

# **Characteristics of the Medicaid Population of Iowa Who Receive Mental Health Services: A Managed Mental Health Care Pre-Implementation Survey (Executive Summary July, 1995)**

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## **Characteristics of the Medicaid Population of Iowa Who Receive Mental Health Services: A Managed Mental Health Care Pre-Implementation Report (Executive Summary)**

Because of rising costs, decreased budgets, and increasing demands for medical and mental health services, virtually every state in the country is implementing or considering Medicaid reform. In many state governments, the proposed reform involves the development of a system of managed care. According to a recent article in the Wall Street Journal (April 12, 1995), 23% of persons eligible for the joint federal and state program for the poor are presently getting medical coverage through HMOs and similar plans as compared to 14% in 1993.

Under a contractual relationship with the state of Iowa, Medco Behavioral Corporation (MBC of Iowa) has assumed responsibility for the delivery of mental health services to the Medicaid population of Iowa as of March 1, 1995. Prior to March 1st, mental health services to this population were reimbursed under a traditional fee-for-service program. The impact that managed mental health care will have on the Medicaid population is unknown. The provision of managed mental health services to the public sector represents a major paradigm shift which, for persons with chronic mental illness, may be of comparable magnitude to the large-scale deinstitutionalization of the mentally ill that occurred during the 1960's and 1970's.

A main focus of managed mental health care will be the reduction of inpatient hospitalization by providing effective and less costly mechanisms for the prevention and early intervention of illness through community-based services. However, the danger in assigning patients to community-based treatment is that such services are often ill-defined and, in many cases, non-existent. While an 80% reduction of patients living in state and county mental hospitals has occurred in this country since 1960, a concomitant increase in the number of persons who are homeless, living in nursing homes, or incarcerated in jails and prisons has also been observed in the same population.

The American Association of Community Psychiatrists is among those who have voiced concern about the impact of managed mental health care in the public sector. Following deinstitutionalization in the sixties and seventies, serious and persistent problems occurred because the needs of the population being released from state hospitals were not recognized. Community-based availability of outpatient medication management, SSI benefits, and coverage for acute hospitalizations, while important, did not alone constitute comprehensive care to persons with serious mental illness and did not enhance life quality. Historically, Medicaid has been the only third party payor who has been willing to reimburse support services to persons with serious mental illness such as case management, day programs, or intensive outreach services. Large private insurers generally limit coverage to inpatient care, short term psychotherapy, acute day treatment, and medication visits to a physician and have not typically paid for such support services. If the system that private for-profit insurance or managed care companies impose is similar to their commercial product in the private sector, implications for the treatment and outcome of persons with serious mental illness may be profound (Silver, 1995).

The purpose of the present report is to describe the Medicaid managed mental health care pre-implementation survey project which was carried out by the Iowa Consortium for Mental Health Services Training and Research at the request of the State of Iowa Department of Human Services. The purpose of this study is to document selected pre-implementation characteristics of that portion of the Medicaid population who received mental health services in FY 1993 in order to provide a basis for comparison of those characteristics following the implementation of managed mental health care. The specified period of the project contract was from October 1, 1995 through March 31, 1995; the total contract award was \$60,051.00. The contractor (State of Iowa, DHS) specified nine points to be addressed by this study and in the report to the state. These points, listed below, will be sequentially discussed in the present report.

### **Study Description (Points 1-2)**

1. Description of the Survey Process and the Rationale for its Selection
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### **Discussion (Points 6-7)**

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8. Recommendations for Subsequent Evaluations After the Implementation of the Managed Mental Health Care Plan
9. Recommendations for Outcome Measures to be Monitored by the Department During the Term of the Contract with the Managed Mental Health Care Company

## **STUDY DESCRIPTION**

### **Point 1. Description of the Survey Process and the Rationale for its Selection**

#### **Rationale for Instrument Development**

The purpose of the present study is to describe selected characteristics of the Medicaid population prior to implementation of managed mental health care. Although instruments are available in the public domain for specific populations (e.g., persons with serious mental illness), and for the evaluation of specific treatment programs (e.g., community support programs) or clinical outcomes (e.g., reduction of psychiatric symptoms), an instrument with established reliability and validity for all diagnostic groups and for all treatment modalities was not identified. Furthermore, no instrument was identified which could assess mental health status, overall satisfaction with mental health services, or measure the global quality of life for such a diverse population group. For these reasons, two unique instruments, one for adults and one for children, were designed for the specified purposes of the present study.

