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State Mental Hospital Continuity of Care Study

Preliminary Report *

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Executive Summary

This study reports on the analysis of several existing administrative data sets to examine issues related to the continuity of care in the community for persons discharged from the Florida state mental health hospitals. The validity of conclusions based on such analysis is dependent on the adequacy of the existing data. While certain types of reporting errors can be identified and remediated (to a degree), other types of errors, particularly omission of reporting, often cannot be identified or remediated. Thus, the conclusions of this report need to be taken somewhat tentatively.

Persons were identified who were discharged to the community from the state mental hospitals in Florida from 7/1/98 to 12/31/99. For this preliminary report, several indicators of continuity of care and indicators of adverse outcomes were tracked for these persons.

The major findings were that --

1.   A significant number of the persons in this study experienced adverse outcomes following discharge and within the time frame of the study. Nearly one sixth of the sample was readmitted to one of the state hospitals. Further, 21.3% of the sample experienced inpatient or crisis admissions in the community, and 14.5% of the sample were arrested (6.8% on felony charges) during this time frame.

2.   Almost 30% of the sample had no record of non-crisis, mental health treatment services in the community during the six months following discharge. This figure probably overestimates the magnitude of the problem with follow-up care since some of the cases may have been lost to follow-up for a variety of other reasons (e.g., follow-up data not reported; data set identifiers mismatched; the person died, moved out of state, or was re-institutionalized elsewhere; services were billed to Medicaid but not reported to the Department of Children and Families (DCF); or services were received from a provider that does not report to the DCF). It was also the case that almost 30% of the persons who were readmitted to the state hospital had no record of receiving mental health services in the community during the time between their original discharge and their subsequent readmission.

3.   Of those who did receive mental health services in the community, most received case management services and those were instituted in a timely fashion. However, substantially fewer received psychiatric services, and a distinct minority of persons received residential treatment or other therapy. For those who did receive such treatment services, those services were sometimes not initiated promptly, but such services were usually provided in reasonable quantities.

4.   About 70% of the sample was enrolled in Medicaid during the study period. Many of these were enrolled prior to discharge from the hospital. Enrollment in Medicaid (or lack thereof) did not appear to be related to the experience of adverse outcomes in this group.

5.   Neither the latency of onset, nor the quantity of mental health services received in the community during the first six months following discharge appeared to be related to experiencing readmission or other adverse events, except that those who experienced crisis events were more likely to have received case management services in the community.

6   Several case variables were found to be associated with the experience of readmission to the state hospital or to the experience of adverse events. Specifically, persons with schizoaffective disorder were more likely than persons with other disorders to be readmitted to the hospital and to experience other adverse events. Persons who had more prior state hospital episodes were also more likely to be readmitted. Younger persons, and persons with prior arrest histories were more likely to experience adverse events. Gender and race were unrelated to readmission and to adverse event experience.

        A follow-up report will be prepared by June 30, 2001 regarding this sample of persons that will include analysis of Medicaid claims data (mental health, physical health, and pharmacy), data on community hospital admissions, and involuntary mental health treatment.

Background

A long-standing problem in the treatment of persons in state mental health institutions (state mental hospitals) pertains to maintaining continuity in their treatment after they are discharged from the hospital. After discharge, they return to the community, and it is anticipated that they continue to need treatment; however, such treatment is necessarily provided by a new provider (or set of providers). For a variety of reasons, this transition reportedly does not always occur in an optimal fashion. Such difficulty with maintaining continuity of care has long been identified as a problem contributing to recidivism of persons discharged from the state mental hospitals; however, little data has been presented on the actual extent of such problems in Florida.

The present study used multiple existing administrative data sets to identify factors that might contribute to such problems. Results from this study are expected to provide information that may be useful to the Agency for Health Care Administration (AHCA) and to the Department of Children and Families (DCF) in revising policies to improve continuity of care for these individuals. This initial report includes results from only a part of the original proposal. Several of the data sets were (will be) obtained later than expected, and thus, could not be included. This report focuses mostly on Medicaid enrollment data, information on services received that was taken from the DCF - Integrated Data System (IDS), and data on arrest history from the Florida Department of Law Enforcement (FDLE). More complete analysis of all the data sets will be presented in a subsequent report to be completed by the end of the contract year.

Methods

Study Questions

Problems with continuity of care were evaluated using several types of indicators. These included indicators of problems in the latency of restoration of Medicaid benefits and onset of treatment in the community, indicators of problems with the quantity of service provided in the community, and indicators of problematic events/outcomes. Specific indicators were:

Latency of onset of treatment:

Days to restoration of Medicaid benefits
Days to first medication/psychiatric follow-up appointment
Days to first case management follow-up appointment
Days to first follow-up appointment for other types of treatment

Amount of service:

Quantity of service received by month for the first 6 months after discharge

Indicators of problematic events/outcomes (within 18 months of discharge):

Readmission to one of the state hospitals
Community hospital (ER/CSU) events days
Criminal justice system involvement (i.e., arrests)

Data Sources

Data for this portion of this study were obtained for the period July 1, 1998 through June 30, 2000. The data sets and their contents are described in Table 1. As mentioned above, not all of the data from these data sets are analyzed and/or reported on in this report.

Subjects

Subjects for this study include persons discharged to the community from the seven Florida state mental health hospitals between July 1, 1998 and December 31, 1999 (forensic cases were excluded so all the cases selected came from the 5 hospitals that serve non-forensic cases (see Table 2)). Discharges were identified using the Florida state hospital data Client Information System (CIS) from the DCF. Data were available through June 30, 2000, but only cases discharged by 12/31/99 were included so that there was a minimum of 6 months follow-up for each case. Only cases with lengths of stay of at least 30 days were selected; and when persons were found to have multiple discharges within the study period, the first episode was used as the index episode. (Refer to Technical Note 1 for a description of the subject selection procedure and details of data conditioning for the CIS data). It should be noted that the discharge date data in the CIS system are somewhat problematic in that for at least some cases the date that is reported to the CIS is 30 days after the person actually left the hospital for the community. We have not clarified this issue fully with the state hospital MIS staffs, but we know that this was true in the past, and the present data clearly suggest that it is still true. For example, a substantial number of service events reported in the IDS (such as residential treatment which should be occurring in the community) occur on dates up to 30 days prior to the CIS discharge date. Because of this problem, we have chosen also to present data on events occurring during the 30 days prior to the discharge date.

Data were obtained for 1211 persons. For the overall group, mean age at discharge was 43.1 years (SD = 13.8), 16.3% were aged 55 or over, 55.5% were male, 71.4% were white (most of the remainder were black), these persons on average had experienced more than 3 state hospital episodes (up to and including the index episode), and the mean length of the index episode was 708.0 days (SD = 1594.3, and Median = 203 days). The most frequent discharge primary diagnoses given were schizophrenia (38.8%), schizoaffective disorder (25.4%), mood disorder (22.9%), dementia/cognitive disorder (4.5%), all other primary diagnoses (8.3%).

Table 1

Databases to be Utilized for the Continuity of Care Study

Data Source	Contents	Status
Florida State Hospital Database (CIS)	Patient demographics and clinical characteristics for persons discharged from treatment in the seven state mental hospitals in Florida.	Statewide data were obtained from the CIS for 7/1/95 to 6/30/00. These data were used to identify the sample for this study.
Department of Children and Families Database (IDS)	Patient demographics, clinical characteristics, and service event data for persons receiving mental health and substance abuse services from service providers with contracts with DCF/ADM.	Statewide data from the IDS were obtained for 7/1/96 to 6/30/00.
Agency for Health Care Administration Medicaid Data System	Recipient characteristics, eligibility/enrollment status, mental health and physical health service claims, and pharmacy claims information.	Statewide enrollment and claims data were obtained for the period 7/1/98 to 6/30/00. Enrollment data are analyzed in this report. Claims data will be analyzed in the follow-up report.
FDLE Criminal History Database	Personal characteristics and criminal record information (arrests).	Statewide data were extracted for the subjects identified in this sample.
Agency for Health Care Administration Hospital Discharge Data	Information on episodes of hospitalization in licensed hospital facilities in the community.	These statewide data have been requested, but have not yet been received. They will be analyzed in the follow-up report (if received by that time).
Florida Baker Act Database	Patient, facility, and certificate characteristics for persons involuntarily committed to mental health treatment in Florida.	These data are available statewide from April 1999, but have not been included in the analyses for this report.
Florida Mental Health and Substance Abuse Outcomes Database	Demographics, client satisfaction with services, and level of functioning for persons receiving mental health services from publicly-funded mental health service providers.	These data are available but have not been analyzed in this report. They will be presented in the follow-up report.

Table 2

State Mental Hospitals in the Study

Hospital	Location (city)
Florida State Hospital	Chattahoochee
Northeast Florida State Hospital	Macclenny
G. Pierce Wood Memorial State Hospital	Arcadia
Atlantic Shores / South Florida State Hospital	Pembroke Pines
West Florida Community Care Center	Pensacola

Analysis and Results

Medicaid Enrollment

Data were extracted from the Medicaid database to characterize the timing of Medicaid enrollment for these persons relative to their discharge from the state mental hospital. (Refer to Technical Note 2 for a description of methods used for identifying subjects within the Medicaid data and Technical Note 3 for a description of the method for determining which enrollment span to use for each subject). Figure 1 shows the cumulative frequency plot of persons becoming enrolled in Medicaid at various times relative to their discharge date. This plot indicates that the number of persons becoming enrolled in Medicaid proceeds at a steady rate during hospitalization prior to discharge, then increases more rapidly during the time just before and after discharge. The rate then drops off after about 30 days post-discharge through the end of the six month follow-up period.

