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State Mental Hospital Continuity of Care Study 2: Comparison of State Mental Hospital Discharge Plans with Post Discharge Housing Placements, Participation in Community Behavioral Health Services, and Use of Psychotropic Medication

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State Mental Hospital Continuity of Care Study 2:

Comparison of State Mental Hospital Discharge Plans with Post Discharge Housing Placements, Participation in Community Behavioral Health Services, and Use of Psychotropic Medications

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Executive Summary

This study reports on the comparison of information found in on-site chart reviews conducted at four state mental hospitals in Florida with six-month post discharge follow-up data extracted from two large services data bases for Medicaid and the Department of Children and Families. The present study is a follow-up to the *State Mental Hospital Continuity of Care Study, Year One Preliminary Report* (Boaz & Vossberg, 2001). In that study, several administrative datasets were used to address issues in the continuity of care of 1211 persons discharged to the community from Florida state mental hospitals from July 1, 1998 through December 31, 1999. The present study seeks to further the findings of that study by conducting on-site reviews of state mental hospital medical records of a subset of 100 of the subjects from the earlier study. The information obtained in those reviews was used to address the following continuity of care issues:

1. The psychiatric medication regime recommended in the state hospital discharge plan and the medications obtained during six months post discharge (as reflected in Medicaid pharmacy claims data) were examined to determine the extent to which there was continuity of care between recommended and actual use of "atypical" psychotropic medications.
2. Community service data (as reflected in service/event data in the Department of Children and Families Integrated Data System database) were examined to describe the pattern of services received in the community and to determine whether persons attended community services that matched levels of care needs identified in the state hospital discharge plans.

A few of the major findings of the study are presented below:

1. A large number of the patients discharged from the four state mental hospitals require treatment for substance abuse and serious physical health disorders in addition to their mental health needs.
2. All patient groups use "Atypical" psychotropic medications frequently in state hospitals, but at a slightly higher frequency with patients who have been enrolled in Medicaid compared to Non-Medicaid patients.
3. If a patient had any trial of "atypicals" in the hospital, there is a 90% chance for Medicaid patients and a 100% chance for Non-Medicaid patients of having the Discharge Plan recommend continuation of "atypicals" after discharge.

4. Medicaid patients whose discharge plans included recommendation for "atypicals" were over four times more likely to receive "atypicals" in the community than if the discharge plans recommended only "traditional" psychotropic medications.
5. 62% of the patients with Medicaid pharmacy claims for "atypicals" and 66% of the patients with Medicaid pharmacy claims for "traditional" psychotropic medications during the six-month post discharge follow-up also had Medicaid pharmacy claims for drugs used to treat serious physical health disorders
6. Assuming that the six recommended Nursing Home placements happened, a total of 43% of the Medicaid Enrolled and 63% of the Non-Medicaid "supervised housing" recommendations were accomplished in the community.
7. For both Medicaid and Non-Medicaid groups, patients recommended for Supervised Housing and case management services or Other Housing and case management services were most likely to show up in the six-month post discharge IDS database as having actually lived in "Supervised Housing".
8. Medicaid patients recommended for unsupervised living situations with a recommendation for case management services were the most likely to receive community based crisis services within the first three months post discharge.
9. Patients recommended for case management who actually received case management services are also most likely to be readmitted to the state mental hospital during the six month follow-up.
10. Presence of co-morbid physical health conditions may account for greater mortality and morbidity in severely mentally ill patients discharged from state mental hospitals than suicide.

Background

On any given day, a large number of our fellow citizens are evaluated for cognitive or behavioral dysfunction associated with serious mental illnesses that necessitate admission into psychiatric crisis services. Some voluntarily seek and consent to that treatment while others are under court order to get the help they need. Most respond quickly (i.e., a few days in a community based Crisis Stabilization or psychiatric in-patient unit) and are discharged to continue treatment in less restrictive outpatient or day treatment services. Some need a little more time and are transferred into short-term inpatient services in their community where they are treated and released into less restrictive care after a few weeks. However, for those most seriously disabled by their illness and for whom community treatment alternatives are inappropriate, unsuccessful, or unavailable, involuntary placement hearings in court generally result in transfer to a large State Mental Hospital. Some individuals remain in those hospitals for months or even years of treatment before their behavior and mental status have improved to the point they no longer meet criteria for involuntary placement and they are able to be returned to their community.