In addition to demographic data (Section I), the pre-implementation survey describes patient self-report of need, availability, and use of outpatient services (Section IIa) and satisfaction with specified characteristics of service providers (Section IIb). Section III of the survey was designed to measure the quality of life perceived by Medicaid recipients over the past 6 month period. Quality of life in this survey is estimated by a self-reported measure of satisfaction with a number of domains believed to be important to the subjective perception of life quality.

#### **Description of the Survey Process**

The study sample was selected from the population of Medicaid recipients who received mental health services reimbursed by Medicaid in FY 1993. In the adult sample, persons with serious and/or persistent mental illness (e.g., persons with schizophrenia), a past history of psychiatric hospitalization, and persons who lived in rural areas were specifically sampled and, in some cases, oversampled. Because of the vulnerability and unique service needs of children, parents of children who received mental health services

were surveyed with a unique instrument. Persons 65 years of age or older were not included in the sample because mental health services for this group are not covered under Medicaid managed care.

### **Subjects**

The sampling pool consisted of all subjects who received Medicaid funding for mental health services in Iowa during FY 1993. The sample was stratified according to age (children ages 4-17, adults 18-64), diagnosis, geographic location (urban versus rural as defined by county of residence), and illness severity. Illness severity was defined as “high” (inpatient psychiatric hospitalization, any duration, in FY 1993) versus “low” (no inpatient psychiatric hospitalization in FY 1993).

### **Sampling Method**

A self or parent report survey was mailed to a total of 4216 Iowa residents who had mental health services reimbursed by Medicaid in FY 1993. All subjects who did not respond to the first mailing of the survey instrument, and for whom a current address was known, received a second survey instrument approximately one month after receiving the first mailing.

## **Point 2. Description of the Numbers of Persons to Whom Survey Questionnaires were Distributed**

### **Adult Survey**

The targeted goal was the receipt of 1000 responses from eight pre-designated strata. These strata consisted of a three way cross-classification between schizophrenia versus non-schizophrenia, urban versus rural county of residence, and psychiatric hospitalization in 1993 versus none (a rough measure of illness severity). A 25% response rate among the “high severity group” and a 40% response rate from the “low severity group” was anticipated. A total of 3400 adults were to be sampled in order to receive 1000 completed surveys. However, the actual study sample varied from the intended sample for two reasons: 1) for two cells (schizophrenia, high severity, rural and schizophrenia, high severity, urban), the designated number of subjects was not available and all available subjects in those cells were surveyed; and 2) an unintended imbalance in urban/rural sampling occurred because the original sample frame contained an error in urban/rural coding which mistakenly defined two urban counties as rural. With these modifications, the total number of expected responses was 780 out of a study sample size of 2535 persons. The sample distribution is described in Table 1.

The population sample (all persons who received Medicaid mental health services in FY 1993) and the sample population (persons who were sent a survey instrument) are, by design, not the same. Persons with schizophrenia and subjects hospitalized in 1993 were intentionally oversampled in order to obtain enough cases to allow accurate estimates in these important groups. For example, persons who did not have schizophrenia and who were not hospitalized in 1993 (strata 7 and 8) comprise 76.5% of the population sample but only 19.7% of the sample population.

