

Psychiatrically Hospitalized Children: A Critical Review

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The high cost of inpatient hospitalization and the rise in the number of private psychiatric beds for children and adolescents prompt several questions about who is using these services. To examine these issues, a review focusing on the use of psychiatric inpatient services by children was undertaken. The history of inpatient care of children is briefly outlined, recent public policies contributing to the rise in the number of psychiatric beds are considered, and findings from available studies are reviewed. We conclude that the data base is inadequate to draw many conclusions about who is using child psychiatric inpatient services. There appear, however, to be important differences in use of inpatient services according to age and perhaps by institutional type and geographic region. Suggestions for future research and some of the social policy implications are discussed as well.

INTRODUCTION

Recent reports in the news media [1] and professional journals [2] have noted a rise in the number of inpatient psychiatric beds for children and adolescents. Testimony before a recent U.S. congressional panel estimated that from 1980 to 1984 there was a 350 percent increase nationally in the number of admissions to private psychiatric hospitals for persons under the age of 18 [3]. The rise in admissions is coincident with a reduction of incarceration of incorrigible youth, so-called "status offenders"—which represents, according to some observers, the movement of juveniles from one institution to another [4,5]. All this suggests that the society at large may be turning to psychiatry to solve the emotional and behavioral problems of childhood and adolescence [5]. There have, however, also been recent complaints that a fraction, perhaps a large fraction, of admissions to these facilities are inappropriate [1,4].

Inpatient psychiatric care of children and adolescents is costly and restrictive, in that the youngsters are temporarily removed from their homes and confined to a secure environment. Clearly, the use of these services rightfully belongs on the social policy agenda. What is unclear is whether the use of these services is the same for children under the age of 13 as compared to such use for older adolescents. Indeed, most of the complaints about inappropriate admissions to private psychiatric hospitals have been directed at adolescent facilities [5,6]. Moreover, the availability of inpatient services may not be the same for children and adolescents. In Connecticut, for example, there are approximately 293 acute psychiatric beds for adolescents 14 to 19 years old, as compared to 122 for children under the age of 13 years [7]. Data from epidemiologic studies also suggest that the behavioral and emotional problems experienced by

Abbreviation: ALOS: average length of stay

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children and adolescents may not be the same [8]. Therefore, in order to plan mental health services for children and youth, information about age, salient clinical characteristics, geographic region, type of institution, and length of stay would seem to be essential. This review examines available information on psychiatrically hospitalized children in light of current concerns regarding the cost and restrictiveness of inpatient care.

This paper describes the different types of institutions that provide inpatient care to children, reviews what is known about the population served, and provides a comparison of child psychiatric inpatients across studies. The paper includes a discussion about the types of data that would be useful when reporting on this population and the research efforts that could help to ascertain the utilization of inpatient child psychiatric care. In view of the recent challenges to psychiatric hospitalization of children and youth [5], the radical changes in the ownership of mental health services [9], and the rapid changes in the health insurance industry [10], this review may contribute to the discussion of public and institutional policy.

HISTORICAL BACKGROUND

Several historical traditions are represented in the institutional care of children with emotional and behavioral problems, including child welfare, juvenile justice, and mental health [2,5]. In a careful review, Weithorn [5] suggested that these institutions treat an interchangeable percentage of children, the precise fraction served in each being dependent on prevailing social attitudes, political interests, and economic policies. The boundaries between these service systems may not, however, be so distinct in practice. Residential treatment, for example, has roots in both the child welfare and mental health systems [11].

The early literature on inpatient psychiatric care of children made little differentiation between residential treatment and hospitalization [12]. This lack of differentiation was due, at least in part, to the fact that before 1970 acute psychiatric beds for children were scarce and reserved for very specialized populations [2,13]. From the late 1930s through the 1960s, institutional care of emotionally disturbed youngsters took place in two types of residential facilities. One focused on custodial care, while the other attempted to resolve early conflicts through individual psychotherapy and the therapeutic milieu [14,15]. Today the difference between inpatient care and residential care is sharper. Hospital care tends to be more restrictive; treatment is more intensive and more costly. Residential treatment, however, occurs in a variety of facilities that also differ in intensity of treatment, restrictiveness, and style of treatment. Some residential facilities may even approach the intensity of hospital-level treatment, while others may offer little more than custodial care [11]. Because this review is focused on child psychiatric inpatients, residential treatment data will not be explored further.

