted at a higher rate than in the past (p. 19).
- A strong relationship was found between age and rates of hospitalization. The older the child, the more likely they were to be hospitalized (p. 19).
- It was found that managed care is playing a large role in determining length of stay, with publicly funded (Medicaid) patients generally having much longer stays in the hospital than those patients that are insured through managed care. Several potential interpretations of these data are offered (p. 19).
- Hospitalized children and adolescents that are discharged to more intensive aftercare programs such as RTFs and day treatment programs were found to have longer stays in the hospital (p. 21). This finding may represent a problematic “bottleneck” within the continuum of care.
- Mental health professionals that were interviewed for this study identified several major problems within the delivery of inpatient services to children and adolescents. Some of these problems are the lack of adequate follow-up with aftercare plans on the part of patients and their families, the lack of availability of appropriate aftercare plans, and a lack of understanding of the needs of the patients on the part of parents (p. 22).
- The consensus among mental health professionals is that inpatient services are generally being used appropriately, that there are few unnecessary hospitalizations, but that there are underserved populations that are not receiving the types of services that they require (p. 23).
- Parents of children and adolescents that have received inpatient services were polled for this study. They identified the distance between their homes and the hospitals (some have had to travel to Buffalo and West Chester County) as a major obstacle to accessing services for their children (p. 22).

Acknowledgements

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Preface

This report is the third in a series of reports commissioned by the Broome County commissioner of mental health. The goals of this series of reports are many. They involve: collecting data that thoroughly describes the resources, utilization patterns, and needs for mental health services within Broome County, analyzing data for the purposes of identifying relative strengths and limitations in the accessibility, delivery, and effectiveness of mental health services, identifying limitations in the types and amounts of data that are currently being collected and made available to the commissioner's office, and providing the commissioner and his staff with a solid quantitative base of knowledge that will guide policy decisions as well as the commissioning of other, similar reports.

The first two reports in this series (Griffith, 2000) focused on the utilization and delivery of inpatient services to adults in Broome County. This third report and the report to follow focus on various aspects of the availability, accessibility, utilization, and weaknesses within the provision and delivery of mental health services to children and adolescents.

The current report focuses specifically on inpatient hospitalization services for children and adolescents, and contains several different types of information. Quantitative data were gathered from the Comprehensive Psychiatric Emergency Program (CPEP) operated by United Health Services (UHS) at Binghamton General Hospital. These data describe the referrals of children and adolescents in crisis to various inpatient psychiatric hospitals. Additionally, data were collected from these inpatient facilities where Broome County children and adolescents have been admitted over the past few years. A second component of this study involves qualitative information that was gathered from two sources. First, various mental health professionals were interviewed concerning their perceptions of the delivery of these services to children and adolescents. Second, the comments and suggestions of consumers (parents of children and adolescents that have required inpatient services) were obtained.

A final goal of this project not mentioned above is to stimulate new thinking and new research questions related to the effective and efficient delivery of mental health services in Broome County. This report is certainly not an exhaustive description of the issues related to inpatient treatment of children and adolescents, and many of the limitations of this report will be discussed in a later section. However, this report demonstrates some interesting findings that both coincide with and contradict existing research in the field. It also succeeds in illustrating some of the types of data that are being collected and some of the types of questions that may be addressed through research in our community.

Literature Review

Introduction to Literature Review

A literature review was conducted concerning issues germane to an analysis of the delivery and effectiveness of inpatient hospitalization services to children and adolescents. A summary of this review is presented here, and is broken down into more specific topics.

Inpatient services for children and adolescents were chosen as the focus of this phase of the Broome County Mental Health Evaluation Project because they are the most intensive, most restrictive, and most expensive services to provide. Inpatient care generally consumes about one-half of the amount spent nationally on children's mental health (Burns, 1991). This spending occurs despite the fact that evidence concerning the effectiveness of inpatient care is mixed (Pfeiffer & Strelecki, 1990; Kolko, 1992; Sourander, et. al., 1996a, 1996b, 1996c; Sourander & Piha, 2000), and often suffers from serious methodological flaws (Sourander, et. al., 1996a, 1996b, 1996c; Dalton, Moseley, & McDermott; 1997).

Because of ethical considerations, controlled research concerning the effectiveness of inpatient treatment versus treatment at less intensive levels of care has not been conducted since Flomenhaft, 1974; and Winsberg, Bialer, Kupietz, Botti, & Balka, 1980. That is, ethical issues concerning the potential danger of withholding treatment prevents researchers from randomly assigning patients to either hospitalization or no-hospitalization groups. Thus, conclusions concerning the efficacy of hospitalizations must be drawn from more indirect methodologies.

In addition to a discussion of the overall outcome research concerning the effectiveness of inpatient services, much discussion in this report will focus on the efficiency with which they are delivered within the overall continuum of care. One issue that is central to the efficient delivery of inpatient services is the relationship between length of stay and treatment outcome. In general, evidence is mixed concerning this relationship (Burns, 1999). Longer stays have generally not been associated with better outcomes. This has led several researchers to perhaps prematurely conclude that longer stays do not provide any incremental benefit to patients over those provided by shorter stays. One alternate interpretation is that shorter hospitalizations lead to recidivism. In addition, the interactions between length of stay and several highly relevant clinical variables such as diagnosis and severity and chronicity of pathology have yet to be sufficiently investigated (Burns, 1999).

Who Gets Hospitalized in a Continuum of Care?

Several studies have aimed at identifying reliable predictors of whether or not a particular child will be hospitalized. Bickman, Foster, & Lambert, (1996) examined the reliability of predictors of hospitalization for children and adolescents who either have traditional insurance or who were treated within a standardized and highly structured continuum of care. These researchers' review of the literature revealed that hospitalization was found to

be highly predictable across studies by such factors as age, diagnosis, past usage of mental health services, suicidal behavior, current functioning, and the type of insurance that the child's family has.

However, in this study, an analysis of basic demographic factors such as age, gender, socio-economic status, and race did not yield a reliable prediction model. Interestingly, diagnosis was found to be a reliable predictor of hospitalization only in the traditional insurance group. Bickman et. al., interprets this finding to suggest that insurance reimbursement criteria may be a factor in shaping the assignment of psychiatric diagnoses. In addition, three general areas of functioning were assessed, with two proving to significantly predict hospitalization. Self-harm and delinquency predicted hospitalization, while school performance did not. A difference between the groups on these dimensions was that self-harm increased the likelihood of hospitalization within the continuum of care group more than within the traditional insurance group.

Concerning prior use of services, children who had recently (within the past 6 months) used outpatient services were two and a half times more likely to be hospitalized than children who had received no prior services. Also, children who had been previously hospitalized were seven times more likely to be hospitalized in the future. The burden of caring for the child, as reported by the parents, significantly predicted hospitalization for both groups.

Taken as a whole, it appears that a continuum of care is effective in reducing the number of unnecessary hospitalizations, as the children hospitalized within the continuum of care group were more severely impaired, including showing a greater risk for self-harm, than in the traditional insurance group.

Another study (Gutterman, 1998) more specifically examined the relationship and relative importance of both psychiatric diagnosis and risk of violence as predictors, and attempts to address whether these two factors mediate clinicians' decisions concerning whether or not to hospitalize a child. Gutterman states that many researchers argue against the use of diagnoses as criteria for hospitalization, preferring instead that a child's past or potential danger to themselves or others should be used primarily. Some of the arguments against the primary use of diagnosis are those centering around developmental factors, clinicians' biases in assigning certain diagnostic categories to children, environmental factors that influence the expression and description of symptoms, and complications created by comorbidity of diagnoses. By contrast, many clinicians favor diagnosis as valid criteria, pointing to the ability of psychiatric diagnosis to accurately predict violent behavior.

Three competing hypotheses were tested in Gutterman's study: 1. Psychiatric diagnosis will most accurately predict hospitalization. 2. Psychiatric diagnosis will most accurately predict hospitalization after controlling for potential for violence. 3. Potential for violence alone will most accurately predict hospitalization. The results of this study fit most closely with the second hypothesis. Overall, diagnosis more accurately predicted hospitalization than did potential for violence. However, diagnosis (particularly the

common diagnoses of affective and psychotic disorders) most reliably predicted hospitalization only after potential for violence was statistically controlled.

Finally, Petti (1998) discusses the role of often-overlooked aspects of diagnosis as they relate to the decision of whether or not to hospitalize a child. More specifically, as opposed to simply using Axis I diagnoses, the author proposes that Axis II and Axis V diagnoses may actually be better measures of the need for hospitalization. He further suggests that the family or caregivers' ability to provide sufficient care for the patient is a critical, often overlooked, and difficult to measure criteria in deciding whether or not to hospitalize. That is, it is suggested that the decision to hospitalize is commonly made based on the presumption that the child will not receive adequate care at home.