Statement of the Problem

Careful planning, preparation and actual discharge and transition from highly restrictive State Mental Hospitals back into community-based aftercare programs is a process that is critically important for people with serious mental illness to continue their trajectory toward recovery and improved quality of life. Unfortunately, even after a person has been successfully treated and stabilized so that they are able to be discharged from a state mental hospital, any number of critical elements can impede the process of developing and/or implementing comprehensive aftercare plans that allow their successful return to and tenure in their referring community.

One frequently mentioned complication with establishing a smooth transition back to the community is simple distance between the location of the person needing care (at the state hospital) and the actual discharge treating professional or agency (back in the referring community). State Hospitals are typically located in less populated, more isolated rural areas of a state, somewhat distant from the referring communities. That distance can complicate and prolong the task of setting up aftercare appointments and arranging for aftercare housing or transportation. It can even interfere with the process of securing patient informed consent to the actual discharge plan where the patient must often decide between and accept unseen housing or unfamiliar treatment alternatives.

Discharge planning at state mental hospitals is also complicated by the need to coordinate and pay for treatment of co-occurring substance abuse or physical health disorders. These conditions often accompany the traditional mental health

diagnoses of people treated in these large state institutions. In some cases, untreated substance abuse or physical health disorders may contribute to cognitive dysfunction and recidivism to more restrictive inpatient mental health services, including readmission to a state mental hospital.

An additional, but obviously important issue influencing community tenure is whether the person actually attends or receives the services or treatments prescribed in that comprehensive discharge-planning document. Once discharged and back in the community, the person may decide they no longer need care and not show up for their appointments. Or, the person may neglect to take prescribed medications because of negative side effects, which may ultimately contribute to return of disabling psychiatric symptoms and re-entry to inpatient care. Many clinicians and researchers believe that improved functioning and medication compliance is enhanced by the use of a relatively new class of psychotropic medications referred to as "Atypicals" (e.g., Clozaril, Risperdal and Zyprexa). These medications seem to work on different "receptor" sites in the brain than the older "traditional" antipsychotics (e.g., Thorazine, Haldol and Mellaril). "Atypicals" also tend to have fewer negative side effects and reduce uncomfortable symptoms not typically helped by "traditional" antipsychotics. Also, unlike "traditional" antipsychotics, "atypicals" are also helpful for treating depression or mood disorders because they reduce affective symptoms by influencing serotonin re-uptake pathways in the brain. The "down side" to use of "atypicals" is that they may require regular monitoring of blood levels and they cost more than "traditional" antipsychotics. For this reason, there is a growing concern that these powerful and effective medications may not be equally available to indigent patients. In addition, some healthcare plans may not include coverage or may attempt to reduce costs by "encouraging" use of the less expensive "traditional" antipsychotic or antidepressant medications. It is important that we know the extent to which these newer medications are available and used by those with the most serious and disabling mental health conditions.

By virtue of their disadvantaged economic and functional disability status, most patients discharged from State Mental Hospitals are eligible to be referred to state general revenue funded services in their communities (where available) or to receive other forms of state or federal support for their care (e.g., Medicaid or Medicare). State Hospital Discharge planners and Community Case Managers are expected to work closely together to enroll or "re-link" eligible people with these important state and federal programs. This coordination is essential to ensure that all aftercare elements of medical, mental health care, substance abuse treatment, and social supports are available. Implementing active case management models, making appropriate referral to step-down programs which monitor treatment compliance, and use of newer and more effective psychiatric medications with fewer negative side effects are all considered important in improving the chance for success at these initial phases of the aftercare process.

In Florida, we must insure that people in these fragile and vulnerable populations experience the most efficacious recovery possible and that all resources needed for their continuing care are effectively and efficiently utilized to achieve the most positive outcomes.

Overview of Present Study

The present study is a follow-up to the *State Mental Hospital Continuity of Care Study, Year One Preliminary Report* (Boaz & Vossberg, 2001). In that study, several administrative datasets were used to address issues in the continuity of care of 1211 persons discharged to the community from Florida state mental hospitals from July 1, 1998 through December 31, 1999. The present study seeks to further the findings of that study by conducting on-site reviews of state mental hospital medical records of a subset of 100 of the subjects from the earlier study. The information obtained in those reviews was used to address the following continuity of care issues:

1. The psychiatric medication regime recommended in the state hospital discharge plan and the medications obtained during six months post discharge (as reflected in Medicaid pharmacy claims data) were examined to determine the extent to which there was continuity of care between recommended and actual use of "atypical" psychotropic medications.
3. Community service data (as reflected in service/event data in the Department of Children and Families Integrated Data System database) were examined to describe the pattern of services received in the community and to determine whether persons attended community services that matched levels of care needs identified in the state hospital discharge plans.