Medicaid enrollment was classified into five categories -- persons not enrolled in Medicaid at any time during the study period ("Never Enrolled", 30.0% of subjects), persons enrolled prior to hospitalization whose enrollment ended prior to discharge ("Previously Enrolled", 3.1% of subjects), persons enrolled prior to hospitalization whose enrollment continued into the period following discharge ("Continuously Enrolled", 18.7% of subjects), persons enrolled during their hospitalization and continuing past discharge ("Discharge Enrollees", 39.7% of subjects), and persons enrolled beginning more than 30 days, but less than six months, after their discharge ("Subsequently Enrolled", 8.4% of subjects).

Figure 1 -- Days from Discharge to Onset of Medicaid Enrollment
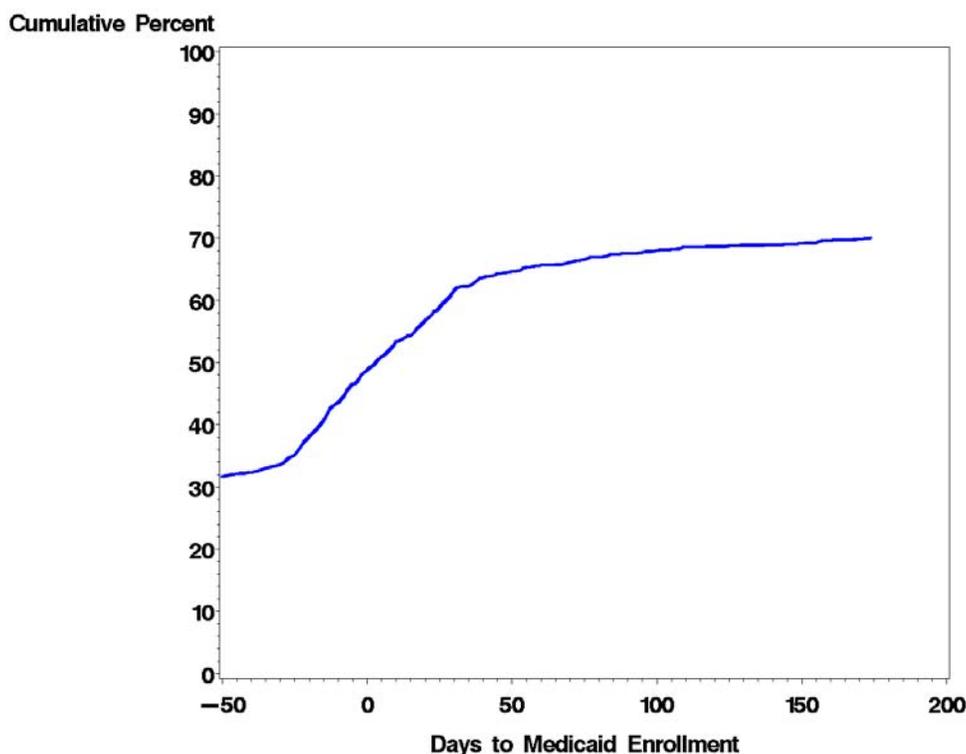
Overall, 70.0% of the persons discharged from the state hospitals were enrolled in Medicaid at some time during the period of this study, and for those persons who were enrolled, such enrollment seems to happen in a relatively timely fashion (although it should be noted that the official enrollment date is back-dated to the first day of the month in which the person enrolls). We were somewhat surprised to find that 18.7% of the subjects were enrolled in Medicaid throughout their hospital episode, and further, 11.5% of the subjects became enrolled during their hospitalization and significantly prior to their discharge. We expected that most of these subjects were eligible for Medicaid by virtue of being eligible for Supplemental Security Income (SSI), and that their SSI would be suspended while they were in the hospital. Apparently the SSI benefit can be suspended without the person becoming disenrolled in Medicaid.

There are two limitations to conclusions that can be drawn from these Medicaid data. First, for those subjects who were not enrolled in Medicaid, there is no way to know why this is the case. These are persons who may or may not have met the eligibility criteria. Some may have been on Social Security Disability Income (SSDI), and thus, were receiving Medicare benefits rather than Medicaid. Others may be covered under commercial insurance. It is also possible that for those cases that were "Never Enrolled" the case may simply have been missed in the process of matching the two data sets (e.g., typographical errors in entering social security numbers (SSNs) or other identifying variables). The second major limitation is that we have not yet analyzed the Medicaid claims data so we do not know what impact being enrolled in

Medicaid had for these cases in terms of receiving services. We will report on analysis of the Medicaid claims data for the follow-up report in June.

IDS Service Events

Service events are reported to the IDS data system at DCF by providers who have contracts with the DCF Alcohol, Drug Abuse, and Mental Health (ADM) Program Office to provide mental health and substance abuse services in the community. The IDS data system guidelines indicate that all providers who have such DCF/ADM contracts are to report service events for clients whose services are funded by the DCF/ADM contract, local match, or Medicaid and for TANF clients. Thus, there should be considerable overlap between the IDS service event data and Medicaid claims data; however, we have not yet analyzed the Medicaid claims data to determine the extent (or lack) of such overlap.

Overall, 78.5% of subjects had service events reported in the IDS data. (Refer to Technical Note 4 for a description of the methods used for extracting IDS data for these subjects.) We classified these service events into categories as follows (refer to Technical Note 5 for details on the method for classification of IDS service event types):

Case Management
Psychiatric
Residential Treatment
Therapy
Other Medical
Crisis
Crisis Evaluation

We anticipated that nearly all persons being discharged from the state hospital should reasonably be expected to receive Case Management and Psychiatric services after discharge. Most persons should also receive other treatment services (Therapy or Residential Treatment). Other Medical events pertain to services such as physical exams and laboratory work that we did not analyze further. Crisis events (e.g., CSU days) were used to indicate adverse events (Crisis Evaluation events were not considered to indicate adverse events because these event codes indicate evaluation activity only; thus, the person might be evaluated for treatment in a CSU, but the conclusion of that evaluation might be that the person is not in need of treatment).

These data were first examined by calculating the latency of onset from discharge until the first service event reported in each category for Case Management, Therapy, Residential Treatment, and Psychiatric events. We also calculated the latency from discharge until the first occurrence of any non-Case Management, treatment event. These data are presented in a series of cumulative frequency plots (Figures 2-6). Note that these data indicate the time until the <u>first</u> event occurred--thus, a person only needed to receive a single service event to be represented in each of these graphs (quantity of service is discussed below).

In the cumulative frequency plot figures it can be seen that persons discharged from the state hospitals tended to receive case management services very early on in the process. In

44.2% of cases, a case management service event occurs during the 30 days before the official discharge date (remember that some of these persons are already in the community during this time period). Overall, about 68% of these persons receive at least one case management service event within the six-month follow-up period.

Regarding the 32% with no record of case management service, there are several possible explanations (e.g., reporting deficiencies in the IDS system, errors in matching cases across systems, the person moved out of state, died, or was institutionalized elsewhere (e.g., imprisoned, etc.)). These explanations notwithstanding, one would expect that nearly 100% of cases should have received case management services at or near the time of discharge.

Figure 2 -- Days from Discharge to First Case Management Event
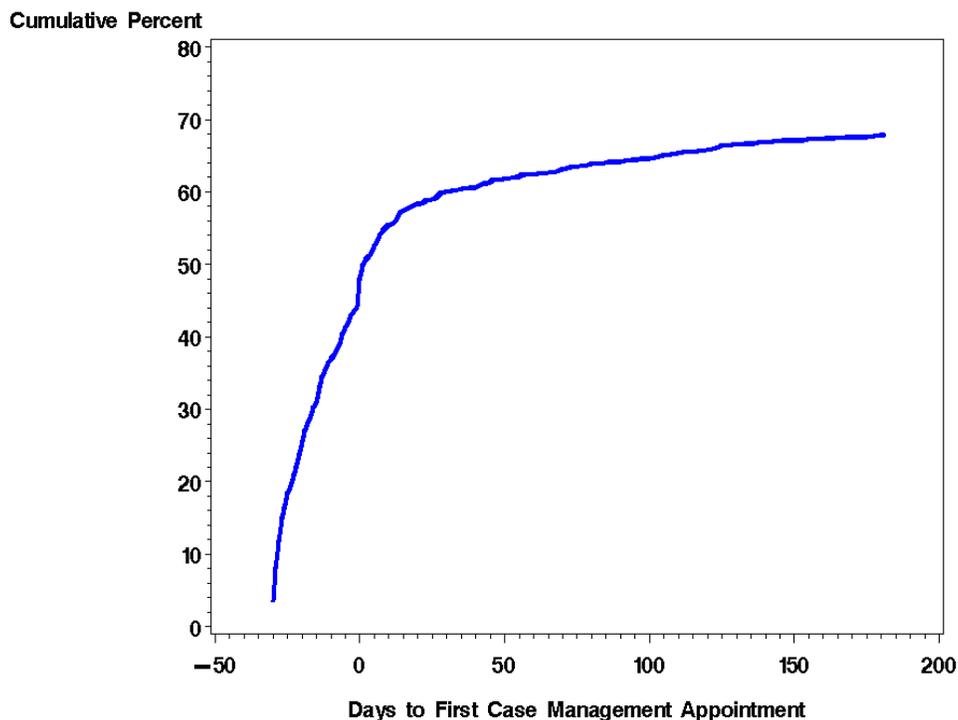
Figure 3 -- Days from Discharge to First Psychiatric Event