According to some authors, acute hospital care of emotionally disturbed children has its origins in the treatment-oriented residential centers [15], but this view is not universally accepted. For others, child psychiatric units share a common history with pediatrics and should be viewed as intensive care units akin to pediatric specialty services such as burn units [16]. The recent growth of private psychiatric facilities has caused some speculation as to whether another style of treatment is unfolding [9]. Thus, it appears that psychiatrically hospitalized children are treated in a variety of settings which have different therapeutic traditions and may treat different populations [2,17,18].

DESCRIPTIVE ANALYSIS

Institutional Types

It is customary to divide inpatient child and adolescent psychiatric services into private and public institutions. Public facilities include state and county mental hospitals and child psychiatric units in municipal general hospitals. Private institutions, which may be proprietary or not-for-profit, can be subdivided into free-standing psychiatric hospitals and psychiatric units in general hospitals. The increase in acute psychiatric beds for children and adolescents has been most dramatic in free-standing private psychiatric hospitals, but there has been an increase in psychiatric beds in general hospitals as well [2,6,19]. Meanwhile, the number of beds in state and county hospitals has been on a steady decline [9].

One factor contributing to the rise in private psychiatric beds for children and youth was the decision by many states requiring health insurance companies to provide inpatient psychiatric benefits to their subscribers [5]. The right of states to mandate such coverage was upheld in 1979 by the U.S. Supreme Court in the *Massachusetts v. Metropolitan* case. In addition, the Delinquency Prevention Act of 1974 directed the states not to incarcerate so-called "status offenders," which produced a shift from juvenile detention centers to psychiatric hospitals [5]. According to some commentators, it is this combination of factors, state-mandated insurance coverage and the altered legal status of juvenile offenders, that has led to the unrestrained rise and utilization of private psychiatric beds for adolescents [5,6,9]. Although it is difficult to dispute the effect of these factors, there are likely to be important differential effects by age cohort and institutional type.

The assertion that public and private institutions treat different populations gains support from three large surveys [18,20,21]. A study conducted under the auspices of the National Institute of Mental Health estimated the number of children under the age of 18 hospitalized with a psychiatric diagnosis nationwide in 1980 [20]. Of the more than 81,500 youngsters who were hospitalized in that year, over 50 percent were treated in general hospitals, with state hospitals and private psychiatric hospitals each admitting about 20 percent. Unfortunately, the survey did not specify whether the patients treated in general hospitals were admitted to specialized psychiatric units or pediatric wards. Those in state and county hospitals were more likely to be non-whites and tended to remain in the hospital longer. The shortest length of stay occurred in general hospitals, with free-standing psychiatric hospitals occupying an intermediate level. For example, 35 percent of the children and adolescents in public hospitals stayed over 90 days, whereas, in private psychiatric hospitals and general hospitals, the percentages that stayed over 90 days were 24 percent and 2 percent, respectively. Even more striking, over 50 percent of those admitted to general hospitals were discharged in 14 days or less. The survey also showed that patients admitted to free-standing psychiatric hospitals were most likely to receive the combination of individual, family, and group therapies, suggesting that treatment in these various institutions may be different as well.

Using 1977 data from 380 general hospitals, Wallen and Pincus [21] found that, of all children and youth admitted with a psychiatric diagnosis, less than 20 percent were under 12 years of age. Approximately 73 percent were white, and the sample was almost evenly split between boys and girls. The average length of stay was 14 days, and 5 percent of the young people were discharged to other institutions. Of the 7,207

TABLE 1
Age, Sex, ALOS^a for Child Psychiatric and Adolescent Inpatients

Author	Year of Study	<i>n</i>	Age Range (years)	% Boys	% Girls	No. Beds	ALOS	% Placed Out of Home
Blinder	1978	117	3–13	78	22	16	51	27
Shafii	1979	145	2–16	50 ^b	50 ^b	8	24	18
Kashani	1983	100	7–14	75	25	14	100	23
Forness	1984	184	6–15	67	33	NR	87	NR
Doherty	1987	212	6–16 ^c	59	41	8	28	23
Dalton	1987	87	5–12	87	13	8	67	13