Methods

From the sample of 1211 persons in the *State Mental Hospital Continuity of Care Study, Year One Preliminary Report* (Boaz & Vossberg, 2001), a subsample of 100 patients was drawn that consisted of people discharged between July 1, 1998 and December 31, 1999. Twenty-five patients were randomly selected from each of the four major state mental hospitals (Florida State Hospital, Northeast Florida State Hospital, G. Pierce Wood Memorial Hospital, and Atlantic Shores (formerly South Florida State) Hospital). Blocking procedures were followed in selecting the sample so that each set of 25 patients contained approximately 75% Medicaid Enrolled patients and 25% Non-Medicaid Enrolled patients. The blocking procedure also ensured that about 16% of the Medicaid and 16% of the Non-Medicaid group consisted of people who had been

readmitted to the state hospital within six months from discharge date. Those percentages represented rates found in the larger sample of 1211 patients included in the initial study to ensure that the patients in the present study would approximate characteristics of the larger group. Because of the relatively small number of cases reviewed at each hospital, between-hospital comparisons are not made in this study -- each analysis looks at the sample as a whole.

Administrators at the four hospitals were contacted and provided with information about the purpose of the study, a copy of the letter from DCF Secretary Kearney authorizing the reviews, and a copy of the University of South Florida human subject's review board approval letter for the project. All four of the state hospital administrators provided full cooperation, including space, access, and staff assistance to facilitate the reviews.

FMHI research staff conducted the on-site reviews during the last three weeks of May 2001. The process of the reviews took approximately two days at each hospital. A list of the information extracted during each chart review is contained in Appendix A.

Results

Characteristics of Subjects

The initial sample of charts reviewed included 76 patients who had been enrolled in Medicaid at some time during the course of the two-year period covered by this study. That period included July 1, 1998 to December 31, 1999 for possible discharge dates and an additional six months (December 31, 1999 to June 30, 2000) for the last possible end date for post discharge follow-up.

Five subjects were dropped because the dates of hospitalization covered by the charts reviewed at the hospital were after the discharge dates of the index hospitalization selected for those subjects. Thus, the information in those charts represented re-admissions that occurred following discharge from the episode under study.

Table 1 presents the characteristics extracted from chart reviews of 94 patients included in this report (71 Medicaid enrolled and 23 Non-Medicaid Enrolled). In general, about 70% of the patients in the sample were white and slightly more than 50% of the patients were male. The average age at discharge of the sample was in the mid 40's with an average length of stay in the State Mental Hospital of about 800 days. The Medicaid Enrolled Group and Non-Medicaid groups appear to be similar on each of these variables. The characteristics of the total sample of 94 is also similar to the characteristics of the larger sample of 1211 from which they were drawn (i.e., the larger sample was 71.4 % white, 55.5% male, average age at discharge of 43.1 years, and mean length of the index episode of 708 days).

Diagnostic characteristics derived from chart reviews of the patients are reported in Table 2. Medicaid Enrolled patients were more likely to be diagnosed with a schizophrenic and Non-Medicaid patients were more often diagnosed with a schizoaffective disorder. Overall, these findings are consistent with the original sample of 1211 from which these patients were drawn which included 38.8% with schizophrenic diagnoses, 25.4 % with schizoaffective disorders, 22.9% with mood disorders, 4.5% with dementia/cognitive disorders, and 8.3% other diagnoses. Table 2 shows that approximately 40% of the present sample of 94 also had co-morbid substance abuse or substance dependence diagnoses recorded in their charts and about half of the patients had serious health problems noted in their record. Medical problems reported in the charts included HIV infection, seizures related to brain trauma, cerebral palsy, paralytic disorders due to physical injury, major cardiac disease and coronary risk factors like diabetes, high blood pressure, obesity and high cholesterol. Thus, the sample included a large number of people requiring treatment for substance abuse and physical health disorders in addition to their mental health needs.

Patterns of Use of "Atypical" Psychotropic Medications in the State Hospital

Chart reviews revealed that four of the 71 Medicaid Enrolled patients in the sample were discharged without psychotropic medications: one was transferred to another state without recommendations for medications and three were discharged without psychotropics because of serious health problems. Table 3 reports information obtained on 86 patients (67 Medicaid and 19 Non-Medicaid) who were treated and discharged on psychotropic medications. Over 60% of the Medicaid patients and 42% of the Non-Medicaid patients who could be treated with psychotropic medications were prescribed "atypical" antipsychotic medications at some time during their hospital stay. Perhaps even more important to questions addressed in this study is the finding that 57% of all Medicaid Enrolled patients and 42% of all Non-Medicaid patients included in this sample were recommended for continuation on "atypicals" in the community after discharge. This means that if a patient had any trial of "atypicals" in the hospital, there was a 90% chance for Medicaid patients and a 100% chance for Non-Medicaid patients of having the Discharge Plan recommend continuation of "atypicals" after discharge.