Determining the Appropriate Length of Stay and Level of Care

Two competing theories drive the controversy relating to length of stay as a treatment variable. One group of researchers maintains that longer stays increase the probability that treatment goals will be realized while others assume that shorter stays equate to a less traumatic hospitalization experience, thus promoting the probability of positive outcome (Pfeiffer & Strzelcki, 1990).

In a large-scale study of admissions to Illinois State hospitals over five years, Pavkov, Goerge, and Czapkowicz (1997) found that the most accurate predictor of the length of stay was the patient's age. The older the patient, the shorter the length of stay. An interpretation of this pattern offered by these researchers is that different treatment approaches are used according to age-dependent developmental and intellectual differences among the patients.

Males had a longer average length of stay. Race was also an indicator of length of stay, with African Americans having the longest length of stay and Hispanics having the shortest. Those patients diagnosed with attention deficit disorders, psychotic disorders, and conduct disorders also had longer lengths of stay compared to those with depressive disorders, adjustment disorders, and chemical dependence disorders. Additionally, patients who received outpatient services from multiple agencies prior to admission were more likely to have longer inpatient stays. Also, length of stay increased as a function of the number of previous psychiatric hospitalizations. Finally, youths that were judged as potentially violent had longer lengths of stay.

However, one major limitation to this important study is that the data that were used only included admissions to state hospitals that normally serve those with no private insurance or who have limited income. These populations are generally found to have greater rates of severe psychopathology. This perspective found empirical support in a related study by Dalton, Moseley, and McDermott (1997) who analyzed many of the clinically significant differences between patients with public and private insurance.

During their hospitalizations, publicly funded patients required more physical holdings (restraints) to deal with their aggressive behavior. The publicly funded group also showed a smaller decrease in their aggressive behavior during hospitalization as compared to the

patients with private insurance, indicating that the publicly funded patients benefited less from treatment. In addition, both the total number of admissions and the average length of stay were greater for publicly funded patients. The investigators attributed these findings to the more severe and persistent symptoms commonly observed among the public insurance group. Thus, it is likely that the greater levels of baseline pathology among those of lower socio-economic status (those with publicly funded health coverage) may account for these differences.

According to Masters (1995), the length of stay in psychiatric hospitals has decreased significantly on a national level over the past few years. Financial savings resultant from this shortening of hospitalizations could potentially be spent instead on other types of treatment in a specific application of the continuum of care approach. In such an approach to the integration of hospitalization into a gradual, stepped care system, the treating inpatient physician could also manage the child's outpatient medication following discharge. According to Masters, this system would allow for treatment in the least restrictive clinical setting, and has found managed care receptive to the evidence supportive of this approach. This program would also naturally provide inpatient care for stabilization of the child during and after a crisis followed by a move to a residential treatment setting, partial hospitalization, day treatment during school hours, and so on down the continuum. The level of care depends upon what the child needs at that time, and is not limited to strict admission, treatment, or discharge criteria.

Effectiveness of Inpatient Services

An early review by Blotcky, Dimperio, & Gossett (1984) reveals that all treatment outcome studies of inpatient hospitalizations for children and adolescents conducted up to 1984 reported some positive treatment outcomes. Roughly half of these studies reported positive long-term outcomes. In this review, positive outcomes were found to be related to adequate intelligence, nonpsychotic and nonorganic diagnoses, absence of antisocial features, healthy family functioning, later onset of symptoms, specialized treatment programs, involvement in aftercare, and longer length of stay. However, because this study relied on a subjective narrative review of these factors, it is impossible to quantify the relative contribution that each of these variables made to treatment outcome. More recently, Pfeiffer & Strzelecki (1990) conducted a comprehensive review. Ten variables that were predictive of outcome emerged most commonly among the studies they reviewed. These variables are presented in *Table 1*.

Of all diagnoses, Psychotic disorders and aggressive conduct disorders respond least favorably to inpatient treatment. In addition, the following symptoms were associated with poor outcome: alienation, psychosexual problems, acting out, psychotic symptoms, and low energy level. A somewhat surprising finding was that two variables (age and sex) commonly thought to play key roles in predicting outcome showed no significant predictive value. Similarly, length of stay and IQ were found to show only moderate correlations with outcome. However, perhaps more enlightening results would stem from analyzing the interactions between these theoretically interesting variables and others such as diagnosis or family functioning.

Table 1: Correlates of Positive Outcome Following Inpatient Hospitalization

| Predictor Variable | Weighted Predictive | Number of |
|--------------------------------|---------------------|-----------|
| | Value | Studies |
| Aftercare | 1.0 | 4 |
| *Treatment | 1.0 | 4 |
| Family Functioning/Involvement | 0.7 | 9 |
| Length of Stay | 0.48 | 7 |
| Intelligence | 0.3 | 7 |
| Age at Admission | 0.19 | 12 |
| Sex | 0.15 | 6 |
| Diagnosis | -0.67 | 10 |
| Symptom Pattern | -0.75 | 13 |
| Organicity | -0.8 | 4 |

Reprinted from Pfeiffer & Strzelecki, 1990

*Four specific treatment variables were examined, all of which were found to be significantly positively correlated with treatment outcome. When combined, the four variables yielded a weighted predictive value of 1.0, which signified perfect predictive utility. The four variables examined are therapeutic alliance, planned discharge, completion of a treatment program, and the use of cognitively oriented skills training.

Another study was conducted (Kolko, 1992) that attempted to identify predictors of both positive and negative outcomes. Concerning treatment variables, no significant relationship was discovered between the various outcome measures and length of stay. The only treatment variable found to have a significant relationship with treatment outcome was limited involvement with aftercare. The clinical significance of this finding is particularly noteworthy in light of the fact that the follow-up intervals in this study were so short. It appears that the decrement in treatment gain due to failure to follow through with aftercare occurs quite rapidly.

The specific behaviors that most reliably differentiated the patients that showed little or no improvement from those that showed improvement were: 1) antisocial behaviors such as verbal aggression, physical aggression, destructiveness, and lying; 2) behaviors indicative of noncompliance such as complaining, temper tantrums, noisiness, and hyperactivity; 3) depressive symptoms such as crying and suicidal ideation; and 4) poor post-hospitalization adjustment, as indicated by poorer school adjustment, social adjustment, and home relationships. Consistent with prior research (Pfeiffer & Strzelecki, 1990), the characteristics most predictive of poor outcome were age at admission, neurological or psychotic symptoms, limited involvement in aftercare, and a history of physical abuse.

Finally, a program of research conducted by Sourander and colleagues (Sourander, Helenius, Leijala, Heikila, Bergroth, & Piha, 1996a; Sourander et. al., 1996b; Sourander, Helenius, & Piha, 1996c; Sourander et. al., 1996d) was aimed at identifying all variables related to short and long-term outcome. These studies employed a variety of methodologies across several different follow-up intervals. In general, the results indicate that there tends to be improvement between admission and 5-month follow-up,

but not between 5-month and 12-month follow-up.

Generally consistent with the literature review conducted by Pfeiffer & Strzelecki were the findings that the most significant predictors of poor outcome were past history of treatment for psychiatric problems, and a greater number of behavioral problems as indicated by both parent and teacher ratings. Children and adolescents with severe conduct problems tend not to benefit from short-term inpatient treatment. No significant results were found for demographic variables such as age and gender. Parents' history of psychiatric treatment within the child's life was highly predictive of poor outcome. Surprisingly, it was found that patients from single parent homes showed the best treatment outcomes. This finding is of both theoretical and practical interest. While it may be that acute treatment provides the social support presumably lacking in these children's environment, it remains unclear whether in fact hospitalization is specifically efficacious in providing this type of support, or whether non-specific outpatient or respite care could provide this demonstrably therapeutic support (Sourander et. al.).

This group of researchers provide several warnings relevant to the interpretation of these and similar results. They remind us that these results must always be interpreted cautiously in light of the fact that no control conditions were included to allow for the comparison of the effects of hospitalization with no treatment or with treatment at lesser levels of intensity. In addition, when considering the course of child and adolescent psychopathology, it is essential to consider maturation effects and the normal developmental course of these disorders when attempting to interpret treatment outcome results. Thus, it is often left quite unclear whether the results described above, as with any treatment outcome studies with children and adolescents, reflect actual treatment effects or merely the normal developmental course of the disorder.

Most broadly, the most accurate predictors of negative outcome across studies were high levels of baseline pathology, overall pathology at the time of discharge, and the presence of conduct problems, while the best predictors of positive outcome were lower levels of baseline pathology, the absence of conduct problems, and participation in aftercare. Taken as a whole, these findings support the commonly held but clinically intractable notion that healthier patients tend to respond better to treatment.