**Table 1. Population from which the sample was drawn and the number of responses received within each strata**

Description of Sample Stratum	Population Size (%total population)	Number of Solicited Responses	Final Sample Size (% responses)
1. rural schizophrenia (hospitalized in 1993)	143 (0.8%)	143 (5.7%)	45 (5.5%)
2. urban schizophrenia (hospitalized in 1993)	192 (1.2%)	192 (7.6%)	54 (6.6%)
3. rural non-schizophrenia (hospitalized in 1993)	1296 (7.8%)	479 (19.0%)	148 (18.2%)
4. urban non-schizophrenia (hospitalized in 1993)	1056 (6.4%)	712 (28.3%)	206 (25.3%)
5. rural schizophrenia (not hospitalized in 1993)	708 (4.3%)	202 (8.0%)	89 (10.9%)
6. urban schizophrenia (not hospitalized in 1993)	497 (3.0%)	296 (11.7%)	112 (13.7%)
7. rural non-schizophrenia (not hospitalized in 1993)	8063 (48.6%)	212 (8.4%)	84 (10.3%)
8. urban non-schizophrenia (not hospitalized in 1993)	4624 (27.9%)	284 (11.3%)	77 (9.4%)
<b>TOTAL</b>	<b>16579</b>	<b>2520*</b>	<b>815</b>

\*Fifteen subjects who were sent a survey were retrospectively determined to not meet criteria for study inclusion (i.e., did not fall into one of the specified sample strata) when recoded for rural versus urban residence.

### Child Survey

The targeted goal was the receipt of 500 responses from the parent or guardian of children who had received mental health services in FY 1993. As in adults, a 25% response rate among the “high severity group” and a 40% response rate among the “low severity group” was anticipated. A total of 1700 surveys were to be sent in order to reach the intended goal of 500 completed surveys. However, in reviewing the list of study subject supplied by the state, 19 children were less than 4 years of age and parents of these subjects were not sent a survey instrument. Therefore, the total number of surveys sent was 1681. The distribution of the intended sample is described in Table 2.

**Table 2. Child survey sample**

	Rural	Urban
<b>High Severity</b>		
(hospitalized)		
sampled	600	600
expected	150	150
<b>Low Severity</b>		
(not hospitalized)		
sampled	250	250
expected	100	100

## STUDY RESULTS

### Point 3. Tabulation of the Numbers of Questionnaires Returned

Of the 2535 adult surveys sent, 891 instruments (35%) were returned (Table 3). No forwarding address was available for 10% of those surveyed. In contrast, 1681 child survey forms were sent, but only 24.6% of responses were returned.

**Table 3. Survey response**

	Sent	Received
adult survey	2535	891
child survey	1681	414

### Point 4. Compilation of the Survey Results

#### Adult Survey

Out of a total sample population of 16579 persons, survey instruments were sent to 2535 persons. Of persons surveyed, 891 adult survey instruments were returned and 815 were suitable for data entry. Analysis of these instruments provided the data base from which study participants were described and population estimates were calculated.

Three population groups should be distinguished when interpreting study results: 1) the study population (all persons who received Medicaid reimbursed mental health services in FY 1993); 2) the sample population (all persons who were sent a survey instrument); and 3) the study respondents (persons who responded to the study). Estimates of population responses and their standard errors were derived by the application of formulas appropriate to stratified sampling design. This was further adjusted for non-response to individual questions. Population estimates for selected variables pertaining to mental health status, satisfaction with mental health services, and life satisfaction are presented in Tables 5-12. Demographic characteristics of survey respondents (unweighted) are summarized in Table 4.

**Table 4. Demographic characteristics of adult survey respondents**

<b>Diagnostic Classification</b>	
percent schizophrenia	36.8
percent schizoaffective disorder	3.7
percent bipolar affective disorder	6.5
percent major depressive disorder	25.0
percent anxiety disorder	3.8
percent panic disorder	7.6
percent adjustment disorder	16.6
<b>Mean Age (years)</b>	37.0
<b>Percent Female</b>	72.0
<b>Percent Rural</b>	44.8
<b>Marital Status</b>	
percent never married	39.3
percent separated	6.1
percent spouse deceased	2.7
percent married	16.9
percent divorced	31.3
percent common law/living together	3.7
<b>Educational Status</b>	
percent never attended school	0.6
percent eighth grade or less	7.1
percent some high school	16.8
percent high school or equivalent	36.6
percent some college/junior college	26.7
percent college graduate	5.6
percent some graduate school	2.5
percent graduate or professional school	4.1
<b>Ethnicity</b>	
percent American Indian/Alaskan Native	3.2
percent Asian/Pacific Islander	1.2
percent Black, not Hispanic	5.5
percent Hispanic/Latino	1.5
White, not Hispanic	88.5

## **Health Status of Adult Respondents**

**Self-report of mental health status.** Respondents were asked to assess their mental health status with the following question “In the past 6 months, how would you say that your mental health has been?” and asked to choose one of five answers ranging from “poor” to “excellent”. The results, summarized in Table 5, represent the population estimate for the self report of mental health status in the study population.