Cumulative Percent

Days to First Psychiatric Appointment
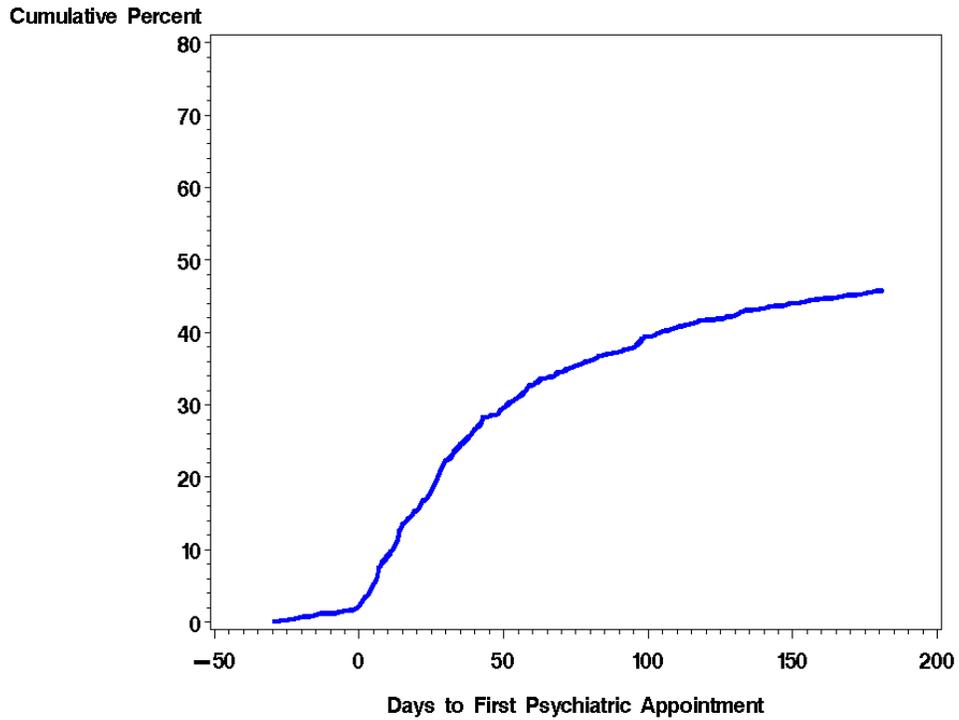
Figure 4 -- Days from Discharge to First Therapy Event

Cumulative Percent

Days to First Therapy
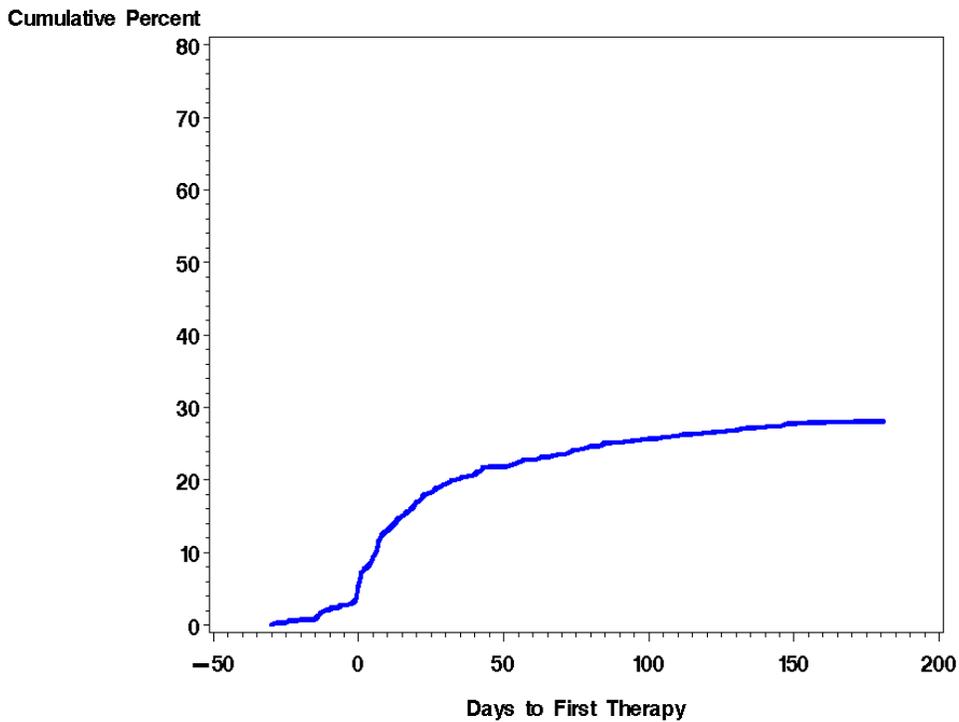
Figure 5 -- Days from Discharge to First Residential Treatment Event

Days to First Residential Treatment
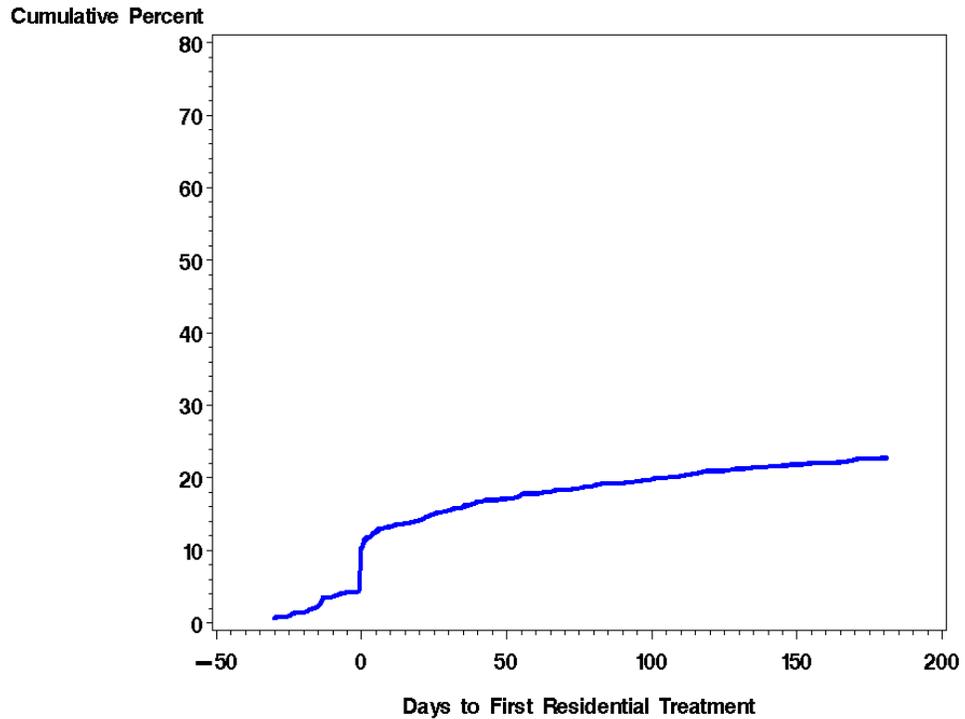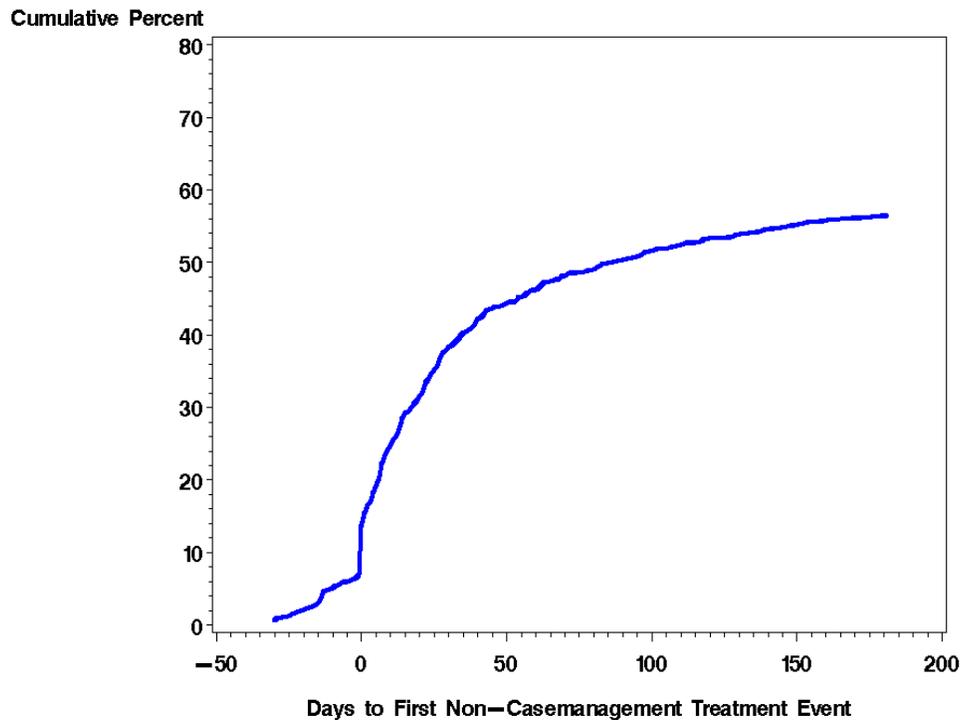
Figure 6 -- Days to First Non-Case Management Treatment Event

Days to First Non–Casemanagement Treatment Event

The data for other treatment services are even more striking. Again, there are numerous explanations for why cases may not show up in these data; however, since about 68% did show up in the case management event records, the lower numbers for other treatment services are unlikely to be attributable entirely to mismatches between data systems. The cumulative frequency plots indicate that less than 46% of these persons had even one psychiatric service event reported during the six month follow up period (Figure 3) and only about 56% had ANY (non-case management, non-crisis) treatment service event reported during that same period (Figure 6). Moreover, the shapes of the curves reflect that these initial service events often did not occur until several weeks or months after discharge. Some persons may have received psychiatric treatment services in the course of crisis, residential, or day treatment events (that were reported "bundled" with the crisis, residential or day treatment service events). To the extent that this occurred with the residential or day treatment events, a reasonable upper limit to the estimate of how many received psychiatric services is 56%. To the extent that the psychiatric services are bundled with crisis events, this would probably not be considered the most desirable way to plan to deliver services to this group of persons in the community after discharge from the state hospital.