In general, these data suggest that "atypical" psychotropic medications are used frequently with all patient groups. However, they are used at a slightly higher frequency with Medicaid Enrolled patients than they are with Non-Medicaid patients.

Continuity of Use of "Atypical" Psychotropic Medications from Hospital to Community

In addition to obtaining information about patterns of "atypical" psychotropic medication use in the hospital and in discharge planning, it is even more important to ascertain whether or not they are available and utilized in the community aftercare programs. Patient identifying information derived from the on-site chart reviews was used to extract information from the Medicaid Pharmacy Claims database for a six month period following each patient's date of discharge.

Table 4 shows the degree of continuity between discharge recommendations for "atypical" psychotropic medications and actual use once the Medicaid Enrolled patient returned to the community. "Atypical" psychotropic medications were recommended in discharge plans of 37 of the 67 (55%) of the Medicaid Enrolled patients' who could be treated and discharged on some type of psychotropic medication. Forty-five percent of the Medicaid patients were recommended to use only "traditional" psychotropic medications in the community.

Seventy-six percent of the Medicaid patients being discharged with recommendation to continue "atypicals" and 66% of the Medicaid patients discharged on "traditional" psychotropic medications had Medicaid pharmacy claims during the six-month follow-up. Twenty-seven of the twenty-eight Medicaid patients with Medicaid pharmacy claims who had been recommended to continue the "atypicals" in the community actually received them during some or all of that six month post discharge follow-up. In addition, five of the twenty Medicaid patients found in the Medicaid Pharmacy Claims database who had been discharged with recommendations to continue on "traditional" psychotropic medications also had claims for "atypicals" during the six month follow-up. This means that in terms of continuity, Medicaid patients whose discharge plans included recommendation for "atypicals" were over four times more likely to receive "atypicals" in the community than if the discharge plans recommended only "traditional" psychotropic medications. This data suggests that at a minimum, 72% of the Medicaid Enrolled patients discharged from the state hospital actually received pharmacy services paid for by Medicaid during the six-month follow-up period.

Post Discharge Pharmacy Costs for Patients on "Atypicals" vs. Patients on "Traditionals"

Table 5 presents average six-month Medicaid pharmacy costs for the 32 Medicaid enrolled patients receiving at least some "atypicals" during the follow-up. This is contrasted with pharmacy costs for the 16 Medicaid patients that only showed Medicaid pharmacy claims for "traditional" psychotropic medications in the six-month follow-up. The average cost of all prescriptions for patients who were prescribed "atypical" psychotropic medications at any time during the six-

month follow-up was \$1,846. The average cost for those receiving only "traditional" psychotropic medications was \$895.

Approximately 62% of the patients with Medicaid pharmacy claims for "atypicals" and 66% of the patients with Medicaid pharmacy claims for "traditional" psychotropic medications also had Medicaid pharmacy claims for drugs used to treat physical health disorders during the six-month follow-up. Thus, for Medicaid Enrolled patients who are linked with services that bill Medicaid for pharmaceuticals, there appears to be good access to the "atypical" psychotropic medications. In addition, continued treatment is also provided for the variety of other medical disorders prevalent in Medicaid patients discharged from the state mental hospitals.

Continuity of Care Between Discharge Plans and Post Discharge Housing and Case Management Services

Table 6 reports information on two critical categories of follow-up mental health services: housing and case management. The data in that table were extracted from state mental hospital discharge plans and contrasted with community-based service events extracted from the Department of Children and Families Integrated Data System (IDS) database during the six-month follow-up. Overall, it appears that 70% of the Medicaid Enrolled and Non-Medicaid patients discharged into Florida communities received at least one IDS service during the six-month follow-up. This is similar to the 78.5% figure reported by Boaz and Vossberg for the larger sample. In general, the time to first IDS service event was relatively quick with an average of less than 30 days. Much of the time, this was attributed to first visits by case managers or first day attendance at a group home or supervised apartment.