^aALOS, Average length of stay

^bReported as almost equal

^c>90 percent of sample

NR, Not reported

youngsters in these hospitals, an estimated 75 percent were treated in an identified psychiatric unit for children and adolescents. There were, however, marked differences for children under the age of 12. Children under 12 were more likely to have a major psychiatric diagnosis but were less likely to be treated in a specialized psychiatric unit for children; they also had a much lower average length of stay. These data strongly support the possibility that, at least for general hospitals, psychiatrically hospitalized children are treated differently from adolescents.

Patient Population

Berlin [22] was one of a few early authors who commented on contemporary inpatient child psychiatric care. He proposed that inpatient hospitalization is appropriate for children who have failed to respond to outpatient treatment or are a danger to themselves or others. Although an approach to treating hospitalized children was described, quantitative data about the patient population were not provided. Since then, several authors have reported on various clinical features of children who use inpatient psychiatric services. Pfeffer et al. found that children admitted to inpatient psychiatric units are more likely to exhibit suicidal behavior than outpatients [23]. According to Alessi and Magen, hospitalized children have a high rate of major depression and co-morbid diagnoses with and without major depression [24]. Other studies have shown that as many as 50 percent of child psychiatric inpatients have language impairment, and these delays may be undetected prior to hospitalization [25,26]. Despite the value of these reports, which focused on specific attributes of child psychiatric inpatients, general descriptive information is scarce. Only a handful of studies provide such data [16,27–31]; these studies vary in their methods of reporting patient profiles and exhibit variation in their findings as well.

Table 1 presents demographic data from these six studies and reveals some variability with respect to age, sex, and length of stay. Three of the units were small, having less than ten beds; all admitted both children and adolescents with the exception of Dalton et al. [31] and Blinder et al. [27]; and, except for the report by Shafii et al. [16], boys consistently outnumbered girls. The average length of stay (ALOS) varied from

under one month to just over three months, which raises questions about the type of service and the treatment approach on these units. The units with a shorter ALOS may have operated on a crisis or pediatric model, as opposed to a short-term treatment model [16,30,31]. The percentage of youngsters placed out of the home after discharge ranged from 13 percent to 27 percent. This variation implies that inpatient services play a role in long-term planning for severely emotionally disturbed children and is indicative of regional differences in the extent and type of available aftercare services.

Patient Classification

Most of these reports included the primary diagnosis, though co-morbid conditions were rarely described. Attempts to combine the findings from these studies will encounter several other impediments as well. First of all, the rules for making psychiatric diagnoses in children went through a major change in 1980, with the introduction of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III), which was revised in 1987 when the DSM-III-R was introduced [32,33,34]. Second, psychiatric diagnosis in children is a poor predictor of the type or extent of treatment services required [29,35,36]. Third, children admitted to an inpatient unit are often given multiple diagnoses reflecting the multiple dimensions of their impairment [37]. Fourth, children who use inpatient psychiatric services will be influenced by regional factors such as acute bed capacity, the number of residential beds, reimbursement practice, and the availability of aftercare services [18]. Given these limitations and the limitations of a meager data base, the patient classification system presented below contains some unavoidable imperfections. This classification system does not purport to be an ideal method of classifying child psychiatric inpatients. It is intended as a means of comparing the findings across these studies, which have been reported in very different ways.

Even if diagnosis does not predict type of treatment or length of stay, it remains an essential defining feature of any sample of hospitalized children. One method of comparing the diagnostic data across these various studies is to collapse the diagnoses into groups, a procedure that has been proposed by others [18,29]. Christ and his colleagues defined three diagnostic groups by cluster analysis, in which diagnoses that did not have a significant difference in the mean length of stay were bundled together [18]. One group included neurotic and adjustment disorders. A second group was composed of mental retardation, character disorders, and behavior disorders. The third group consisted of psychosis and organic brain syndrome. The authors acknowledge that these diagnostic groups were derived by a statistical procedure and not on clinical grounds. It is also unclear from this report how childhood disorders such as attention-deficit hyperactivity disorder, anorexia and bulimia, major depression, and tic disorders would be classified.