The quantity of services reported within each category by month is summarized in Table 3. For each service category, the number of units of service reported was totaled for each month. For case management, therapy, and psychiatric services the units reported are minutes, but for residential treatment services the units reported are days. The statistics reported are for the cases that had observed data in each cell, not the overall average for all subjects. For example, 535 persons received case management services in the first month following discharge. Those 535 persons received an average of 276.6 minutes of case management services during that month. We have also reported the median values for each cell because some of these data are skewed, and thus, the median represents a better approximation of the typical amount of service received (however, note that for residential services the median is higher than the mean because that distribution is skewed the opposite direction, i.e., since the maximum amount of service it is possible to receive in a month is 30 days, there tends to be a "ceiling effect").

The data presented in Table 3 indicate that within each month after the official discharge date for each particular type of service a relatively consistent amount of that service is provided to each person that receives that service (except that people receive a somewhat greater amount of case management and psychiatric services during the first month). For example, persons who were provided residential treatment services each month received about 19 days of such service each month. Also, the typical amount of service received for each type appears to be a reasonable amount (e.g., for persons who were provided case management services within each month, they typically received over 7 hours of such service in that month). However, many people did not receive each particular service during any given month. For example, fewer than 25% of the subjects received psychiatric services in any given month and fewer than 16% of the subjects received residential services in any given month.

Table 3

Units of Service Received by Month after Discharge

Service Type	Month prior to D/C	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Six month total
Case Management (in minutes)	276.6 335.7 165 535	638.4 764.2 437 688	500.6 687.5 330 619	453.8 606.6 270 592	429.0 548.2 270 586	420.6 471.7 285 539	383.0 428.2 243 533	2253.6 2652.2 1471 820
Therapy (in minutes)	2266.0 3143.5 480 41	2147.2 3439.1 225 225	2434.8 3404.0 480 175	2768.8 3747.7 372.5 158	2370.5 3388.7 330 146	2168.7 3344.1 210 123	1878.5 2743.5 360 116	6657.8 13180.2 480 341
Residential Treatment (in days)	14.2 10.6 14 53	19.1 11.3 22 184	19.1 11.7 25 176	19.5 10.9 22 163	18.9 11.5 23 167	20.4 11.0 27 154	19.6 11.2 25 156	73.2 65.0 50 275
Psychiatric Service (in minutes)	136.2 410.6 30 21	63.8 286.6 30 257	48.1 75.5 22.5 302	46.4 71.5 30 273	44.4 66.3 25 278	45.7 73.5 30 252	47.9 77.2 30 244	148.0 356.2 65 554

Each cell contains --
  mean
  standard deviation
  median
  number of cases

Adverse Events

Readmissions

Overall, of the persons in this study (discharged between 7/1/98 and 12/31/99), 198 (16.4%) were readmitted to one of the state hospitals prior to the end of the time period of the study (6/30/00). Figure 7 presents the cumulative frequency plot of the length of time in the community for those persons who were readmitted. This plot indicates that of those persons readmitted to the state hospitals, about 80% were readmitted during the first year following discharge. However, this does not provide clear evidence of a critical time period during which persons are more at risk for being readmitted. Given the length of the follow up periods possible in these data and the fact that persons were discharged from the hospitals at a nearly uniform rate throughout the two year period of the study, more persons are available in the sample to be readmitted at shorter follow up times (and the plot indeed indicates that more persons were readmitted at the shorter follow-up times). A clearer indication of times when persons are more

at risk for readmission will be possible in subsequent years when longer follow up periods can be examined.

Figure 7 -- Days from Discharge to Re-Admission to State Hospital (percent of those who were re-admitted)
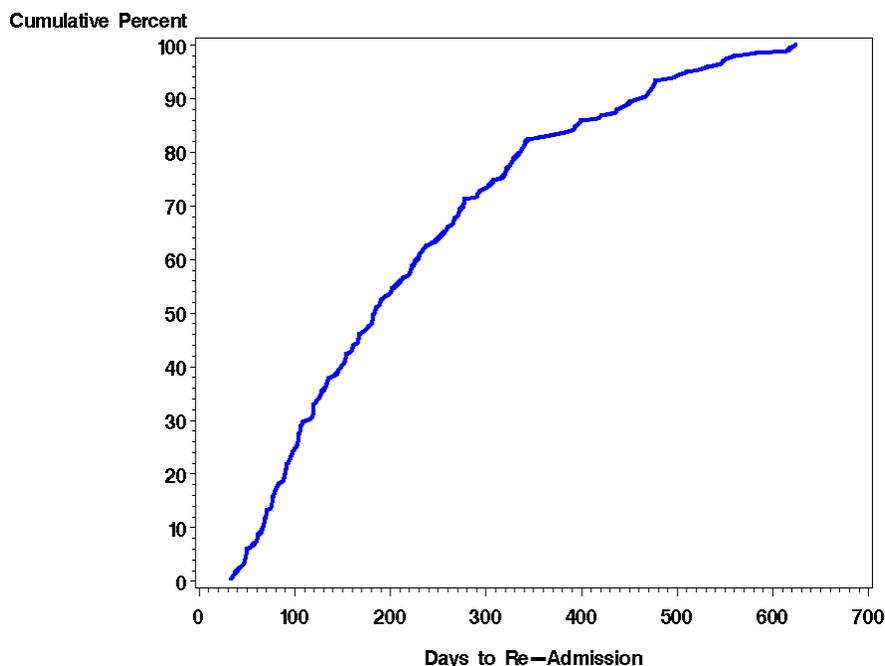
Crisis Events

IDS service events that reflected a deterioration in the person's clinic status (e.g., service events within a crisis stabilization unit (CSU) or community hospital inpatient unit) were classified as "crisis events". Overall, 258 (21.3%) of the persons in this study received services classified as crisis events after discharge and before readmission to state hospital or 7/1/00 (whichever came earlier). Figure 8 presents the cumulative frequency plot of the length of time in the community until the first such crisis event for those persons who experienced such events. As with the state hospital readmission data, these data do not suggest a particular "at risk" time period for such events.

<u>Figure 8</u> -- Days from Discharge to First Crisis Event
(percent of those who experienced crises)

Cumulative Percent — Days to First Crisis Event
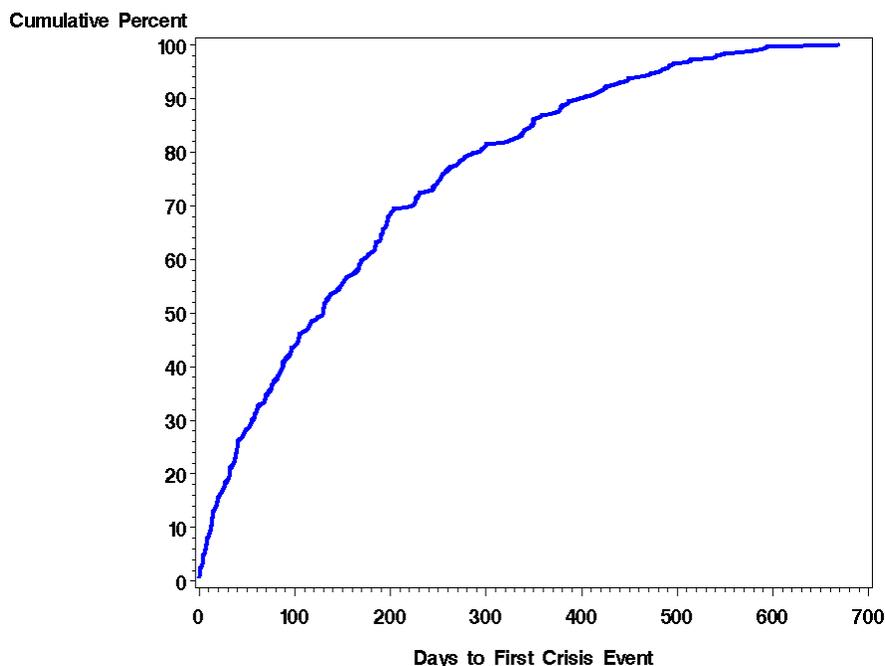
<u>Arrests</u>

Data on arrests for subjects in this study were obtained from the FDLE database. Refer to Technical Note 5 for a description of the methods used for extracting data from the FDLE database. Overall, 176 (14.5%) of the persons in this study were arrested at least once after discharge and before readmission or July 1, 2000 (whichever came earlier). Further, 82 (6.8%) of the persons in this study were arrested for felony charges at least once during that time period. Figure 9 presents the cumulative frequency plot of the length of time in the community until the first arrest (of any type) for those persons who experienced such events. As with the crisis events and state hospital readmission data, these data do not suggest a particular "at risk" time period for such events.