Housing: Table 6 shows that Forty percent of the patients in both the Medicaid and Non-Medicaid groups who were discharged into Florida communities were recommended for discharge to "Supervised Housing" living situations where mental health staff or other professionally trained personnel could supervise them. For purposes of this study, that category included Psychiatric Group Homes, Supervised Apartments, Satellite Apartments, Residential Substance Abuse Programs and Nursing Homes). Sixty percent of the patients were recommended for discharge to the home of a relative, a private apartment or house, a motel or hotel room, an Assisted Living Facility or a Boarding Home. Eight (29%) of the 28 Medicaid patients and three (38%) of the Non-Medicaid patients who were recommended for "Supervised Housing" showed up in the IDS data base as having actually been in a Group Home or Supervised Apartment during the first three months of the six-month follow-up. However, four Medicaid Enrolled patients and two Non-Medicaid patients were recommended for discharge to Nursing Homes. Nursing Home placements do not show up in the IDS data. Thus, this is probably an underestimate of the continuity between supervised housing recommendations by state mental hospital staff and actual

placements in those types of facilities in the community. It may be reasonable to assume that, barring death, nursing home placements have a high probability of actually occurring because anything less intensive would not meet the patient's medical needs. Assuming that the six Nursing Home placements happened, then 43% of the Medicaid Enrolled and 63% of the Non-Medicaid "supervised housing" recommendations would have been accomplished.

Case Management: Based on information extracted from the chart reviews, Table 6 reports that sixty (86 %) of the Medicaid Enrolled patients and fourteen (60%) of the Non-Medicaid patients discharged into Florida communities were recommended to be followed by community Case Management services. Boaz and Vossberg found that about 68% of the 1211 patients included in the "State Mental Hospital Continuity of Care Study" received at least one unit of case management during the six months following discharge from a state mental hospital. Thus, the Medicaid Enrolled patients in this study received case management services at a slightly higher rate than those in the larger sample. As was also mentioned in the Boaz and Vossberg study,

For both Medicaid and Non-Medicaid groups, patients recommended for Supervised Housing and case management services or Other Housing and case management services were most likely to show up in the six-month post discharge IDS database as having actually lived in "Supervised Housing". That group was also most likely to receive case management services, psychiatry services, outpatient services, and crisis services. Compared to all other groups, Medicaid patients recommended for and discharged to unsupervised living situations with a recommendation for case management services were the most likely to receive community based crisis services within the first three months post discharge. In general, patients recommended for case management who actually received case management services were also most likely to be readmitted to the state mental hospital during the six month follow-up.

Based on the data included in Table 6, one might hypothesize that case management may be important not only in increasing participation in other aftercare services like supervised housing, psychiatry and outpatient services, for patients not living in supervised housing, case management may contribute to quickly identifying and returning people to the state hospital if crisis services are used during the first three months post discharge from the state hospital.

Adverse Event Case Studies

Table 7 reports the case studies of deaths of seven patients included in the original 99 patients discharged from the state hospital. One patient died during a readmission episode at the state hospital before one died in a nursing home within two months after discharge. Information about their deaths was found in the on-site chart reviews conducted at the state mental hospitals. A check of a Social Security death search web site for the remaining study subjects revealed five more patients in the study who died after the six month follow-up but within

no more than 28 months after the date of their discharge from the state hospital. Six of those patients had significant medical problems reflected in their hospital charts at the time of the on-site review. One 37-year-old female did not. Without additional information as to the cause of death for this young woman, it would be speculation to assume possible suicidal action on her part, although propensity for that behavior was reflected in her chart. If one takes that interpretation, this still represents a remarkably low rate of suicide for this group of almost 100 seriously emotionally disturbed individuals. Perhaps even more remarkable is the high co-morbidity for physical health problems in the entire group of patients. While the follow-up period was relatively short (even including the 28 months post discharge) and the sample included only those who had actually received treatment at a state mental hospital, these findings may suggest that the presence of co-morbid physical health conditions account for greater mortality and morbidity in severely mentally ill patients discharged from state mental hospitals than suicide.

Conclusions

In general, it appears that Florida's state mental hospitals frequently use "atypical" psychotropic medications for in hospital treatment. Hospital psychiatrists also recommend "atypicals" for post discharge follow-up in the referring community with a similar frequency as the in hospital use. As important, for Medicaid patients, a very high percentage of the discharge recommendations for using "atypicals" actually get carried out during the first six months the person is returned to the community.