Forness et al. collapsed 61 individual diagnoses into five categories: behavior disorders, affective disorders, personality disorders, psychotic disorders, and mental retardation [29]. Behavior disorders included attention-deficit disorder, adjustment disorder, and conduct disorder. As expected, affective disorders consisted of major depression and dysthymia. Borderline personality disorder was the primary diagnosis in the personality disorder group. The psychotic disorders included schizophrenia and autism, while the mental retardation group comprised mental retardation only. Once again, the classification of eating disorders and tic disorders is uncertain. In addition,

TABLE 2
Diagnostic Groups for Child Psychiatric Inpatients

Author	Year of Study	n	Neuro-psychiatric Disorders		Emotional Disorders		Behavior Disorders		Other	
			n	%	n	%	n	%	n	%
Blinder	1978	117	11	9	43	38	52	44	11	9
Shafii	1979	145	24	16	48	33	50	36	23	16
Kashani	1983	100	16	16	20	20	55	55	9	9
Forness	1985	184	64	35	55	30	65	35	—	—
Doherty	1987	212	24	11	—	—	75	35	113	53
Dalton	1987	87	10	11	27	31	50	57	—	—

Other = Number of cases that could not be classified

Percentages may not equal 100 percent due to rounding.

considering the low prevalence of borderline personality disorder in children under 13 years of age, it hardly seems appropriate to establish it as a separate category for younger children [38].

The first demand to be met in creating diagnostic groups is that the categories should be clinically relevant [39]. The categories must also be exhaustive, so that any psychiatric diagnosis can be logically placed. In addition, to ensure that any given child is assigned to one and only one category, the child's most severe diagnoses should dictate group assignment. Three broad categories that meet these criteria can be labeled: neuropsychiatric disorders, emotional and psychosomatic disorders, and behavior disorders. Neuropsychiatric disorders might be composed of mental retardation, schizophrenia, pervasive developmental disorders such as autism, bipolar affective disorder, and Tourette's syndrome. Examples of the emotional and psychosomatic disorders would be major depression, dysthymia, obsessive-compulsive disorder, anorexia, bulimia, anxiety disorders, and failure to thrive. The behavior disorders might include oppositional disorder, conduct disorder, attention-deficit hyperactivity disorder, and adjustment disorders.

There are several problems with this system of classification. A few of the most obvious are worth highlighting. Dispute about the diagnoses that comprise the behavior disorders is unlikely, though some might take issue with the inclusion of attention-deficit hyperactivity disorder [40]. The empirical signs of attention-deficit disorder are usually behavioral in nature. Others may argue that recent evidence supports the contention that obsessive-compulsive disorder is a neurobiological disorder with emotional manifestations [41]. It is true that, for this disorder, like some others in child psychiatry, the etiological paradigm may be shifting. Nonetheless, the manifestations of obsessive-compulsive disorder are commonly emotional distress and anxiety. Further study is needed to determine whether this is a single disorder or a disorder with multiple etiologies [42].

Table 2 reveals that the behavior disorders group is the largest and the neuropsychiatric group is the smallest. Moreover, the rates of behavior disorders and emotional disorders are fairly consistent across these studies. The variation seen in neuropsychiatric disorders is partially due to differences in reporting diagnoses. For example, Doherty et al. [30] reported overlapping symptom profiles rather than diagnoses;

hence, only the 11 children described with psychotic symptoms could be placed in this category. Similarly, Blinder et al. [27] identified 20 percent of their sample as having a "developmental disorder," which the authors report was composed predominately of children with hyperactivity (now called attention-deficit hyperactivity disorder). It is likely that some of these children would meet current criteria for pervasive developmental disorder—which would place them in the neuropsychiatric group. In the report by Forness et al. [29], the percentage of children in the neuropsychiatric group seems artificially high and appears to be the result of a higher than expected rate for children with mental retardation and autism. Indeed, the setting from which these findings were reported is a regional referral center for the treatment of severe developmental disorders. A close look at specific disorders within these three diagnostic groups revealed that psychotic disorders were most consistent across these studies, falling in the 10 to 12 percent range.