It is interesting and quite surprising to also note that 47.3% of this sample had had at least one arrest indicated in the FDLE database prior to their discharge date, and 34.4% had had at least one felony arrest indicated in the FDLE database prior to their discharge date. These data indicate that persons who receive treatment in the state mental health hospitals have experienced an alarmingly high rate of arrest.

Figure 9 -- Days from Discharge to First Arrest
(percent of those who were arrested)

Cumulative Percent

Days to First Arrest
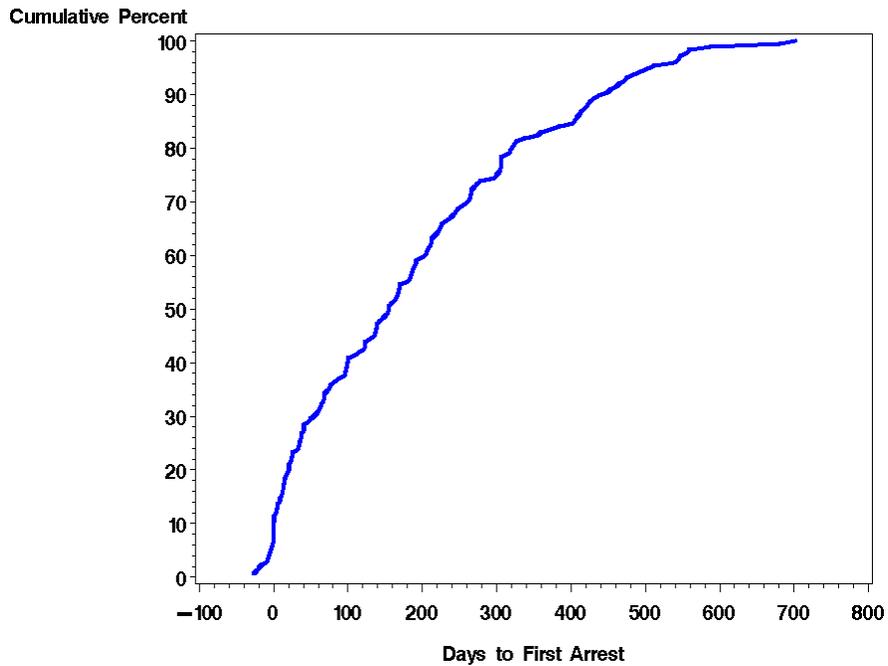
Figure 10 -- Days from Discharge to First Adverse Event (of any type)
(percent of those with any adverse events)

Cumulative Percent

Days to First Adverse Event
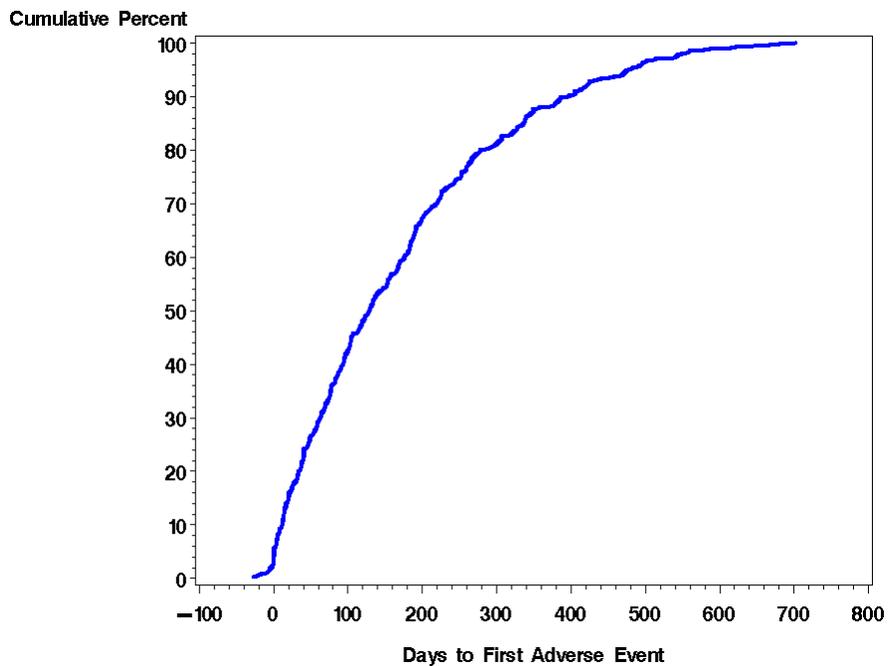
Comparison of Outcome Groups

Cases were categorized to indicate outcomes based on whether or not the person had experienced adverse events (crises or arrests) or readmission to the state hospital. Tables 4 through 7 present these classifications in relation to the number of persons who had received IDS treatment services (case management, therapy, residential treatment, and psychiatric services only) during the six months following discharge.

Table 4 presents the number of persons who were readmitted to state hospital (or not) for persons who had (or had not) received IDS treatment services. Table 4 indicates that whether or not a person received IDS services is not related to experiencing readmission to the state hospital. While this would suggest that the lack of service provision for these persons is not "causing" them to be readmitted to the state hospital, it also suggests that receiving service does not necessarily improve one's chances of staying in the community. Moreover, Table 4 indicates that 54 (27.3%) of the persons who were readmitted to the state hospital during the course of this study had no record of receiving treatment services from state-contracted providers during the six months following their discharge from the state hospital! Part of this may be due to reporting problems (despite the fact that DCF emphasizes the reporting of service events as a "critical" part of the reporting of system outputs).

Table 4

Number of Persons who Received IDS Services within 6 Months of Discharge as a Function of Readmission to State Hospital Status

	Not Readmitted	Readmitted	Total
Did Receive IDS Services	708 (83.1%)	144 (16.9%)	852
Did not Receive IDS Services	305 (85.0%)	54 (15.0%)	359
Total	1013 (83.6%)	198 (16.4%)	1211

Note - row percentages are in parentheses

Table 5 presents the number of persons who experienced crisis events (or not) for persons who had (or had not) received IDS treatment services. Table 5 indicates that persons who experienced crisis episodes were more likely to have received IDS services than persons who did not experience such episodes. This is not a surprising finding since the crisis events are reported by providers who also provide the other IDS services. Thus, this finding may in part be an artifact of the increased probability that a person will have data matches within a data set relative to matches across data sets. However, it is quite plausible that this is simply due to the fact that these providers are involved with these persons and provide services to those who have experienced (or are at risk of experiencing) crisis episodes.

Table 5

Number of Persons who Received IDS Services within 6 Months of Discharge as a Function of Experience of Crisis Events

	Did Not have Crises	**Did** have Crises	Total
Did Receive IDS Services	622 (73.0%)	230 (27.0%)	852
Did not Receive IDS Services	331 (92.2%)	28 (7.8%)	359
Total	953 (78.7%)	258 (21.3%)	1211

Note - row percentages are in parentheses

Table 6 presents the number of persons who experienced arrests (or not) for persons who had (or had not) received IDS treatment services. Table 6 indicates that persons who experienced arrests are about as likely to have received IDS services as persons who were not arrested. Table 7 presents the number of persons who experienced any type of adverse event (or not) for persons who had (or had not) received IDS treatment services. Table 7 indicates that those who had any adverse event were more likely to have received IDS services (probably due to the relationship with crisis events).

Table 6

Number of Persons who Received IDS Services within 6 Months of Discharge as a Function of Experience of Arrests

	Not Arrested	**Was** Arrested	Total
Did Receive IDS Services	725 (85.1%)	127 (14.9%)	852
Did not Receive IDS Services	310 (86.4%)	49 (13.6%)	359
Total	1013 (85.5%)	176 (14.5%)	1211

Note - row percentages are in parentheses

Table 7

Number of Persons who Received IDS Services within 6 Months of Discharge as a Function of Experience of any Adverse Event

	Had **No** Adverse Event	Had **Any** Adverse Event	Total
Did Receive IDS Services	478 (56.1%)	374 (43.9%)	852
Did not Receive IDS Services	252 (70.2%)	107 (29.8%)	359
Total	730 (60.3%)	481 (39.7%)	1211

Note - row percentages are in parentheses

A series of analyses of variance (for continuous variables) or chi-square tests (for nominal-level variables) were conducted to determine if differences existed for the outcome groups on the following variables (in interpreting the results, an α of .005 was used to correct for the effect on Type I error of performing this large number of analyses):

Case characteristic variables

Age
Gender
Race
Diagnosis
Number of Episodes
Length of most recent episode
Prior arrest history (total and felonies only)

Intervention variables
Medicaid enrollment status at discharge (i.e., enrolled at discharge, enrolled
subsequent to discharge, not enrolled post-discharge)
Latency of onset for Medicaid enrollment
Latency of onset for --
Case management services
Therapy services
Residential services
Psychiatric Services
Number of units of service during first month following discharge (prorated if
necessary) for --
Case management services
Therapy services
Residential services
Psychiatric Services
Number of units of service during six months following discharge (prorated if
necessary) for --
Case management services
Therapy services
Residential services
Psychiatric Services

This series of analyses showed that several of the case characteristic variables are associated with readmission to the state hospital or the experience of adverse events. Diagnosis was related to both readmission ($\underline{X}^2(4) = 18.42$, $\underline{p} < .001$) and to other adverse events ($\underline{X}^2(4) = 21.70$, $\underline{p} = .0002$). Specifically, persons with schizoaffective disorder were more likely than persons with other disorders (particularly, schizophrenia) to experience adverse events and to be readmitted to the hospital. Persons who had more prior state hospital episodes were also more likely to be readmitted ($\underline{F}(1,1207) = 42.39$, $\underline{p} < .0001$). Younger persons ($\underline{F}(1,1207) = 33.82$, $\underline{p} < .0001$), and persons with prior arrest histories (total arrests ($\underline{F}(1,1207) = 22.89$, $\underline{p} < .0001$) and also felony arrests ($\underline{F}(1,1207) = 33.47$, $\underline{p} < .0001$)) were more likely to experience adverse

events. (The relationship between age and adverse events was essentially linear.) Gender and race were unrelated to readmission and to adverse event experience.