With respect to discharge recommendations for housing and case management, the findings are somewhat mixed and should be considered very preliminary. A relatively high percentage of Medicaid patients do show up in state databases as receiving the types of community supervised housing and state supported mental health services recommended in their hospital discharge plans. However, the ability to find all patients in these large data sets is far from perfect. Studies need to be conducted which assess barriers to improved continuity of care by finding and obtaining information directly from subsets of the patients themselves. Whether by anonymous mail surveys or other methods that protect anonymity of respondents, small studies of that type may help understand why data in the large data sets provides only partial answers to our questions. Another comment is necessary on the finding that people released to unsupervised housing with case management services who had been recommended for unsupervised housing and case management, were the most likely to receive crisis services during the first three months post discharge, and they were the most likely to be readmitted to the state hospital during the six month follow-up. This study cannot fully address the various reasons this may have occurred. However, in a planned follow-up to this study, using anonymous mail-out procedures, we will attempt to gather more information that may help understand this particular finding.

Table 1.
Demographic Characteristics of the Sample: Information extracted from State Mental Hospital On-Site Chart Reviews

		Medicaid Enrolled N=71	Non-Medicaid N=23
Race	White	49 (69%)	18 (78%)
	Black	22 (31%)	5 (22%)
Gender	Male	37 (52%)	14 (61%)
	Female	34 (48%)	9 (39%)
Average Patient Age (In years) at Discharge from State Hospital		43	47
Average Length of Stay in Hospital for Episode Being Reviewed		840 days ¹	690 days

1. One Medicaid Enrolled patient had a Length of Stay of 35 years. This patient was dropped from the LOS calculation as an "outlier". The range of LOS's for the remaining 98 patients was 2 months to 12 years with only 8 of the 75 Medicaid Enrolled patients and 2 of the 23 Non-Medicaid patients LOS's equaling or exceeding 8 years.

Table 2.
Diagnostic Characteristics of the Sample: Information extracted from State Mental Hospital On-Site Chart Reviews

		Medicaid Enrolled N=71	Non-Medicaid N=23
Primary Psychiatric Disorder	Schizophrenic Disorder	30 (42%)	6 (26%)
	Schizoaffective Disorder	21 (30%)	9 (39%)
	Mood Disorder	11 (16%)	4 (17%)
	Dementia/Cognitive Disorder	6 (8%)	2 (9%)
	Other	3 (4%)	2 (9%)
Co-Morbid Disorders	Substance Abuse/Dependence	29 (41%)	9 (39%)
	Serious Physical Health Problems	35 (49%)	14 (61%)

Table 3.
State Mental Hospital Use of "Atypical" Psychotropic Medications: Information extracted from On-Site Chart Reviews

	Medicaid Enrolled N=67 ¹	Non-Medicaid N=19
Number of Patients treated and discharged on psychotropic medications for whom "Atypicals" were used at any time during hospitalization	41 (61%)	8 (42%)
Number of Patients treated and discharged on psychotropic Medications for whom continued Use of "Atypicals" was recommended in Discharge Plan	38 (57%)	8 (42%)

1. *This table includes only patients who were treated and discharged on psychotropic medications. Four of the 71 patients in the Medicaid Enrolled Sample are excluded from this table: one was discharged to another state without medications, and three were discharged without psychotropic medications due to medical complications. Four of the 23 Non-Medicaid patients were excluded: three were discharged to other states and one was discharged without psychotropic medications because the psychiatric symptoms that contributed to admission had been related to a medical problem that was successfully treated in the state mental hospital.*

Table 4.
Continuity of Use of "Atypical" and "Traditional" Psychotropic Medications: Comparison of Medicaid Enrolled Patients' State Hospital Discharge Plans with Six Month's Post Discharge Medicaid Pharmacy Claims Data

	State Hospital Discharge Plan Recommended Use of "Atypical" Psychotropic Medications for Community Aftercare N=37	State Hospital Discharge Plan Recommended use of "Traditional" Psychotropic Medications for Community Aftercare N=30
Total Number of Patients Discharged on Psychotropic Medications with any Prescription Claims in Medicaid Pharmacy Data During 6-month Post Hospital Discharge Follow-up	28 (76%)	20 (66%)
Total Number of Patients Discharged on Psychotropic Medications with "Atypical" Psychotropic Medication Claims in Medicaid Pharmacy Data During 6-Month Post Hospital Discharge Follow-up	27 (73%)	5 (17%)

Table 5.
Comparison's of Post Discharge Pharmacy Costs for Medicaid Enrolled Patients Receiving "Atypical" vs. "Traditional" Psychotropic Medications

<p>Average total pharmacy costs billed to Medicaid during the six month post discharge follow-up for the above sample of Medicaid Enrolled patients who received any "Atypical" psychotropic medications as part of their community mental health aftercare treatment.</p>	<p>\$1,861¹ (n=32²)</p>
<p>Average total pharmacy costs billed to Medicaid during the six month post discharge follow-up for the above sample of Medicaid Enrolled patients who received only "traditional" psychotropic medications as part of their community mental health aftercare treatment</p>	<p>\$929 (n=16³)</p>