Inefficiency and Lack of Availability of Inpatient Services

In addition to the lack of robust experimental evidence supportive of the effectiveness of inpatient services, there is an assumption that inefficient utilization of inpatient services creates a "bottleneck", or prevents the smooth and timely flow of patients to the most appropriate level of care within the continuum of care. One dramatic example of the this type of bottleneck is described in the Citizens Committee for Children (CCC) report (1999). This report estimates that 387 children in the state of New York are on waiting lists for Residential Treatment Facility (RTF) beds. In addition, it is estimated that 20% of patients currently residing in RTFs are ready (clinically) for discharge, but remain in residence due to the lack of appropriate aftercare. While the above example is illustrative of the occasional over-utilization of services to the detriment of the optimal performance of the mental health system, the CCC report also provides staggering estimates

concerning the rates of underserved and uninsured seriously emotionally disturbed children and adolescents. Thus, both overserved and underserved individuals make significant contributions to the overall inefficiency observed within the mental health system for children and adolescents.

Another presumed source of inefficiency discussed within the literature is limited communication between the various providers, the patient, and the family of the patient at the critical times of referral, admission, and discharge. Sourander & Piha (2000) investigated the effectiveness of an integrated communication system in which teachers, clinicians (both outpatient and inpatient), parents, and other parties who have first-hand knowledge of the child meet following the initial referral. During this meeting, an alternative to inpatient hospitalization is found in one third of the cases. A similar networking meeting takes place during the last few days of treatment or within two weeks of discharge to assess the child's needs following discharge, and to exchange information regarding the family and child to the aftercare providers. This meeting also addresses the need for a supportive professional and psychosocial network for the family. These meetings are for the purpose of bridging the gap between inpatient and outpatient treatment for the best interest of the child and family. No data were provided regarding the effectiveness of this post-discharge network approach.

Parental Stress Related to Hospitalization

It has been demonstrated (Thompson, DiGirolamo, & Mallory, 1996) that parents of children undergoing medical assessments actually exhibited higher levels of distress than did their children. In their review of the literature concerning parental stress related to the hospitalization of a child, Whelan & Kirby (2000) conclude that it is not unreasonable to extrapolate that this issue of parental distress may be of particular importance when concerning psychiatric hospitalization, as parents may tend to blame themselves for their children's problems.

In addition, analyses have shown relationships between the perceived predictability of the child's hospitalization and parental distress. One potential implication and recommendation made by Whelan & Kirby is that it may be advantageous to advise parents as soon as possible that hospitalization is a treatment option that is being considered. Similarly, Schepp (1991) advises that, in order to maximize the efficacy of treatment, parents should be educated concerning the types of stressors typically associated with hospitalization. This will allow them to better combat their own anxiety as well as enabling parents to direct more of their own efforts toward the needs of their child rather than onto their own needs. An investigation by Melnyk (1995) concluded that mothers who received behavioral information alone, parental role information alone, or both types of information experienced less anxiety related to their child's hospitalization and participated more in their child's care as compared to mothers that received no information.

Methods

The authors of this study have investigated questions related to the provision and delivery of inpatient services to children and adolescents. Many of these questions revolve around the central issue of identifying problems that lead to the inefficient utilization of inpatient services, which are the most intensive, most restrictive, and most expensive of all mental health services provided. These questions have also served to guide the process of culling data from the myriad sources relevant to this analysis. This project would most appropriately and most broadly be termed a Utilization Review, with additional emphasis on the needs and resources available to Broome County children and adolescents. Toward this end, information was gathered from a variety of sources through a variety of methods.

Quantitative data concerning the utilization of inpatient services was gathered from 3 sources:

1. Data were provided by CPEP operated by UHS at Binghamton General Hospital. CPEP serves as the primary entry point/referral source for Broome County children and adolescents that are eventually hospitalized at one of the inpatient facilities listed below. In addition, CPEP conducts psychiatric assessments and maintains several 72-hour extended observation beds. The data that were provided by CPEP included demographic information on each child and adolescent that was hospitalized through CPEP during 1998, 1999, and through September 2000.
2. Hospitalization data for the years 1998, 1999, and 2000 (through June only) were obtained from 6 inpatient facilities where Broome County children and adolescents have been hospitalized during this period of time. With the exception of the Memorial 5 (M5) and Krembs 3 (K3) units that serve 16 to 18 year old adolescents through UHS, there is not currently an inpatient unit for children and younger adolescents located in Broome County. Therefore, this inpatient utilization data was obtained from 4 private facilities (Four Winds – Syracuse, Four Winds – Saratoga, Stony Lodge Hospital in Westchester County, and the M5/K3 units) and 2 Office of Mental Health (OMH) state-operated facilities (Hutchings Psychiatric Center in Syracuse and Mohawk Valley Psychiatric Center in Utica). The data included demographic, diagnostic, length of stay, and insurance information for each child and adolescent from Broome County admitted to these facilities over the past 2¹/₂ years.
3. OMH provided utilization data on the two Residential Treatment Facilities (RTFs) to which Broome County children and adolescents have been admitted since 1994. The RTFs are located in Utica (House of the Good Shepherd), and Greene (Children's Home of Wyoming Conference). In addition, the Hillside Children's Center is located in Auburn; no Broome County kids have been admitted there in the last three years.

The data analysis was primarily descriptive in nature. That is, no attempt was made to use inferential statistics. This decision was made based upon the varying levels of

completeness of the data provided by each hospital, as well as on the large discrepancy in the number of patients admitted to each hospital. Rather, the focus of this data analysis was on providing as thorough and as accurate a description as possible of the utilization of inpatient services by children and adolescents from Broome County. These data will be presented and discussed in the **Results** section, and interpreted further in the **Conclusions** section of this report.

In addition to the quantitative data, qualitative data regarding strengths, limitations, and needs within the delivery of inpatient services to children and adolescents were collected from two sources:

1. Interviews were conducted with several providers of mental health services for children and adolescents. A standard set of questions was developed in order to address many of the perceived limitations in the effective delivery of inpatient services to children and adolescents. These questions were posed to professionals working in the intake, discharge planning, direct service provision, case management, and administration departments of each of the inpatient facilities mentioned above. In addition, these professionals were asked for their perceptions of the relative strengths and weaknesses in the delivery of inpatient services. Less structured interviews were conducted with the director of CPEP, the medical director of psychiatric services at UHS, and the director of the RTFs at OMH. These interviews are summarized in **Appendix 1**.
2. Information was gathered directly from consumers (parents of children and adolescents who have utilized inpatient services). It was believed that consumers would provide unique and valuable insight into the availability, accessibility, delivery, and effectiveness of these types of services. In addition, it was hoped that the consumers would be able to speak to the issue of communication between themselves and mental healthcare providers in Broome County, and to delineate any problems that they may have faced when attempting to access inpatient services for their children. There are two support groups for the parents of children and adolescents that have mental health problems in our community. They are run by the Children's Flex Team and by Parent Partners. One of each of these meetings was attended by one of the authors of this report, and feedback was elicited from parents via questionnaires and through discussion. This feedback from consumers is summarized in **Appendix 3**.

Results

CPEP Data

- There were a total of 773 children and adolescents seen at CPEP in 1998. Of these, 142 (18.4%) were hospitalized. In 1999, 97 out of 769 (12.6%) were hospitalized. Through September of 2000, 122 out of 671 (18.2%) were hospitalized. The average number of hospital admissions per month through CPEP is shown in *Figure 1*. *Figure 1* also shows the average number of admissions per month broken down into two age groups: 5 to 12 year-olds and 13 to 17 year-olds. The average number of 13 to 17 year-olds admitted per month is greater than the average number of 5 to 12 year-olds for all three of the years examined. This pattern of the number of hospitalizations increasing as a function of the age of the patients is also demonstrated in *Figure 2*. The data presented in this second figure is collapsed across time.
- Of the types of problems with which these patients have presented at CPEP, Depression (34%) is the most common, followed by adjustment disorders (14.4%), and psychotic disorders (11.9%). A major limitation with these data is that they ignore comorbidity, or the presence of more than one diagnosis within the same individual. The rate of comorbidity has been estimated at 79% for individuals who have at least one mental disorder (Kessler, McGonagle, Zhao, Nelson, Hughes, Eshelman, Wittchen, & Kendler, 1994). An additional problem may be that CPEP is an emergency setting in which there is very limited time to conduct thorough assessments. *Table 2* presents the number and percentage of diagnoses of children and adolescents hospitalized through CPEP from January 1998 – September 2000.

Table 2: Diagnosis Upon Admission at CPEP 1/98 – 9/00

| Diagnostic Category | Number | Percentage |
|--------------------------------------|--------|------------|
| ADD/ADHD | 26 | 7.2 |
| Adjustment Disorders | 52 | 14.4 |
| Anxiety Disorders | 1 | 0.3 |
| Bipolar Disorders | 35 | 9.7 |
| DBD* | 41 | 11.4 |
| Depressive Disorders | 125 | 34.6 |
| Pervasive Developmental Disabilities | 4 | 1.1 |
| Psychotic Disorders | 43 | 11.9 |
| Post-Traumatic Stress Disorder | 17 | 4.7 |
| Substance/Alcohol Dependence | 11 | 3 |
| Other Diagnoses | 6 | 1.7 |

*DBD (Disruptive Behavior Disorders) refers to Conduct, Oppositional Defiant, Impulse Control, and Intermittent Explosive Disorders

- Concerning repeated presentations to CPEP, exactly 50% of the hospitalized children and adolescents examined in this study had previously been seen at CPEP prior to the time of their hospitalization. *Figure 3* presents the percentage of children and adolescents who were hospitalized through CPEP and who had previously been seen

at CPEP. The data were broken down into the two age groups. For all 3 years, the 13 to 17 age group showed a higher percentage of being previously seen at CPEP than the 5 to 12 age group.