Very few of the modifiable, Intervention variables were associated with readmission to the state hospital or the experience of adverse events. Medicaid enrollment status at discharge and latency to Medicaid enrollment were not related to readmission status or to the experience of adverse events. However, Medicaid enrollment status was related to whether a person received services reported in IDS. Specifically, persons who were not enrolled in Medicaid were <u>less</u> likely to receive such services whereas persons who became enrolled in Medicaid subsequent to discharge were <u>more</u> likely to receive such services, compared with persons who were enrolled in Medicaid at time of discharge.

Latency of onset of IDS services was not related to readmission or to adverse events. The quantity of service received during the 30 days following discharge was unrelated to readmission or experience of adverse events, except that the quantity of case management service received was related to the experience of adverse events ($\underline{F}(1,1207) = 15.14$, $\underline{p} < .0001$) with those persons who experienced such adverse events having received more case management service during that 30 day period than persons who did not experience adverse events. Similarly, the total quantity of service received during the six months following discharge was unrelated to readmission or experience of adverse events except that those who experienced adverse events had received more case management service than those who did not experience such events ($\underline{F}(1,1207) = 22.28$, $\underline{p} = .0001$).

Conclusions and Discussion

This study reports on the analysis of several existing administrative data sets in order to examine issues related to the continuity of care in the community for persons discharged from the Florida state mental health hospitals. Persons were identified who were discharged to the community from the state hospitals from 7/1/98 to 12/31/99. For this preliminary report, several indicators of continuity of care and indicators of adverse outcomes were tracked for these persons. These analyses yielded several major findings.

Even in this relatively short follow-up period, a significant number of the persons in this study experienced adverse outcomes following discharge and within the time frame of the study. Nearly, one sixth of the sample was readmitted to one of the state hospitals. Further, 21.3% of the sample experienced inpatient or crisis admissions in the community, and 14.5% of the sample were arrested (6.8% on felony charges) during this time frame.

Nearly, 30% of the sample had no record of mental health treatment services in the community during the six months following discharge reported in the IDS. Further, it was also the case that almost 30% of the persons who were readmitted to the state hospital had no record of receiving mental health services in the community during the time between their original discharge and their subsequent readmission. These figures probably overestimate the magnitude of the problem with follow-up care since there are a variety of other reasons that events might not be reported. Namely, services may have been received but not reported (i.e., services may have been received from a provider that does not report to the DCF or a DCF-contracted provider

may have provided services but billed Medicaid rather than reporting to DCF); the person may have been unavailable for services (e.g., the person died, moved out of state, or was reinstitutionalized elsewhere or jailed); finally, errors in reporting may have resulted in data set identifiers being mismatched. We will certainly have a fuller picture of the extent of this problem once the Medicaid claims data have been analyzed.

For those persons who did receive mental health services in the community (reported in IDS), most received case management services and those were instituted in a timely fashion. However, substantially fewer received psychiatric services, and a distinct minority of persons received residential treatment or other therapy. For those who did receive such treatment services, those services were sometimes not initiated promptly.

Neither the latency of onset, nor the quantity of mental health services received in the community during the first six months following discharge appeared to be related to experiencing readmission or other adverse events, except that those who experienced crisis events were more likely to have received case management services in the community.

Nearly 70% of the sample was enrolled in Medicaid during the study period. Many of these were enrolled prior to discharge from the hospital. Enrollment in Medicaid (or lack thereof) did not appear to be related to the experience of adverse outcomes in this group. However, Medicaid enrollment status was related to whether a person received services reported in IDS. Specifically, persons who were not enrolled in Medicaid were <u>less</u> likely to receive such services whereas persons who became enrolled in Medicaid subsequent to discharge were <u>more</u> likely to receive such services, compared with persons who were enrolled in Medicaid at time of discharge.

Several case variables were found to be associated with the experience of readmission to the state hospital or to the experience of adverse events. Specifically, persons with schizoaffective disorder were more likely than persons with other disorders to be readmitted to the hospital and to experience other adverse events. Persons who had more prior state hospital episodes were also more likely to be readmitted. Younger persons, and persons with prior arrest histories were more likely to experience adverse events. Gender and race were unrelated to readmission and to adverse event experience.

The validity of conclusions based on the analysis of administrative data sets is dependent on the adequacy of the existing data. While certain types of reporting errors can be identified and remediated (to a degree), other types of errors, particularly omission of reporting, usually cannot be identified or remediated. Thus, the conclusions of this report need to be taken somewhat tentatively.

A follow-up report will be prepared by June 30, 2001 regarding this sample of persons that will include analysis of Medicaid claims data (mental health, physical health, and pharmacy), data on (community) hospital admissions, and involuntary mental health treatment.

Technical Note 1

Subject selection procedures and details of data conditioning for CIS data

Data in the CIS data system are assembled by the MIS departments at the seven Florida state mental health institutions and are submitted to the DCF. The data dictionary for the discharge data in the CIS system is available from DCF.

Complete discharge records from the CIS system were requested for all cases discharged from the Florida state mental health hospitals from July 1, 1995 to June 30, 2000. Data were also requested on persons who were in the institutions as of June 30, 2000 (so as to have complete information on readmissions to the hospitals). 9656 discharge records were received for the five year period.

According to DCF (State Mental Health Treatment Facilities Bed Reduction Plan, dated 4/11/00), there are seven state mental health hospitals in Florida with a combined operating bed capacity of 2751 (1891 are for civil cases). Two of these facilities serve forensic cases exclusively, and four of the other institutions serve both civil and forensic cases. In FY 98-99, a total of 4305 persons were served in these institutions.

Subjects to be included in the analyses reported in this paper (Target Group) were selected as follows:

1.   All discharge records from July 1, 1998 - December 31, 1999 were selected.

2.   For this group, all records were selected for persons discharged to the community (i.e., discharge records were excluded that indicated status changes, transfers to other institutions, forensic cases, etc.).

        Discharge type codes included:

        03   Inactive: Client Placed on Temporary Status of Convalescence
        05   Terminated: Client Discharged while on Temp. Status of AWOL or LOA
        07   Terminated: Client was Discharged or Died while on Temp. Status of LOA
        11   Terminated: Client was Referred to Other
        19   Terminated: Institutional Services no Longer Appropriate by Treatment
                Team
        34   Other Discharge Type, None of the Above

Discharge type codes excluded:

01	Inactive: Client Place on Temporary Status of AWOL
02	Inactive: Client Placed on Temporary Status of Escape or Elopement
04	Inactive: Client Placed on LOA for Treatment in Another State Hospital
06	Terminated: Client Discharged while on Temporary Status of Escape or Elopement
08	Terminated: Client Returned to Another State Hospital after Temporary Treatment in this Facility
09	Terminated: Client was Transferred to Forensic Institutional Services of Another State Hospital
10	Terminated: Client was Transferred to Civil Institutional Services of Another Hospital
18	Terminated: Client was Transferred to Other Mental Health Facilities, e.g., VA
20	Terminated: By Client Against Medical Advice
21	Terminated: Client was Administratively Discharged due to Disciplinary Reasons
22	Terminated: Client Died in Facility
23	Terminated: Client Transferred out of State
24	Terminated: IST Returned to Court, Competent to Stand Trial
25	Terminated: MDSO Return to DOC, Treatment Completed
26	Terminated: MDSO Return to DOC, Treatment Exhausted
27	Terminated: Non-MDSO Return to DOC
28	Terminated: NGBRI Return to Court for Hearing
29	Status Change: From Civil to Forensic within Facility
30	Status Change: IST Transfer to Civil within Facility, Charges Dropped
31	Status Change: IST Transfer to Civil within Facility, Court Jurisdiction Continued
32	Status Change: DOC Transfer to Civil within Hospital, Sentence Expired
33	Status Change: NGBRI Transfer to Civil within Facility, Court Jurisdiction Continued
35	Client Died Outside the Facility while on Temporary Status of AWOL, Escape, Elopement or LOA

3. Of the resulting 1267 cases, 9 cases had no valid SSN. These cases were dropped from further analyses for this report (we plan to investigate such cases further to determine if valid SSNs can be established from the other administrative datasets). Thus, there were 1258 cases with valid data reported on for this study.

4. Hospital episodes involving lengths of stay in the hospital of less than 30 days were excluded. This resulting in 1211 cases remaining with valid data for this study.

5. For each case, the first discharge record occurring on or after July 1, 1998 was selected. This is the "Index Discharge" from which all other events were indexed.