1. *These amounts represent the average for the total of psychiatric and general medical pharmacy claims for the six months post discharge from the state mental hospital.*
2. *This includes the 27 patients whose Discharge Plans recommended "atypicals" and 5 patients discharged only on "traditional" psychotropic medications.*
3. *This includes one patient whose Discharge Plan recommended continuation of "atypicals" (but he received only "traditional" psychotropics billed to Medicaid), and 15 of the 20 patients discharged with recommendation for "traditional" psychotropics who only received "traditional" psychotropics billed to Medicaid following discharge.*

Table 6.
 Continuity of Care for Housing and Community Services: Comparison between State Mental Hospital Discharge Plans and Department of Children and Families Integrated Data System (IDS) Reports for Six Months Post Discharge Follow-up

Community Services Recommended in State Hospital Discharge Plans	Medicaid Enrolled N=70						Non-Medicaid N=20					
	Supervised Housing			Other Housing			Supervised Housing			Other Housing		
	Case Mngt N=22	No Case Mngt N=6	Case Mngt N=38	No Case Mngt N=4	Case Mngt N=7	No Case Mngt N=1	Case Mngt N=7	No Case Mngt N=5				
Patients Receiving Any IDS Services During 6 months Post Discharge Ave. Days to 1 st IDS Service Event	14	4	29	1	6	1	6	2	12			
Supervised Housing Services Reported In IDS	8	0	8	0	2	1	0	0	0			
Case Mngt. Services Reported In IDS	8	0	9	0	2	0	0	0	0			
Psychiatry Services Reported In IDS	12	3	25	1	5	0	4	1	1			
Outpatient Services Reported In IDS	10	3	19	1	4	0	1	0	0			
Crisis Services Reported In IDS	9	1	14	0	3	0	1	0	0			
Readmitted to State Hospital within 6 mos.	8	1	14	0	3	0	1	0	0			
	4	2	7	0	0	0	3	0	0			
	3	1	4	0	0	0	1	0	0			
	2	1	14	1	1	0	1	0	0			
	1	0	3	0	0	0	1	1	1			
	2	1	6	0	2	0	2	0	0			

Note: Supervised Housing included Nursing Homes, Group Homes and Supervised Apartments. Numbers in cells based on information found in on-site State Hospital chart reviews or information reported to Department of Children and Families Integrated Data System (IDS) during six month post discharge follow-up.

Table 7.
Case Descriptions of Seven Patients Who Died within Twenty-eight Months of Discharge from a State Mental Hospital