- Only 44% of the hospitalizations of children and adolescents through CPEP over the past 3 years have been voluntary. *Figure 4* presents the percentage of voluntary and involuntary admissions by age group. Involuntary admissions refer to either 9.39, 9.41, or to Two-Physician commitments. The 13 to 17 age group shows a higher percentage of involuntary admissions (47%) than the 5 to 12 age group (9%). Thus, the 13 to 17 age group accounts for the vast majority (84%) of all involuntary hospitalizations.
- Out of the 361 children and adolescents hospitalized through CPEP from January 1998 – September 2000, 51% were male.
- 59% of these children and adolescents' parents were divorced at the time of their presentation at CPEP, 26% of their parents were married, 6% were adopted, 1% were in foster care, and 8% were classified as "Other".
- The number of inpatient hospital admissions through CPEP over the last 3 years by school district is presented in *Figure 5*. Binghamton school district has had the most number of students hospitalized (66), followed by Johnson City school district (31), and Union Endicott (21). It is unclear what factors (besides total number of students in these school districts) may contribute to the distribution of hospitalizations.

Hospital Data

Some brief discussion of basic statistics is needed here. In this analysis, it was often necessary to compare fairly large samples (for example, the average length of stay for the 134 kids admitted to Four Winds Syracuse) with some rather small samples (for example, the average length of stay for the fifteen kids admitted to Mohawk Valley). In an attempt to correct for the possibility that a few extreme data points (such as extremely long lengths of stay) would skew the analyses, two measures of central tendency are reported throughout this section. That is, in addition to the mean, which is greatly influenced by extreme scores, especially with small samples, the median was also reported. The median is the middle number in a sequence of numbers, and is not influenced by extreme scores. In addition, because of their abnormally long lengths of stay, the data for two patients were excluded from all analyses pertaining to length of stay. These two patients were: 1) a sixteen year old male diagnosed with a disruptive behavior disorder, admitted to Mohawk Valley through CPEP in 1998, stayed at Mohawk for 363 days; and 2) a fifteen year old female diagnosed with a depressive disorder, admitted to Four Winds-Saratoga through a DSS referral in 1999, stayed for 462 days.

- It was not possible to determine the total number of Broome County children and adolescents admitted to inpatient facilities over the past 2¹/₂ years, as practical considerations precluded obtaining data from the more than eleven hospitals to which these patients were admitted. Data were collected from the six facilities

where Broome County kids are most often hospitalized. The data presented in this section are based on 287 total admissions. This represents approximately 80% of the admissions in 1998, 75% of the admissions in 1999, and 72% of the 2000 admissions.

- The average length of stay for all 287 admissions over time is presented in several different ways. *Figure 6* shows the mean and the median length of stay across the six hospitals. There appears to be no clear trend within these data toward either an increase or a decrease in length of stay over time. *Figure 7* shows the frequency of lengths of stay during the first month of hospitalization. The modal length of stay occurred at eight days (27 patients).
- The average lengths of stay for each individual hospital were next separated based on whether they are private facilities or state-operated (OMH) facilities. The average (mean and median) length of stay is generally greater for the state than for the private hospitals. There is no clear trend toward either an increase or a decrease in the average length of stay (neither the mean nor the median) over time for either the private or the state facilities. *Figure 8* shows the average length of stay for each hospital over time. When interpreting this length of stay data, it is important to consider the total number of admissions to each hospital over the past 2½ years. Four Winds Syracuse had, by far, the most admissions (134), followed by Four Winds Saratoga (45), the UHS M5 and K3 units (39), Hutchings (31), Stony Lodge (21), and Mohawk Valley (15).
- The mean age of the sample was fourteen, and the median age was fifteen. The average length of stay over time is broken down into 2 age groups and presented in *Figure 9*. For all 3 years, the mean length of stay for the 5 to 12 year-old age group is greater than that for the 13 to 18 year-old age group. The median length of stay is greater for the younger patients in 1998 and 1999, while the medians are equal in 2000. This data is based on all 287 admissions.
- The most common diagnostic category for these patients is the depressive disorders (30.2%) followed by the disruptive behavior disorders (26.8%) and bipolar disorders (12.8%). As with the CPEP data, these results must be interpreted in light of the fact that patients were classified according to their primary diagnosis only. Again, this ignores the issue of comorbidity. *Table 3* presents the number and percentage of the diagnoses of the sample of Broome County children and adolescents that have been hospitalized over the past 2½ years. This table is based on the 149 admissions for which a diagnosis was provided. All hospitals provided diagnoses except Four Winds Syracuse.

Table 3: Diagnoses of Hospitalized Patients 1/98 – 6/00

| Diagnostic Category | Number | Percentage |
|----------------------|--------|------------|
| ADD/ADHD | 5 | 3.4 |
| Adjustment Disorders | 12 | 8.1 |
| Anxiety Disorders | 4 | 2.7 |
| Bipolar Disorders | 19 | 12.8 |
| DBD* | 40 | 26.8 |
| Depressive Disorders | 45 | 30.2 |
| Psychotic Disorders | 14 | 9.4 |
| Other Diagnoses | 9 | 6 |

*DBD (Disruptive Behavior Disorders) refers to Conduct, Oppositional Defiant, Impulse Control, and Intermittent Explosive Disorders

- When considering the average length of stay by diagnostic category, it is the opinion of the authors that the median is the more appropriate statistic because of the small sample sizes in several of the diagnostic categories. Again, when there is a small sample size, the probability that the mean will be skewed by one or two extreme values is great. When considering the median, the depressive disorders and the disruptive behavior disorders showed the greatest length of stay (13 days), followed by the anxiety disorders and the other diagnostic categories (12.5 days). *Figure 10* presents these data.
- An interesting but complex relationship exists within the data between age, diagnostic category, and length of stay. While *Figure 11* generally shows that, across diagnostic categories, there are more older kids being hospitalized, *Figure 12* generally shows that the average length of stay is greater for the younger patients across most diagnostic categories. That is, although there are more older adolescents than younger children being hospitalized within each diagnostic category, the younger children are staying in the hospital longer than their adolescent counterparts for the same types of problems. This pattern will be discussed at length in the **Conclusions** section of this report.
- Length of stay by gender is considered next. The mean length of stay for males is greater than that for females for all 3 years. Interestingly, this pattern is reversed for all 3 years when examining the median length of stay. That is, the mean length of stay is greater for males across all 3 years, but the median length of stay is greater for females for all 3 years. This analysis is based on the 151 admissions for which gender was provided. All hospitals provided gender except for Four Winds Syracuse. *Figure 13* presents these findings.
- One question of great theoretical interest in this study was the issue of “bottlenecks”, or points within the continuum of care where children and adolescents are getting “stuck” and not moving efficiently to the more appropriate level of care. The average length of stay as a function of the types of discharge plans arranged for the patient during the hospitalization are presented in *Figure 14*. Again, the median is the more

appropriate statistic for the purpose of comparison, due to the small number of patients in some of the categories. The median length of stay is greatest for patients discharged to day treatment (35.5 days), followed by RTFs (20.5 days), and other inpatient facilities (20.5 days). One limitation to this data is that they merely depict the types of discharge plans made for the patients. It was not possible to obtain any data concerning whether or not the patients and their families actually followed up with these discharge plans. These data are based on the 104 admissions for which discharge information was provided. Discharge plans were provided by Four Winds Saratoga, Hutchings, Stony Lodge, and Mohawk Valley.

- A consistent pattern emerges in terms of the comparison between length of stay for private insurance patients versus public insurance (Medicaid) patients. Both the mean and median length of stay is greater for the Medicaid patients than for the private insurance patients across all three years. These data were based on 66 admissions for which insurance information was provided. Only Four Winds Saratoga and Stony Lodge provided insurance information. These results are presented in *Figure 15*.

RTF Data

- Since 1997, 3 Broome County adolescents have been treated at The House of Good Shepherd in Utica. Their average length of stay is 365 days. Since 1994, 18 Broome County children and adolescents have been treated at the Children's Home of Wyoming Conference in Greene. Their average length of stay is 823 days. Five of these residents are currently being treated at Wyoming Conference. Thus, this average length of stay will actually be higher once these residents are discharged. Since 1992, 30 Broome County children and adolescents have been treated at the Children's Home RTF in Greene. This accounts for 42% of the population at this RTF. Two of these Broome County kids were treated twice at the RTF. The average length of stay for these 30 Broome County residents treated at the Children's Home since 1992 is 792 days.
- Concerning the diagnoses of these residents, diagnoses were provided only for the 3 children treated at The House of Good Shepherd since 1997, and the 18 residents treated at The Children's Home of Wyoming Conference since 1994. The most common diagnosis is ADD/ADHD (6 patients), followed by Post-Traumatic Stress Disorder (4 patients), disruptive behavior disorders (3 admissions), and psychotic disorders, depressive disorders, and bipolar disorders (2 patients each). Of these 21 residents, 14 fell into the 5 to 12 year old age group, while 7 fell into the 13 to 18 group.