Technical Note 2

Methods used for identifying data for these subjects within the Medicaid data sets

The Medicaid data files are keyed using the Medicaid Recipient ID number. The matching strategy was to obtain the most likely Recipient ID number for each case in the Target Group. A file was constructed from the CIS discharge data that included the SSN, last name, first name, and Medicaid Recipient ID number for each case in the Target Group.

These data were matched with the Medicaid enrollment/eligibility file and all records that met any of the following conditions were extracted:

Exact SSN match
Exact Medicaid recipient ID match
Exact last name / first name match

The records obtained under this extraction were analyzed for the quality of the matches using the initial match variables along with other demographic variables including race, gender, county of residence and date of birth. Records deemed to have less than ideal matches were sent back, along with those that had no match, for a "fuzzy" name match (based on first 5 characters of the last name and the first character of the first name).

Once this match was completed, these two data sets were appended and other demographic variables including race, gender, county of residence and date of birth were once again examined. The record with the best match for each case was deemed valid and chosen as the match for that case if the following minimum criteria were met:

1.   Exact match on SSN and/or Medicaid recipient ID number <u>and</u> at least a "fuzzy" name match or a "fuzzy" date of birth match.

2.   If there was not an exact match on SSN or Medicaid recipient ID then the case had to meet one of the following criteria:

     a)   exact name match, at least a "fuzzy" date of birth match, and matches on at least two other demographic variables (of race, gender, county of residence).

     b)   exact date of birth match, at least a "fuzzy" name match, and matches on at least two other demographic variables (of race, gender, county of residence).

     c)   exact name match, exact date of birth match, and a match on at least one other demographic variable (of race, gender, county of residence).

The Medicaid recipient ID number for those cases that were deemed to have valid matches was then used to extract Medicaid data for that particular CIS case.

Technical Note 3

Methods used for identifying Medicaid Enrollment spans to be used for analysis

Medicaid enrollment data were extracted for all cases considered to have a valid match to the Medicaid data. The Medicaid enrollment spans were merged across program types so that there was no apparent break in enrollment when there were program type changes during a period of apparently continuous enrollment. The spans were then analyzed to determine the "best" enrollment span for use in each case according to the following criteria:

1. If the span indicated that the person was enrolled at the time of discharge from the state hospital then that span was used.

2. If the person was not enrolled at time of discharge, but had a span that indicated the person was subsequently enrolled beginning prior to 6/30/00 or readmission to the state hospital (whichever came first), then that span was used.

3. If the person was not enrolled at discharge, nor subsequent to discharge and before readmission or 6/30/00, but the person had a span that indicated that they had been enrolled during the time period of the study, but had become disenrolled prior to discharge from the hospital, then that span was used.

4. If not of the above criteria were met the person was considered as "never enrolled".

The number of days to enrollment was calculated as the number of days from the discharge date to the enrollment begin date.

Technical Note 4

Methods used for identifying data for these subjects within the IDS data system

All the IDS data files are keyed using SSN and the IDS files contain no data on names. Thus, we required that an exact SSN match occur to consider cases as possible matches with the IDS. In the event of an exact SSN match, the case was rejected as a match if the dates of birth conflicted (i.e., not at least a "fuzzy" match as described above) and at least one other demographic (among gender, race, and county of residence) also conflicted. In essence, a case was accepted as a match if there was an exact SSN match and a fuzzy date of birth match, or if there was an exact SSN match and matches on all three demographic variables other than date of birth.

Technical Note 5

Methods used to assign IDS service events to categories

According to Pamphlet 155-2 of DCF, the following are general instructions pertaining to the reporting of service event data for the IDS:

General Considerations for the Service Event Data Set

The Service Events component is used to record every service activity provided to a client. This is one of the measures of ADM system outputs and is a critical component for linking clients, services, providers, costs, and outcomes.

Who submits service event data?

All providers with an ADM contract serving enrolled clients whose services are funded by ADM contract, local match or Medicaid. Events are also submitted for TANF clients.

General policies related to the service event data

Services provided to clients will be reported within 15 days following the end of the reporting month. Failure to submit these required data will result in the provider being out of compliance and subject to the penalties for non-compliance given in the **Error! Reference source not found.** section of Chapter 1: Overview.

In order to meaningfully summarize the IDS event data, service events were classified into seven broad categories according to the following classification scheme. Cost center codes are indicated as [ccNN] where NN is the cost center code number, and similarly service codes are indicated as [svcNN] where NN is the service code number. In the following scheme. Generally, events were classified according to cost center. If the cost center code was missing, the event was classified according to the service code. There were also several exceptions that are indicated at the end.

Case Management events

        [cc02] Case Management
        [cc10] Intensive Case Management
        [cc11] Intervention
        [cc25] Supported Employment
        [cc26] Supported Housing/Living
                [svc001] Activities on Behalf of a Person
                [svc018] Case Consultation
                [svc058] Face to Face Contact
                [svc060] Intervention Visit
                [svc062] Information and Referral
                [svc064] Living Support
                [svc065] Locating a Home
                [svc080] Supported Employment (Group)
                [svc081] Supported Employment (Individual)
                [svc084] Telephone Contact with Person
                [svc086] Transportation Services
                [svc095] Development of the Individual Plan (W1068)
                [svc096] Treatment Plan Review (W1069)

        If (cost center code is 04, 08, _or_ 14) _and_ (service code is 1, 18, 58, 60, 62, 64, 65, 80, 81, 84, 86, 95, _or_ 96))

Therapy events

        [cc01] Assessment
        [cc08] In-Home and On-Site Services
        [cc13] Methadone Maintenance
        [cc14] Outpatient
        [cc23] Sheltered Employment
        [cc27] TASC (Treatment Alternatives to Street Crime)
                [svc005] Assessment (Developmental)
                [svc006] Assessment (DUI/DWI)
                [svc008] Assessment (Functional)
                [svc010] Assessment (Intervention)
                [svc012] Assessment (Psychosocial)
                [svc016] Behavioral Services
                [svc021] Counseling (Brief Therapeutic)
                [svc022] Counseling (Family)
                [svc023] Counseling (Group)
                [svc026] Counseling (Individual)
                [svc038] Day of Care (Sheltered Employment)
                [svc047] Day Treatment (Adult, Ages 18-54)
                [svc048] Day Treatment (Adult, Ages 55 and over)
                [svc049] Day Treatment (Substance Abuse)
                [svc071] Partial Hospitalization
                [svc079] Social/Recreational Rehabilitation

Therapy events (cont.)

If (cost center code is 10, <u>or</u> 11) <u>and</u> (service code is 5, 6, 8, 10, 12, 16, 21, 22, 23, 26, 38, 47, 48, 49, 71, <u>or</u> 79))

<u>Psychiatric Service events</u>
>   [cc12] Medical Services
>   [cc28] Non-Contractual Services
>   >   [svc066] Medication Admin & Monitoring (Advanced Drugs)
>   >   [svc067] Medication Administration & Monitoring (Other)
>   >   [svc076] Psychiatric Consultation/Treatment (Group)
>   >   [svc077] Psychiatric Consultation/Treatment (Individual)
>   >   [svc089] IDP Prescription – Advanced Drugs
>   >   [svc090] IDP Prescription – Other Drugs

<u>Residential Treatment events</u>
>   [cc06] Day/Night
>   [cc18] Residential Level 1
>   [cc19] Residential Level 2
>   [cc20] Residential Level 3
>   [cc21] Residential Level 4
>   [cc32] Outpatient Detoxification
>   [cc33] Room & Board w/Supervision
>   >   [svc028] Day of Care (Addictions Receiving Facility)
>   >   [svc029] Day of Care (Adult, Ages 18-54)
>   >   [svc030] Day of Care (Adult, 55 Years and Over)
>   >   [svc039] Day of Care (Short Term Residential Treatment)
>   >   [svc043] Day of Care (Substance Abuse)
>   >   [svc044] Day of Care (Therapeutic Foster Home)

If (cost center code is 24) <u>and</u> (service code is 28, 29, 30, 39, 43, <u>or</u> 44)

<u>Crisis events</u>
>   [cc03] Crisis Stabilization
>   [cc09] Inpatient
>   [cc24] Substance Abuse Detoxification
>   >   [svc031] Day of Care (Adult Crisis Stabilization Unit)
>   >   [svc032] Day of Care (Children's Crisis Stabilization Unit)
>   >   [svc035] Day of Care (Inpatient)
>   >   [svc036] Day of Care (Residential Detox)

Crisis Evaluation events

        [cc04] Crisis Support/Emergency
             [svc050] Screening/Counseling
             [svc051] Evaluation (Ex Parte)
             [svc053] Evaluation (Police Ordered)
             [svc054] Evaluation (Professional Ordered)
             [svc055] Evaluation (Psychiatric)
             [svc056] Evaluation (Psychological)
             [svc057] Evaluation (Voluntary)

        If (cost center code is 01, 08, 12, <u>or</u> 14) <u>and</u> (service code is 50, 51, 53, 54, 55, 56 <u>or</u> 57)

Other Medical Service events

             [svc063] Laboratory Services
             [svc073] Physical Exam
             [svc087] Urinalysis

        If (cost center code is 12, 14, <u>or</u> missing) <u>and</u> (service code is 63,73, <u>or</u> 87)

Not classified (did not occur in the data set)

        [cc05] Day Care
        [cc07] Drop In/Self-Help Centers
        [cc15] Outreach
        [cc16] Prevention
        [cc17] Prevention/Intervention Day
        [cc22] Respite Services
        [cc29] Aftercare
        [cc30] Information and Referral
        [cc31] Behavioral Health Overlay Services

        [svc002] Aids Therapeutic and Medical Services
        [svc003] ALPHA
        [svc004] Assessment (Comprehensive)
        [svc007] Assessment (Educational)
        [svc009] Assessment (HIV)
        [svc011] Assessment (JJ Incompetent to Proceed)
        [svc013] Assessment (Tuberculosis (TB))
        [svc014] Assessment (Vocational)
        [svc015] Before/After School Programs
        [svc017] BETA
        [svc019] Case Review Committee Activities
        [svc020] Community Based Programs
        [svc024] Counseling (HIV/TB/Health Education)
        [svc025] Counseling (HIV/TB Risk Screening/Pre and Post Test)
        [svc027] Counseling (Prenatal/Post Partum)

Not classified (did not occur in the data set) (cont.)