- 1. Medicaid Enrolled, 45-year-old white female with "Psychotic" type diagnosis readmitted to state mental hospital five months after initial discharge. During second admission (not covered by this study) she was treated with "Atypical" psychotropic medications. Also treated in hospital for serious physical health problems. She died from serious medical complications before discharge after a total of 53 months hospitalization between the two episodes (35 months and 18 months).**
- 2. Medicaid Enrolled, 80-year-old white male with an "Other" diagnosis treated with medications for serious health problems. He did not receive psychotropic medications due to the seriousness of his medical disorders. He was discharged without psychotropic medications to a Nursing home after two months state hospitalization. He died two months later from serious medical problems. (A copy of his death certificate was in the State Hospital Chart). No data was found on this person in either Medicaid Pharmacy claims or the IDS database of state supported mental health community based services.**
- 3. Medicaid Enrolled, 78-year-old white male with a "Depressive" disorder diagnosis treated with "traditional" and "atypical" psychotropic medications in the state hospital. Also treated for serious medical problems. Discharged to a Nursing Home after 56 months of State hospitalization. Medicaid pharmacy claims data showed prescriptions filled for \$1,356 worth of "traditional" and "atypical" psychotropic medications as well as medications for medical disorders during the first three months and second three months post discharge. IDS data showed that he also received state supported mental health Case Management services beginning 102 days post discharge from the State Mental Hospital. According to a Social Security death search database on the Internet, he died 8 months from his discharge date from the State Hospital.**
- 4. Medicaid Enrolled, 45-year-old black female with a "psychotic" type diagnosis and co-morbid substance abuse and physical health problems. She received "traditional" psychotropic medications in the hospital. She was discharged after six months to a psychiatric group home with recommendations for continuing psychiatric medications, Intensive Case Management, and Mental Health Day Treatment. The Medicaid Pharmacy Claims database showed that \$398 worth of prescriptions for "traditional" psychotropic Medications were filled during the six months following her discharge. No mental health Aftercare services were listed in the IDS database for that six-month post discharge period. The Social Security death search website indicated that she died 11 months after her discharge date. No cause of death was listed.**
- 5. Non Medicaid, 37-year-old white female with a "psychotic" disorder treated with "atypical" psychotropic medications during her state mental hospitalization. The chart revealed no indications of serious medical problems. She was discharged after 9 months hospital stay to a relative's home with recommendations to continue the "atypical" medications. She did not show up in the Medicaid Pharmacy Claims data base or in the Department of Children and Families IDS database as having received Medicaid paid medications or state supported mental health services in the community during the six-month post discharge period. The Social Security death search web site showed that she died 13 months from the date of her discharge from the State Mental Hospital. No cause of death was listed on the website.**
- 6. Non-Medicaid, 70-year-old black female with a "psychotic" type diagnosis and co-morbid medical problems. She received "atypical" psychotropic medications for her mental health problem during her 34-month stay in the State Mental Hospital. She was discharged to a Nursing home and interviewed by a community mental health case manager 30 days prior to her discharge. The IDS data base showed that she received case management services 15 days after her discharge date. No case management services were reported during the second three-month period following her discharge. According to the Social Security death search web site, she died 21 months after discharge. Again, no cause of death was listed on the web site.**
- 7. Medicaid Enrolled, 40-year-old black female with a "psychotic" type diagnosis and co-morbid physical health disorders. She was treated in the State Mental Hospital with "traditional" psychotropic medications as well as other medications for her physical health condition. She was discharged to a psychiatric group home after 120 months of hospitalization with recommendation to receive community based mental health case management services. The Medicaid Pharmacy Claims database showed prescriptions filled during the six month post discharge period for "traditional" psychotropic medications and medications for her physical health problems. The IDS database showed that she was seen by a mental health case manager 15 days after discharge from the State Mental Hospital. She received state supported case management services and Psychiatry Services during the first three-month and second three-month post discharge period. She also received mental health Crisis services during the second three months of the six month follow-up period. The Social Security death search web site indicated that she died 28 months from the date of her discharge from the State Mental Hospital.**

REFERENCES

Boaz, T. & Vossberg, K. (2001) State Hospital Continuity of Care Study: Preliminary Report. Submitted to the Florida Agency for Health Care Administration as a deliverable under contract #M0107. Louis de la Parte Florida Mental Health Institute: USF, Tampa, Florida

APPENDIX A.

State Hospital Discharge Data Variables

Variables extracted from charts for Validation/Continuity Study

hospno	Number used by hospital to identify client
hosp	Hospital Code Number
ssn	Client's Social Security Number
medicaid	Client's Medicaid Identification Number
lname	Client's Last Name
sfx	Client's Name Suffix
fname	Client's First Name
akalname	Client's AKA Last Name
akafname	Client's AKA First Name
dob	Date of Birth
race	Client's Race
sex	Client's Gender
street	Client's Street Address
zip	Client's Zipcode
county	Client's County of Legal Residence
catch	Client's Catchment Area
admdate	Date Client was Actually Admitted to the Hospital
episode	Client's Hospital Episode
admdiag	Admission Diagnosis
admtype	Code for Client's Admission Type
cert	Code for Client's Admission Certification Type from CMHC
admct	County where Client was Admitted to Hospital
livsit	Code for Client's Prior Living Situation
prcr	Code for Client's Prior Care
refagency	Referral Agency Code Identifies Agency Name
rescnt	County where Client was Residing at Time of Admission to Hospital
disdate	Discharge Date
recdisdt	Date Treatment Team Recommended Client be Discharged
dsdres	Reason for Different Discharge Dates
distype	Code for Client's Discharge Type
lstdiag	Discharge Diagnosis
replc	Recommended Discharge Placement
actplc	Code for Client's Actual Placement
plcreas	Code for Reason for Different Placement
prsrrec	Code for Client's Primary Services Recommended
secsvrec	Code for Client's Secondary Services Recommended
disadre	Client's Discharge Street Address
dischzip	Client's Discharge Zipcode
discty	County to which Client was Discharged

Variables extracted from charts for Continuity Study Only

Medication(s) Rx while in hospital
Medication(s) Rx at discharge
Medication(s) listed in Tx/Discharge Plan for continuation in aftercare
Type/Level(s) of care needs listed in Tx/Discharge Plan
Housing needs listed in Discharge Plan
Medicaid eligibility status indicated in Tx plan while in hospital
Medicaid eligibility status indicated in Discharge Plan