Limitations of This Study

There are several major limitations to this study, of which the reader should be aware, that make many of the results difficult to interpret and that limit the types of conclusions that may be drawn.

1. As mentioned previously, it was not possible to obtain data describing 100% of the children and adolescents admitted to inpatient facilities. Data for most of the patients was gathered, and it is hoped that these data sufficiently and accurately describe the entire population of patients.
2. Not all types of data were provided by all hospitals. This limited the sample sizes for several types of analyses such as those regarding diagnostic categories, gender, insurance, and discharge planning.
3. Data were not obtained regarding recidivism.
4. Data were not obtained concerning patients' follow-up with post-discharge aftercare plans. Adequate follow-up is consistently cited both within the literature review and by the mental health professionals interviewed for this study as a major contributing factor to positive long-term treatment outcome.
5. Data were not analyzed that would have allowed for comparisons between patients seen at CPEP that were hospitalized and patients seen at CPEP that were not hospitalized.
6. The cost of a single visit to CPEP is estimated at \$208 to \$252 (Griffith, 2000). No additional financial information, such as the cost of inpatient hospitalization for children and adolescents was collected. It was believed that there would be such a broad range of cost estimates provided, and that the estimates would vary so much across hospitals that it was decided not to attempt to collect this type of information.
7. Data were only collected within the last three years. Therefore, any conclusions regarding potential trends within the data must be couched cautiously in these terms.

Conclusions

Comments and Interpretation of CPEP Data

RATES OF HOSPITALIZATION OVER TIME:

Concerning the overall rates of admission to inpatient hospitals, there is no clear trend within this brief sample of data. While the average number of admissions per month through CPEP for 2000 (13.8 admissions per month) is significantly higher than the same average was in 1999 (8.2), it is only slightly higher than the same average rate was in 1998 (11.9). These data were presented in *Figure 1*.

AGE AND RATES OF HOSPITALIZATION:

There does, however, appear to be a strong relationship between age and the probability of being hospitalized. Older adolescents have accounted for a much larger percentage of the total admissions over each of the past 3 years. In addition, as age increases, so does the number of admissions. This trend is presented in *Figure 2*. Children in the 5 to 12 year-old group are being admitted at a much higher rate (4 per month) than they were in both 1998 (2.2 per month) and 1999 (2.2 per month). This data is also presented in *Figure 1*. However, the total number of referrals to CPEP for children in this age group also increased in 2000. Thus, it is possible that this increased average is purely a function of an increased number of presentations to CPEP.

RATES OF HOSPITALIZATION AND REPEAT VISITS TO CPEP:

Another interesting finding from the CPEP data concerns the percentage of children and adolescents hospitalized through CPEP that have been seen at CPEP prior to their hospitalization (*Figure 3*). While the percentage of hospitalized 5 to 12 year-olds previously seen at CPEP has remained largely unchanged over the past 3 years, there is a clear trend toward a lower percentage for the 13 to 17 year-olds. One interpretation of this finding is that CPEP is becoming increasingly unlikely to refer older adolescents for hospitalization who have had previous visits to CPEP. The alternate interpretation is, of course, that CPEP is becoming increasingly likely to refer older adolescents for hospitalization during their first visit to CPEP.

Comments and Interpretation of Hospital Data

LENGTH OF STAY OVER TIME:

The data regarding length of stay over time are presented in *Figure 6*. There appears to be a slight trend toward shorter stays over time. However, as mentioned in the **Limitations to This Study** section, any discussion of trends within the data must be made extremely cautiously, as data were only able to be gathered over the past three years. In terms of potential support for the reliability of this finding, Masters (1995) found that length of stay is decreasing on a national level over the past five years.

In terms of potential interpretations of this finding of a slight trend toward decreased length of stay over time, both the literature review (Masters, 1995; Dalton, et. al., 1997),

and the mental health professionals interviewed for this project provide support for managed care's influence on length of stay. Managed care may be increasingly setting firm limits on the length of hospitalizations, thereby forcing patients who would normally have stayed much longer (and driven the mean upward) to be discharged. This interpretation finds much support from the data in *Figure 15*, which demonstrates that the average length of stay for private insurance patients is both consistently lower than that for patients with public insurance, and becoming shorter over time. This issue is further illuminated by *Figure 16*, which shows that length of stay has generally been much shorter for patients treated in private hospitals (which receive much of their reimbursement from managed care) than for state hospitals (which receive little or no managed care reimbursement). However, this general trend is dramatically altered for the year 2000 data, which shows that lengths of stay for the private and state hospitals are virtually the same.

Another, more theoretical interpretation of the interaction between type of insurance and length of stay is described in the literature review (Dalton, Mosely, & McDermott, 1997). This interpretation of the data described above is that the length of stay is generally greater for patients with public insurance in large part because individuals of lower socioeconomic status (SES) are at a greater risk of severe psychopathology and are also more likely to have public insurance. Thus, this interpretation rests mainly on the base rates of severe psychopathology among those of low SES. A final possible (though less empirically tenable) interpretation is that the development of medications that increasingly and more specifically target psychiatric symptoms, combined with physicians' increasing skill in implementing medication therapy, has led to this decrease in the average length of stay.

DIAGNOSIS, AGE, AND LENGTH OF STAY:

As alluded to within the **Results** section, there exists a rather interesting and complex relationship between diagnosis, age, and length of stay. While a greater number of older adolescents (those in the 13 to 18 year-old group) were admitted to inpatient hospitals across time and across diagnostic categories (*Figures 1 and 11*), younger children (those in the 5 to 12 year-old age group) have longer lengths of stay across time and across diagnostic categories (*Figures 9 and 12*). This finding is consistent with prior research (Pavkov, et. al., 1997). Here again, competing explanatory hypotheses arise:

One theory posits that children are more difficult to treat because their lack of age-dependent verbal and intellectual skills limit their ability to benefit from psychotherapy (Pavkov). A related possibility is that younger children are more likely to be experiencing their first hospitalization than are their adolescent counterparts. In the case of an initial hospitalization, physicians and other caregivers may be more likely to conduct a more thorough and time-consuming series of assessments, begin medication therapy at a more gradual rate of titration, and require that a younger child be monitored throughout these processes on an inpatient basis. However, this "first hospitalization hypothesis" is contradicted by the Pavkov study, which found that initial hospitalizations tend to be shorter than subsequent hospitalizations. An alternate interpretation is that young children who are hospitalized are found to have more severe and chronic

psychopathology (Pfeiffer & Strzelecki, 1990; Kolko, 1992; Sourander et. al., 1996a; 1996b). This may account for their greater length of stay when compared to older adolescents who present with similar problems.

This discussion of the relationship between age, severity of pathology, and length of stay leads to an additional finding within this study. It was surprising to the authors to learn that so many extremely young children have been admitted to inpatient facilities. From the CPEP data (*Figure 2*), we learn that more than 33 children between the ages of 5 and 9 have been admitted to inpatient units since 1998. In addition, evidence has been uncovered that indicates an increasing trend toward admitting younger children (*Figure 1*). At least one mental health professional that was interviewed for this study has stated that there is a problems with very young children being hospitalized without first accessing services at a less intensive level of care within the community. This clinical observation, coupled with much evidence from the literature (Blotchy, 1984; Pfeiffer & Strzelecki, 1990; Kolko, 1992; Sourander, 1996a; 1996b; 1996c; 1996d; Pavkov, 1997) indicating that a major predictor of poor long-term outcome following inpatient hospitalization is high level of baseline pathology, must cause us to question whether these admissions of very young children are appropriate. Perhaps when an extremely young child presents with pathology that is severe enough to warrant inpatient services, alternative treatment options (such as placement in an RTF) should be considered sooner rather than later. Given the long waiting list for RTF placements, it should be considered a possibility that many of these very young, seriously disturbed children are languishing on inpatient units, perhaps over multiple hospitalizations, waiting for an eventual RTF placement. This conclusion is no more than extrapolated speculation based on the limited data contained within this report. Clearly, more research is needed in this area.

GENDER AND LENGTH OF STAY:

There is a consensus in the literature reviewed for this study that males have longer average lengths of stay than females (Pfeiffer & Strzelecki, 1990; Pavkov, 1997). These studies base their findings on the mean length of stay. In this study, it was also found that males have a greater mean length of stay (*Figure 13*). However, we also found that females actually have a longer median length of stay. Thus, it can be concluded that a more accurate description of the relationship between gender and length of stay is that most females stay longer than most males, but that males tend to have most of the extremely long stays.