DISCUSSION

Several factors have contributed to the rise in psychiatric hospital beds for children and youth, including changes in the status of juvenile offenders and mandated expansion of insurance coverage in several states. This rise has become a rallying cry for those who want more oversight of private psychiatric institutions. According to this view, private psychiatric services may have taken unfair advantage of current social, political, and economic circumstances [4,5,6,9]. It appears, however, that the rise in the number of beds and the number of inappropriate admissions to private psychiatric institutions have affected adolescents to a much greater extent than children. Unfortunately, data concerning hospitalized children are sorely lacking. Of the few reports that are available, most present data which include both adolescents and children, rendering their findings incomplete at best and perhaps misleading, with respect to children.

Some critics of psychiatric hospitalization claim that data currently exist which demonstrate the superiority of innovative outpatient programs over hospitalization [43]. This review suggests, however, that information on hospitalized children is inadequate; hence the ability to compare inpatient care with alternative programs is seriously limited. Furthermore, intensive outpatient programs are simply not available in many communities [17]. Also, as noted previously, there have been recent objections concerning inappropriate admissions to child and adolescent inpatient units [4]. In the face of these complaints, it may be advisable for child psychiatric inpatient services to establish explicit admission criteria. Adherence to admission and continued stay criteria could not only help to limit the number of inappropriate admissions, it could stave off calls for more oversight and automatic judicial review of all psychiatric admissions for children and youth [5]. Finally, use of admission and continued criteria could help to establish good faith in the difficult negotiations that undoubtedly lie ahead for providers, employers, and third-party payers.

This review suggests that, in order to understand who is using child inpatient services and to plan systems of care, the data base needs considerable improvement. Children may have different clinical problems from adolescents and may require different services. Data concerning the use of mental health services by adolescents may not be applicable to children and need to be disentangled from the use of psychiatric services by children.

At minimum, reports from child services should include demographic data such as socioeconomic status, sex, living situation, and race. Other factors such as average

length of stay, co-morbid medical conditions, and the use of general medical services would contribute to our understanding of who is using child psychiatric hospitals.

A more elegant way to characterize child psychiatric populations could exploit the multi-axial diagnostic system enumerated in DSM-III-R [34]. Each of these axes, with the exception of Axis III, could be quantified, using existing instruments [44]. The primary diagnosis on Axis I could be transformed into a numerical value by using the symptom score of the Child Behavior Checklist or the maladaptive score on the Vineland Adaptive Behavior Scales [45,46]. In children and adolescents, Axis II indicates developmental delays, which could be transformed into a numeric value from results on standardized tests of cognitive ability and linguistic function. Unfortunately, there is no current method for the quantifying medical diagnoses listed on Axis III; creation of such an instrument would be a worthwhile effort. Psychosocial stressors cited on Axis IV are rated on a simple 1 to 6 scale of recent events in the child's life and the family's current functioning. Several scales presently exist which could measure recent family stress and functional capacities in a more refined fashion [44,47]. Finally, instruments such as the Vineland Adaptive Behavior Scales, which measure the child's daily living skills, communication, and social skills, could be a powerful addition to Axis V as an estimate of adaptation in children. Continued research into the child's functional status also holds promise for outcome research. Collectively, these quantitative measures for each of the axes could be used to portray an inpatient child psychiatric cohort and to compare the case mix in different institutions.

Another method of assessing case mix differences across institutions that could bind financial concerns with clinical characteristics is to classify children according to the services used in the course of their inpatient treatment. Children with serious emotional or behavioral problems who are admitted to a child psychiatric unit require specialized medical, nursing, and psychological treatments in order to evaluate and stabilize the child's emotional and behavioral disturbance. Families invariably need assistance in understanding and coping with the child's symptom picture. Likewise, for most children, coordination of aftercare services is required to ensure consolidation of progress made in the hospital [36]. Grouping children according to these service dimensions: the individual treatments, the family therapy, and discharge planning may provide a means of comparing differences across facilities and geographic regions.