[svc033] Day of Care (Group Care with Treatment)
[svc034] Day of Care (Individualized Residential Treatment)
[svc037] Day of Care (Residential Treatment Center)
[svc040] Day of Care (Specialized Ther Foster Home Crisis Intervention)
[svc041] Day of Care (Specialized Therapeutic Foster Home-Level 1)
[svc042] Day of Care (Specialized Therapeutic Foster Home-Level 2)
[svc045] Day of Care (Therapeutic Group Home)
[svc046] Day Treatment (Children, Ages 3-17)
[svc052] Evaluation (Forensic)
[svc059] Family Serv. Planning Team Multi-Disciplinary Team Activities
[svc061] HIV/AIDS Testing
[svc068] Med. Dispensing/Administration & Monitoring (Sub. Abuse)
[svc069] Mobile Crisis Service
[svc070] Outpatient Detoxification
[svc072] Pediatric Health Care
[svc074] Prenatal/Post Partum Counseling & Medical Care
[svc075] Primary Medical care
[svc078] Respite Services
[svc082] TB Testing
[svc083] TB Therapeutic & Medical Services
[svc085] Therapeutic Child care
[svc088] Vocational Services
[svc091] Medicaid Specialized Therapeutic Serv. Comp. Assessment
[svc092] Medicaid Funded Overlay Services
[svc093] Psychiatric Evaluation of Hospital Records (W1031)
[svc094] Interpretations of Psychiatric Examination (W1036)
[svc097] Home & Community Based Rehab. (W1072 for persons under 21)
[svc098] Urinalysis lab results positive
[svc099] Urinalysis lab results negative
[svc100] Admission bed-day with maximum units of ½ day
[svc101] Discharge bed-day with maximum units of ½ day
[svc102] Regular bed-day with maximum units of 1 day
[svc103] Social activities
[svc104] Community services
[svc105] Individual services
[svc106] Information dissemination
[svc107] Education
[svc108] Problem identification & referral
[svc109] Alternative Programs
[svc110] Environmental
[svc111] Community process
[svc112] I&R Screening
[svc113] I&R Assessment
[svc114] I&R Prevention
[svc115] I&R Home-based services

Not classified (did not occur in the data set) (cont.)
[svc116] I&R School-based services

[svc117] I&R Family therapy
[svc118] I&R Family support
[svc119] I&R Respite services
[svc120] I&R Outpatient treatment
[svc121] I&R Day treatment
[svc122] I&R Crisis stabilization
[svc123] I&R Therapeutic foster care
[svc124] I&R Residential treatment
[svc125] I&R Inpatient hospitalization
[svc126] I&R Case management
[svc127] I&R Services for victims of sex offense
[svc128] I&R Transitional services
[svc129] I&R Detoxification
[svc130] I&R Other mental health services
[svc131] I&R Other substance abuse services

Edits regarding number of units of service provided

Below are excerpts from the DCF manual for reporting number of units of service events (these excerpts are taken from the manual date 7/2000 and thus may not have been entirely in effect for the reporting period).

Number of Units Provided

(a)   All services for Cost Centers *[03], [05], [06], [07], [09], [17], [18], [19], [20], [21], [23]* and *[24]* are reported in days. As stated at the beginning of the chapter, the maximum number of units that can be reported per event is one day. For example, a person in an residential setting for four days beginning on July 1, 1999, four service events of one day each should be reported, with the beginning date of service being 07/01/99 for the first service, 07/02/99 for the 2nd event, 07/03/99 for the 3rd event, and 07/04/99 for the 4th event.

(b)   When using Cost Center code *[13]* for Methadone Maintenance, report only one (1) dosage per day per service event. Do not report the number of dosages administered during the day.

(c)   All other services will be reported in minutes, even if the unit of measure is ordinarily considered to be in hours (one hour of group counseling, for example, converts to 60 minutes).

Maximum Units for Days and Minutes: For cost centers with units measured in days (i.e., CSU, Day Care, Day/Night, Inpatient, Prevention/Intervention, Residential Levels 1 thru 4, Sheltered Employment, Substance Abuse Detoxification, Outpatient Detoxification, or Room & Board with Supervision) a maximum of one day per service event will be allowed in the data warehouse. For example, if a client was in Residential Level 1 for five days, then five service events of one day each should be submitted. Otherwise, the service event will be rejected if the number of units is null (blank) or greater than 1.

For cost centers with units measured in minutes, only a maximum of 1440 minutes per service event will be allowed in the data warehouse. Otherwise, the service event will be rejected if the number of units is null (blank) or exceeds 1440. If a service is provided more than once during the day, all units for that service should be bundled into one daily event, including the sum of all units provided during that day. Otherwise, the system will replace the first event record by subsequence service event that occurred that day.

As suggested by the above excerpts, the units data for each service category were appropriately converted so that units for Residential Treatment events were all converted to days, and all other events were converted to minutes. In calculating number of units received per case for 30 periods following discharge, Residential Treatment unit totals were capped at 30 days. Therapy services were capped at 14,400 minutes of service (8 hours per day for 30 days). For other service categories, the data were inspected for outliers and five cases were so identified (3 case management and 2 psychiatric). These 30-day totals were capped such that the maximum possible for case management reflected 3 hours of case management services per day for the entire 30-day period. For psychiatric services, the cap reflected 30 minutes of service per day for the entire 30-day period.

Close inspection of the units data revealed numerous problems with the way that these values were reported. Much of the problem had to do with the number of units being reported using the wrong scale for the particular service (e.g., reporting residential treatment days in hours rather than days, or reporting psychiatric services in quarter hours rather than minutes). Further, it was noted that, contrary to policy, providers frequently reported multiple days of service on a single record for services reported in days (most frequently this was for a month at a time, so 31 days of residential treatment would be reported at one month intervals for a case).

We took several steps to minimize the impact of such reporting problems--

1.   For Case Management and Psychiatric services (which should have been reported in minutes), if the units value reported was less than 10, but not equal to 5 (i.e., 1, 2, 3, 4, 6, 7, 8, or 9) , then it was assumed that the units were in quarter hours, so the units value was multiplied by 15.

2.   For events with service codes that should have been reported in days, if the units value reported was 60 then it was assumed that this was 1 hour of service. For units values reported that were greater than 1 but less than 8, these were individually inspected to determine if the units should be considered to be in hours (e.g., cases that had 4 units reported on multiple successive days would indicate hours). These were changed on a case by case basis.

3.   A small number of records for Case Management services had 0 units reported. These were assigned a value of 60 (the group median for those service codes).

Technical Note 6

Methods used for identifying data for these subjects within the FDLE data system

The FDLE data files are keyed using an FDLE identification number. Within each FDLE case (unique FDLE ID number) there exists the possibility for up to 50 SSNs, 50 names, and 50 dates of birth. We conducted three separate searches of the FDLE files (one for SSN matches, one for exact name matches, and one for "fuzzy" name matches (matches of the first 5 characters of the last name and the first character of the first name)). Within each search the FDLE number for each match was extracted. The records for the combined set of FDLE numbers extracted were then searched for exact or "fuzzy" date of birth matches (two of three matching date portions -- month/day/year). Then the FDLE files were queried to produce the maximum possible score for matches with each FDLE case. The best record was selected as a possible match for a given CIS ID number. Finally, to be accepted as a match, the best matched FDLE record had to have at a minimum, an exact SSN match, a fuzzy name match, and a fuzzy date of birth match. Of the 1211 cases in this study 586 (48.4%) were found to match FDLE records by these criteria.

The AHCA Series http://www.fmhi.usf.edu/institute/pubs/bysubject.html

Agency for Health Care Administration Reports

2000

o   Children Who Drop Out of Treatment. 2000.

o   Evaluation of Florida's Prepaid Mental Health Plan: Year 3 Report. 2000.

o   Evaluation of Florida's Sub-Acute Inpatient Psychiatric Program (SIPP). 2000.

o   Mental Health Care for Child Welfare Clients: Historical Data Analysis: Report #1. 2000.

o   The Transition Years: What Happens to Adolescents on Medicaid Who Use Mental Health Services: A Preliminary Report. 2000.

o   Use of Best Treatment Protocols in Managed Care Environments. 2000.

1999

o   Evaluation of the Prepaid Mental Health Program. 1999.

1998

o   Evaluation of Florida's Prepaid Mental Health Plan - Interim Report. 1998.

o   Medicaid Managed Mental Health Care Arrangements in AHCA Area 6: Organizational, Financial and Clinical Structures. 1998.

o   A Comparison of Medicaid Managed Mental Health Care in AHCA Areas 6 & 4. 1998.

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