DISCHARGE PLANS AND LENGTH OF STAY:

Patients that were discharged to more intensive levels of aftercare (RTFs, other inpatient facilities, day treatment/partial hospitalization) had longer lengths of stay than those who were discharged to less intensive types of aftercare (*Figure 14*). In addition to the longer mean and median length of stay, we also see the greatest discrepancy between the mean and median length of stay for those patients waiting to be discharged to RTFs. This finding indicates that there are a few patients that are staying for an extremely long time (and driving the mean upward) while waiting for a placement at an RTF. Again, we are merely left to speculate as to the cause of this relationship without the benefit of more

data. One possibility for this pattern is that there is a lack of available placements in these more intensive aftercare programs which causes patients to remain hospitalized longer while waiting for an opening. The alternate possibility is that the patients waiting to be discharged to intensive aftercare programs have more severe and more chronic problems. Whichever the reason, it is possible that this finding represents a problematic “*bottleneck*” within the continuum of care.

THE PROBLEM OF AFTERCARE:

One problem that was clearly delineated by most of the professionals interviewed for this study is the lack of adequate follow-up with aftercare plans on the part of patients and their families. This included both a lack of compliance with medication, and failure to attend aftercare appointments. Similarly, the literature is unequivocal on this issue (Blotchy, 1984; Pfeiffer & Strzelcki, 1990; Kolko, 1992; Sourander, 1996a; 1996b, 1996c; 1996d; Burns, 1999). Not only has it been repeatedly found that proper follow-up is a critical factor in contributing to positive long-term outcomes, but there is significant evidence that any gains that were made during hospitalization tend to dissipate rapidly without adequate aftercare.

Some of the factors that were identified as contributing to this problem were the lack of timely appointments for initial aftercare visits, and parents’ lack of understanding or lack of willingness to cooperate with aftercare plans. One suggestion that was made in response to this problem is for more parent education to be built into the hospitalization process. One provider has observed that many parents are under the misconception the their child will be “fixed” during the hospitalization, as opposed to viewing the hospitalization as but one of several important steps in treatment. An additional suggestion was made in a prior Broome County Mental Health report (Griffith, 2000) that follow-up phone calls be made by the hospital to help promote compliance and proper understanding on the part of parents concerning aftercare.

The parents that were polled for this study echoed these difficulties with aftercare. Many of them expressed dissatisfaction with the aftercare plans themselves, with the lack of timely appointments for aftercare, and with what many perceived as an over-emphasis on medication without proper explanation as to the effects that the medications would have. An additional difficulty with aftercare identified by consumers is the problem of re-integration into school following inpatient treatment. Many parents stated that neither the schools nor the hospitals were adequately cooperative with children’s attempts to keep up with schoolwork while in the hospital.

THE PROBLEM OF DISTANCE:

Because there is not currently an inpatient unit for children and adolescents located in Broome County, many families must travel great distances (as far as West Chester County and Buffalo) in order to visit and to participate in the treatment of their hospitalized children. Not surprisingly, both consumers and mental health professionals cited this distance as a major obstacle. Among all of the problems with the delivery of inpatient services to children and adolescents, the problems of distance and transportation engendered the greatest amount of agreement among parents. One relatively low-cost

suggestion made by one parent was for hospitals to establish 1-800 telephone numbers that would help to defer the long distance phone bills that many families incur when attempting to remain in contact with their hospitalized child.

FINAL COMMENTS:

One recommendation made by OMH in its Statewide Comprehensive Plan for Mental Health Services (1997-2001) to address this problem of underserved populations is the possible development of acute psychiatric inpatient beds for children and adolescents in selected geographical areas. The feasibility and desirability of Broome County being one of these areas has been explored, and continues to be a topic of much debate within the community mental health system. Much of this debate stems from the perceptions of many consumers and providers that there is an ostensible need for a small inpatient unit for children and adolescents located in Broome County.

Given that there are no immediate plans to establish an inpatient unit for children and adolescents in Broome County, the focus of the community mental health system must be on increasing the efficiency and effectiveness with which services are provided. According to the mental health professionals interviewed for this study, the major source of inefficiency within the delivery of inpatient services does not stem from inappropriate or unnecessary admissions to inpatient hospitals. *Figure 17* will be used to further illustrate this point.

Figure 17: Contingency Table

| | |
|---------------------------------------------------------------------|--------------------------------------------------------------------------|
| A “True Positive” Correct/Necessary Hospitalization | B “False Positive” Unnecessary/Incorrect Hospitalization |
| C “False Negative” Incorrect Non-Hospitalization | D “True Negative” Correct Non-Hospitalization |

In the figure above, cells A and D represent desirable outcomes following the decision of whether or not to hospitalize a child or adolescent. In the case of cell A, the child needed to be hospitalized and was hospitalized. In the case of cell D, the child did not need to be hospitalized and was not hospitalized. By contrast, cells B and C represent problematic outcomes following the same decision. In the case of cell B, the child did not need to be hospitalized, but was hospitalized. In the case of cell C, the child needed to be hospitalized, but was not hospitalized. According to the mental health professionals interviewed for this project, the vast majority of the problems in the efficient delivery of inpatient services lie in cell C as opposed to cell B. These professionals claim that each potential admission is considered carefully in relation to proper admission criteria, and that unnecessary hospitalizations (represented by cell B) rarely occur.

Thus, an important question emerges: Who are these underserved populations who are not receiving the services that they require? It is the strong perception among the mental

health professionals interviewed for this study that the specific population in question are those adolescents between the ages of 13 and 17 who do not carry a specific psychiatric diagnosis, but who exhibit severe behavioral problems, most often involving violence. This sentiment was echoed repeatedly by professionals working in several different types of positions and in several different types of facilities. However, these same professionals did *not* conclude that the solution to this problem is for a greater percentage of this population of adolescents to be hospitalized. Rather, they proposed multiple alternatives to hospitalization that may be more appropriate and effective in treating these types of cases. Specifically, day treatment/partial hospitalization programs were mentioned repeatedly as being more suitably equipped and more effective than the inpatient hospitals in treating these adolescents. A related implication of this perceived problem is that when these particular adolescents are admitted to inpatient hospitals (for lack of a better alternative form of treatment), they are occupying scarce hospital beds that then become unavailable to patients who may benefit more from inpatient hospitalization.

Appendix 1

Phone Interviews With Mental Health Professionals

A standard set of questions was developed for the purpose of identifying some of the strengths and weaknesses in the delivery of inpatient services to children and adolescents. These questions were posed to mental health care providers at various inpatient facilities during telephone interviews. The names, positions, and facilities where these professionals work are presented in **Appendix 2**. Their paraphrased responses are presented here. These are not exact quotations.

1. Which discharge plans do families seem to follow-up with most often? Which discharge plans seem most effective in preventing re-hospitalization? Which community programs seem most effective in keeping kids out of the hospital?

- We don't track whether families follow-up with their discharge plans. Their insurance companies may, but probably only whether or not they went to their first appointment. Some problems with follow-up are transportation problems, and appointments not being available quickly enough. Some other problems are the lack of any community support or parent/family training in the community. Broome County Day Treatment seems to be an effective program. I would recommend more group treatment for at-risk teens age 14 and up including anger management, social skills training, assertiveness training, and general recreational activities so that kids are not left alone after school.
- Referrals to outpatient clinics seem to be the most effective, but a lot of individual difference exists between families in how much they tend to follow through with aftercare. Managed care families tend to follow up more consistently than Medicaid families. DSS kids tend to follow up consistently also. Follow through with aftercare is the biggest factor in preventing re-hospitalization. Partial hospitalization and day treatment programs which combine both clinical and school components seem to be effective both as stem-down care following discharge from an inpatient facility and in preventing hospitalizations. Not enough of these programs exist, especially in the upstate areas.
- Families seem to follow up well with residential treatment plans. More intensive aftercare plans, such as those involving Intensive Case Managers (ICMs) tend to prevent re-hospitalizations. Communities in which there is more outreach and school-based services are more effective in preventing hospitalizations in the first place.
- Aftercare involving individual and family therapy promotes follow-up. Younger children tend not to follow up with PINS (Person In Need of Supervision). Adolescents do tend to follow up with these plans. Another factor that influences compliance with aftercare is the timeliness of follow-up appointments. Families tend to follow up when the appointment is within seven days of the discharge.

- One problem with follow-up is parents' lack of knowledge about the hospitalization process. Parents often believe that their kids are going to be "fixed" in the hospital, and therefore do not realize that the hospitalization is merely one step in treatment. There is a great need for support and training for parents in terms of what they can and cannot expect as a result of a hospitalization. It is also very important that parents have a say in their child's treatment plan.
- Crisis residences are under-utilized. There is a great need for community triage in which the staff is familiar with all the various kinds of treatments available in the particular community.
- I don't see any pattern as far as type of discharge plans. This is highly specific to the individual. Compliance, especially medication compliance, is the most important factor with aftercare. More day treatment would be good.