For example, children without major psychopathology may respond quickly following hospital admission. Likewise, some families are capable of promptly revising their view of the child's behavior and making use of relevant interventions in order to meet the child's psychosocial needs. These children, given the accessibility of even modest aftercare services, are likely to use the fewest inpatient services and seem unlikely to require extended stay in the hospital. A second group of children may include children with a major neuropsychiatric disorder and those without major pathology who come from families that are less able to make use of psychiatric treatment. Children with major psychopathology may require several medication trials and constant supervision because of their impaired judgment or level of dangerousness. The intensity of services for this group of children, whether more seriously disturbed or from less supportive families, may be greater, and these children may need to remain in the hospital longer to achieve therapeutic goals. These children may also require more specialized aftercare. A third group might be composed of children both with severe psychopathology and from functionally impaired families. These children and families are likely to have more complex and longer inpatient treatment as well as carefully constructed

aftercare plans. Finally, there may be a fourth group of children with a serious emotional or behavioral disturbance for whom the family environment is incompatible with the child's development, resulting in the need for out-of-home placement. These children may require prolonged hospitalization and specialized aftercare, which may be difficult to secure. Further research into these areas would be a valuable contribution to our understanding of the economics of inpatient care.

To determine whether inpatient care is effective, follow-up research is badly needed. Establishing outcome variables that indicate successful treatment in the hospital is no small task [48], but it is a task that will become increasingly important as political and economic pressures build [5,9,18,29]. Finally, child psychiatric inpatient services offer an opportunity to learn more about the efficacy of various treatments as well as the course and family history of child psychiatric disorders. To these ends, descriptive clinical research is an essential component of a child psychiatric inpatient program [49].

Other information, such as the percentage of children on Medicaid and the number of children placed out of the home after discharge, could establish regional differences and assist in planning a regional system of care. It may be that the percentage of children on Medicaid varies according to institutional setting. For example, it has been suggested that insurance coverage may play a part in the selection of patients in some institutions [9]. If this sort of selection bias is occurring, a "three-tiered" system may be emerging, with state and county hospitals admitting a high percentage of children from uninsured families or families on Medicaid, private psychiatric hospitals admitting those with private insurance coverage, and general hospitals admitting a mix of children with private insurance and those on Medicaid. Moreover, Medicaid can be regarded as an indirect measure of socioeconomic status, which may, in turn, affect length of stay and aftercare [50]. Simply stated, children from these families may have different clinical characteristics, treatment needs, and placement requirements.

In summary, the profile of child inpatients would be richer and more useful if it extended beyond psychiatric diagnosis. One of the major advances brought about by the introduction of DSM-III is the multi-axial diagnosis, which duly recognizes clinical features in addition to psychiatric diagnosis [34]. This multi-axial system, which includes co-morbid conditions, developmental delays, medical problems, recent level of stress, and adaptive functioning, may be an appropriate place to begin the discussion of how to get beyond psychiatric diagnosis—especially if these axes can be quantified. Children could also be grouped according to utilization of individual, family, and discharge planning services. Future research into these areas may provide more predictive power of service utilization than diagnosis alone, may be helpful in follow-up research, and may contribute to institutional and public policy.

CONCLUSION

Inpatient child psychiatry is changing. The forces that are contributing to this change are many and, to some extent, competing. It is equally clear that inpatient psychiatry will continue to play a central role in the mental health service landscape for children and adolescents [51]. Increased scrutiny and oversight by third-party payers through utilization review and managed care will probably have increased influence on who is hospitalized and how long they stay. This information could, in turn, increase patient turnover and heighten the acuity of the case mix on these units. The pressure to admit only the most disturbed children and to discharge them quickly will require

alternatives to hospitalization, which will, it is hoped, vary in treatment intensity and will need new funding mechanisms [52]. If this array of services is not available, hospital stays may be prolonged. Residential treatment centers may be asked to accept children who are still in the acute phase of emotional disturbance. Mental health centers may be called upon to provide special short-term programs for children who have been recently discharged from inpatient care. States may have to provide long-term care for youngsters too disturbed for outpatient or residential care, yet no longer in acute crisis. Finally, in order to plan for child mental health services, given our limited resources, it seems necessary that public policy makers, health researchers, administrators, clinicians, educators, and insurance companies collaborate. Such collaboration means sharing information to define service needs, identify areas of service duplication, facilitate movement between services, and evaluate the use and effectiveness of new and existing programs.

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