2. Are unnecessary hospitalizations common? On a scale from 1 to 5 with 1 being not at all common and 5 being extremely common?

- Hospitalizations often occur way too late, but are rarely if ever unnecessary. 1 out of 5
- At one point, they were fairly common. This is no longer the case to a large extent because there is simply a lack of beds. CPEP at Binghamton General does an excellent job of screening kids. They don't send kids to us who do not need to be hospitalized. 2/5
- The people referring cases to us are quite good at only making appropriate referrals because of years of experience in working with our intake department. Our intake department is also very good at sifting through the kinds of information that they hear over the phone and getting at the pertinent criteria for admission. 1/5
- They do happen. Most often they are young male kids with Oppositional Defiant Disorder or Conduct Disorders are often not appropriate for hospitalization. Nor are extremely young children who have not yet received other types of services. 2/5
- The converse is true -- many kids are not hospitalized that need to be. Less than 5% of our admissions are unnecessary or inappropriate. 1/5
- Unnecessary hospitalizations are rare because of scarce inpatient beds. Our utilization review (UR) department examines the appropriateness/need for each admission. We may have one or two inappropriate admissions per year. Most of these are the result of inappropriate court orders to have a child hospitalized. 1/5

3. How often are hospitalizations shortened or lengthened due to non-clinically relevant variables? Such as limits on insurance, logistics (transportation)? On a

scale from 1 to 5 with one being not at all common and 5 being extremely common?

- Availability of school placements is a problem. Kids are often not welcome back in school or the school does not feel able to handle the child. Insurance often sets limits on hospitalizations when kids need more treatment. Kids do often stay in the hospital while waiting for aftercare or somewhere else to go even when they are ready to leave. 4/5
- Managed care has changed the average length of hospitalizations quite dramatically. But it has also changed the way that we view treatment in that we expect that a child will only stay a limited amount of time. We then adjust our treatment plans accordingly. That said, it does happen often enough that a kid will have to leave when we think he could benefit from staying. We also have problems with discharge planning which tend to lengthen hospitalizations. 3/5
- It [lengthened hospitalization] happens less frequently now because of managed care. With Medicaid families, we tend to run into placement (aftercare) problems. Abandonment by families is also an occasional problem. I'd like to see more child and adolescent partial hospitalization and day treatment programs, as these would shorten the average length of hospitalization. 3/5
- More often, hospitalizations are lengthened due to a lack of appropriate placement. Another reason for why hospitalizations are lengthened is resistance from DSS, such as DSS not actively looking for a placement. Hospitalizations are sometimes lengthened because the family lives far away from the child. Some admissions are shortened by managed care. Lengthened hospitalizations: 3/5 Shortened hospitalizations: 1/5
- It is quite common for a hospitalization to be shortened or lengthened because of these other factors. About 75% of hospitalizations are. Managed care is a big variable here. Managed care criteria for allowing bed days are based on adult criteria. Also, waiting lists for aftercare tend to lengthen hospitalizations. 4/5
- The major obstacle to making timely discharges is the difficulty in finding a safe, clinically-supportive environment for the child. This is especially the case when the home environment cannot support the clinical gains made during the hospitalization. Because we are a state facility, we do not have to deal with limits on length of stay imposed by insurance providers. 2.5/5

4. Have you noticed particular problems with the hospitalizations of children whose families live far from the hospital (such as Broome County families)?

- The major problem is that families can't make it to the family treatment sessions. Transportation is also a problem, but not specific to families who live far away.
- About 5% of families will request a transfer to a facility closer to home. We avoid

many of the problems with the family being far away by doing a lot of work over the phone, and providing bus and train tickets.

- We do things to get around those problems like telephone therapy and arranging transportation for families. Very occasionally will a hospitalization be lengthened because of transportation problems by a day or two.
- Families cannot always visit their children because of distance. This impacts our ability to engage families in the child's treatment.
- Some types of insurance demand that parents come to the hospital to sign the child in within 24 hours of admission. This is not feasible for some parents. We sometimes lengthen hospitalizations because of transportation concerns.
- There is much individual variability concerning the problem of distance. Some families will overcome any obstacle. Distance is a factor when families have limited resources.

5. Are there other types of facilities (either inpatient or outpatient) that could effectively treat the types of problems handled at your facility?

- No. However, there is a lack of partial hospitalization and temporary residence facilities that could take the place of at least some hospitalizations.
- In addition to partial hospitalization and day treatment programs I've already mentioned, having an inpatient unit in Broome County would be ideal. Having the family be closer to the patient would be a tremendous aid in treatment.
- More day treatment programs are needed. Sometimes kids are quite acute and legitimately need to be hospitalized but then are stabilized very quickly. When this happens, there is generally no place to send them quickly enough that will be an appropriate level of care. More RTF beds are also needed. Crisis residences and day treatment could handle some of the problems treated here.
- Kids with severe mental retardation are mis-referrals. We are not equipped to handle them. We sometimes end up treating them because no one else will take them.
- Unfortunately, the kids that are admitted here have pretty much burned their bridges in the community system. Maybe 10-15% of our admissions could be handled in a day treatment facility.

6. What factors are common to kids who need to be repeatedly hospitalized?

- Poor compliance with outpatient treatment, and lack of family and social support are the most common problems.
- Lack of follow-up with aftercare is the biggest thing. Second would be lack of

compliance with medications, and then the lack of availability of appropriate aftercare for that patient.

- Dysfunctional family situations including poor parenting skills and lack of follow-up with aftercare are common problems.
- There are definitely common characteristics of these kids and their families. There is a lack of parenting skills, impulse control problems in the parents and kids, lack of motivation for change, and a fear or unwillingness to work with the mental health system.
- Only 20% of our kids are re-hospitalized. Some factors that are common to those that are re-hospitalized are a lack of follow-up with aftercare, and a lack of compliance with medication. In addition, the parents may have given up or the aftercare placement may have been inadequate or inappropriate.

In addition, less structured telephone interviews were conducted with other mental health professionals who work toward providing inpatient services for children and adolescents. The purpose of these interviews was again to identify relative strengths, weaknesses, and needs within the delivery of inpatient services. An additional purpose was to focus and refine the data collection process by clarifying and identifying potential sources of information. The responses are presented here:

- Concerning problems in the delivery of inpatient services, transportation was identified as the single biggest obstacle. The lack of a children's' inpatient hospital in Broome County means that children and families must travel great distances under tremendous stress in order to access services. This distance also limits parent's and other family members' ability to participate in treatment.
- A second major problem that was identified was a lack of treatment available for children and adolescents who present with severe conduct problems, usually involving violence, but who do not carry a psychiatric diagnosis. It is these children who are falling into the gaps in services between hospitals, RTFs, and foster/group homes.
- A third problem that was identified is the lack of effective drug and alcohol treatment. However, although it was discussed briefly, it was not clear to the interviewer in what way this lack of drug and alcohol treatment specifically relates to the problems concerning hospitalization.
- Hospitalization is always used as a last resort in treatment according to this mental health professional.
- The lack of available RTF beds is not viewed as related to the decision of whether or not to hospitalize a child, since most children who are considered in need of hospitalization are not appropriate for RTFs because they exhibit conduct disorders as

opposed to psychiatric disorders.

- In conclusion, the most problematic group of children/adolescents for which to provide appropriate services are 13-17 year-olds with conduct disorders but who do not carry a specific psychiatric diagnosis.
- A second additional mental health professional stated that the most problematic and underserved population consists of children and adolescents who do not meet criteria for an Axis I disorder (as this is criteria for admission to an RTF), but who demonstrate severe conduct problems.
- Many kids wind up being considered for placement in an RTF without having previously accessed services at a less intensive level of care from DSS. If they are deemed as not meeting criteria for RTF placement, our recommendation is often for the family to utilize DSS.
- Generally speaking, discharge planning has historically been a weak link for the RTFs. A new strategy is currently being implemented in which each child will be assigned an ICM who will be responsible for following the child for 6 months after they are discharged from the RTF. Discharge planning is often difficult with these children because other agencies often view kids who have been treated at an RTF as being the most difficult kinds of cases, and as requiring constant attention. Other agencies seem uncomfortable with attempting to provide services to these children at a lower-intensity level of care than they had been receiving at the RTF. This is one of the major factors that contributes to the extremely long stays at RTFs.
- A third mental health professional stated that he has previously investigated the possibility of establishing an 8 – 12 bed inpatient unit for children and adolescents located in Broome County. The proposed unit was to have had 4 beds for children under 12 and 4 – 8 beds for adolescents between 13 and 17.
- The establishment of such a unit was eventually deemed to not be economically viable, as the revenue generated through such a relatively small number of patients being served by such a unit would not have covered the operating expenses.
- There is stated need for such a unit, however. He points to other inpatient facilities for children and adolescents in the extended area being filled to capacity, as well as to the difficulties for families created by having a child hospitalized at a facility that is far away from their home.
- The problem is that the mental health system, on a more macro-systemic level, needs to figure out a way to provide this needed service. One potential solution that was identified is the possibility of finding populations that are overserved, or where there are overlaps in services. Once this overlap is identified, the presumed surplus could potentially be converted/diverted to help subsidize an ostensibly needed inpatient unit for children and adolescents, even at a slight, necessary financial loss.

- A fourth additional mental health professional stated that most referrals to RTFs are made through the DSS, but are first reviewed and approved by the Pre-Admission Certification Committee (PACC) located in Syracuse, NY.
- It is the policy of the RTF that children and adolescents remain in residence until appropriate aftercare is arranged. This accounts for the long length of treatment. Medicaid pays for the vast majority of admissions to the RTF.
- It was again stated that the most underserved group of children and adolescents are between 13-17 years old, have no psychiatric diagnosis, and exhibit major behavioral problems most often involving violence.

Appendix 2

The mental health professionals that were interviewed for this study were (in alphabetical order): Lisa Amodio, Program Director of the Children and Adolescent Units at Four Winds Syracuse; Pat Davis, Deputy Commissioner of Tioga County Mental Health; Dr. Joe Himmelsbach, Unit Chief of the Children and Youth Programs at Hutchings Psychiatric Center; Dr. Leslie Major, Medical Director of Psychiatric Services at UHS; Brenda Quinn, Intake and Community Relations Departments at Four Winds Saratoga; James Rowley, Director of Development at Stony Lodge Hospital; Gladys Smith, Director of the RTFs at OMH; Carol Szatko, Children's Unit at Mohawk Valley; Faye Utyro, (former) CPEP director; Cindy Warnken, Case Management Department at Fox Hospital; Karen Wright, Director of RTF in Greene, NY.

Appendix 3

Feedback From Parents of Hospitalized Children and Adolescents

The feedback from parents of children who have been hospitalized was solicited. It was believed that parents' first-hand knowledge of hospitalization would prove beneficial to the assessment of the needs of consumers. It was hoped that first-hand accounts of positive and negative experiences with inpatient hospitalization would be provided, and that specific suggestions and comments would be made. There are two support-groups in Broome County for the parents of children who have required mental health services, one run by Parent Partners and the other by The Children's Flex Team. One of each of these meetings was attended by the first two authors of this report. Feedback was sought in the form of written questionnaires (presented in **Appendix 4**), as well as through discussions among the group members.

The first type of question that was contained in the questionnaire was specific questions regarding various issues related to the hospitalization process. These issues included the overall effectiveness of hospitalization, the accessibility of inpatient services, the adequacy and appropriateness of discharge plans, the issue of transportation when a child is hospitalized far from the family's home, the amount of financial burden caused by the hospitalization, and the child's integration back into school following hospitalization.

Parents were asked to rate their level of satisfaction or dissatisfaction regarding these issues on a scale from 1 to 5.

The responses to these specific questions were unremarkable. That is, the responses indicated a lack of consensus among parents regarding their opinions on these issues. While many of the individual responses from parents did indicate strong satisfaction or dissatisfaction, there was simply no general consensus among the parents on all except one of the questions. This was the question that related to transportation problems involved in having a child hospitalized far from the family's home. The mean response from parents on this question (4.4 out of 5, with higher numbers indicating greater dissatisfaction) indicates that there is strong agreement among consumers that transportation and distance to the inpatient facilities are major problems.

The generalizability of these responses to the larger population of parents is severely limited for two main reasons. First, the sample size was very small (less than the total of 15 parents responded to each individual question). Second, it is unclear to what extent this particular group of parents (attending a support group) is representative of the larger population of parents that have had a child hospitalized.

The open-ended questions contained in the questionnaire, as well as the informal group discussion, proved far more fruitful. Responses to these questions were divided into topic areas and are presented here.

DIFFICULTIES WITH SCHOOL:

The majority of the parents reported that their children had a difficult time in adjusting to school and its procedures after the hospitalization; it is quite possible that this was a difficulty prior to the hospitalization as well. Some parents commented that while hospitalized their child was not provided time or help in keeping up with schoolwork, even if the child had the necessary materials from the school.

TRANSPORTATION/DISTANCE AS AN ISSUE:

Through the open-ended questions the parents once again pointed to a consensus that a closer hospital for in-patient psychiatric services would prove advantageous. Parents reported that at times they were not able to hospitalize their child because they could not find transportation for themselves to the hospital to fill out necessary paperwork. Parents had a great difficulty with visiting their child in the hospital due to the vast distance between home and the hospital combined with the need of the parent(s) to continue working. Parents also raised a concern regarding calling their child at the hospital: calls that were generally long-distance and hence expensive. There was a suggestion made that the hospitals should provide a 1-800 number to ease the financial restrictions and to aid parents in openly participating in their child's treatment and recovery. One physician allegedly told a mother that she could not be part of her child's treatment because she lived an hour from the hospital.

CPEP:

The extended time spent at CPEP was an additional area of stress. Parents reportedly

have spent over 24 hours at CPEP waiting for their child to be evaluated and for a referral to be made. After the evaluation, if the child needs to be hospitalized the parents are expected, and at times required, to accompany the child to the hospital, which is generally over an hour away and thus creates additional difficulties with working.

MISCELLANEOUS ISSUES WITH HOSPITALIZATION:

Some parents provided positive feedback, with regards to their child's hospitalization being helpful in lessening symptoms and helping to stabilize the child. Many of the parents were thankful for the support they have received from The Children's Flex Team, CCSI, church, and other individual sources.

There are many contributing factors that make child in-patient hospitalization a difficult pursuit, mainly that of distance interfering with admissions, participation in treatment, and visitation with the child. Using a direct comment of a parent: "Simply put, we are in dire need of local hospitalization for our children. Past experiences would have been much better...had this been an option." Additional issues include that of school, whereby some children may fall behind in schoolwork due to their hospitalization.

Appendix 4

The questionnaire that was given to parents at the Parent Partners and the Children's Flex Team support-group meetings is presented here:

Please indicate the extent to which you agree or disagree with the following statements by circling the appropriate number. Please circle 1 if you strongly disagree. Circle 2 if you disagree. Circle 3 if you neither agree nor disagree. Circle 4 if you agree. Circle 5 if you strongly agree. Your cooperation is sincerely appreciated.

- | | Strongly
Disagree | Disagree | Neither Agree
Nor Disagree | Agree | Strongly
Agree |
|-----------------------------------------------------------------------------------------------------------------------|----------------------|----------|-------------------------------|-------|-------------------|
| 1. I was able to access inpatient services for my child when needed. | 1 | 2 | 3 | 4 | 5 |
| 2. I have noticed significant improvement in my child as a result of this hospitalization. | 1 | 2 | 3 | 4 | 5 |
| 3. This hospitalization was the best treatment option. | 1 | 2 | 3 | 4 | 5 |
| 4. I was not aware of any alternative treatment options. | 1 | 2 | 3 | 4 | 5 |
| 5. Discharge plans were adequate and effective. | 1 | 2 | 3 | 4 | 5 |
| 6. My child was ready to leave the hospital at the time of discharge. | 1 | 2 | 3 | 4 | 5 |
| 7. The hospitalization was lengthened because of the lack of appropriate aftercare. | 1 | 2 | 3 | 4 | 5 |
| 8. The hospitalization was limited due to insurance restrictions. | 1 | 2 | 3 | 4 | 5 |
| 9. The hospitalization was lengthened because of transportation or other logistical issues. | 1 | 2 | 3 | 4 | 5 |
| 10. The distance from my home to the hospital limited my ability to visit and to participate in my child's treatment. | 1 | 2 | 3 | 4 | 5 |

11. I had a means of transportation that allowed me to visit my child in the hospital.

1 2 3 4 5

12. The school environment was understanding and supportive concerning the needs of my child.

1 2 3 4 5

13. My child's hospitalization has had a negative impact of my family.

1 2 3 4 5

14. The cost of hospitalization caused a financial burden for my family.

1 2 3 4 5

Age of child _____ Age at first admission _____

Child's gender _____

Are you single or married (please circle)

If married, do you live with your spouse? Y or N

How many children do you have? _____

Number of inpatient admissions _____

Please circle the appropriate response: Medicaid Private Insurance Self Pay?

Name of the facility where your child was most recently admitted _____

How was your child referred for inpatient treatment?

Which other non-inpatient services were previously used by your child?

What were the discharge plans for your child?

Were you and your child able to follow-up with these aftercare plans?

What specific services did your child receive during their inpatient treatment?

Is your child currently taking medication? Which ones?

Please describe any difficulties with your child's return to school or factors that may have facilitated your child's successful return to school following inpatient treatment.

Have you yourself received adequate support either during or following this hospitalization?

What is your overall assessment of the inpatient services that were made available to your child?

Please list any additional comments or concerns you have regarding these issues. Continue on the reverse side if necessary. Thank you for your cooperation.

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