**Table 5. Self-report of mental health status over past 6 months**

<b>Response</b>	<b>Percent</b>	<b>95% Confidence Interval</b>
poor	15.3	11.4-20.5
fair	38.1	32.6-44.5
good	26.4	21.6-32.4
very good	11.6	8.4-16.2
excellent	8.6	5.7-12.9

**Self-report of physical health status.** Similar to self assessment of mental health status, respondents were asked to rate their physical health status by their response to the question “In the past 6 months how would you say that your physical health has been?” Estimated population responses are summarized in Table 6.

**Table 6. Self-report of physical health status over past 6 months**

<b>Response</b>	<b>Percent</b>	<b>95% Confidence Interval</b>
poor	16.7	12.6-22.1
fair	32.4	27.2-38.7
good	30.6	25.4-36.7
very good	13.7	10.2-18.4
excellent	6.6	4.2-10.5

## **Satisfaction with Mental Health Services**

Respondents were asked to rate their satisfaction with mental health services according to whether they agreed with the following statement: “I am satisfied with the mental health care I have received over the past 6 months” (Table 7). Answers ranged from “strongly agree” to “strongly disagree”. Most respondents indicated some degree of satisfaction (67%).

A summary score and its 95% confidence interval estimating satisfaction with mental health services in the study population was calculated and scaled to range from 0 (least satisfied) to 1 (most satisfied). This value is also shown in Table 7.

**Table 7. Reported Satisfaction with Mental Health Services Received in Past 6 Months**

<b>Response</b>	<b>Percent</b>
strongly agree	26.6
mostly agree	31.1
slightly agree	9.5
neither agree nor disagree	13.7
slightly disagree	4.7
mostly disagree	4.3
strongly disagree	10.1
<i>Summary Score</i>	<i>0.68 (0.64-0.72)</i>

The overall score shown in Table 8 is based on the aggregate response to eight items about satisfaction with various aspects of mental health service providers. This score also is scaled to range from zero (least satisfied) to one (most satisfied) and provides an estimate of the study population response.

**Table 8. Overall Satisfaction with Mental Health Services**

	Score	95% Confidence Interval
satisfaction with services over past 6 months	0.70	0.67-0.73

Respondents were asked to rate their satisfaction with services received two years ago in order to determine whether Medicaid recipients believe that the system is getting better or getting worse (Table 9). Very few people are less satisfied with services recently received as compared to their satisfaction with services received two years ago. The summary score (population estimate) for this item was 0.63 with a 95% confidence interval of .59-.68 based on a scale of 0 (much less satisfied) to 1 (much more satisfied).

**Table 9. Change in satisfaction with mental health services**

Response	Percent
did not need services 2 years ago	26.7
much more satisfied now	23.6
somewhat more satisfied now	16.9
slightly more satisfied now	10.1
about the same	35.4
slightly less satisfied now	2.4
somewhat less satisfied now	2.4
much less satisfied now	9.3
<i>Summary Score</i>	<i>0.63 (0.59-0.68)</i>

### **Satisfaction with Life**

Respondents were asked to rate their satisfaction with their lives according to whether they agreed with the following statement: “How do you feel about your overall satisfaction with life during the past six months?” Results are shown in Table 10. About 60% are satisfied with their lives, to some degree. The summary score estimating the population response and its 95% confidence interval are also shown in Table 10.

**Table 10. Reported satisfaction with life during past 6 months**

Response	Percent
very satisfied	20.3
somewhat satisfied	23.7
slightly satisfied	15.8
neither satisfied nor dissatisfied	7.0
slightly dissatisfied	7.6
somewhat dissatisfied	11.2
very dissatisfied	14.4
<i>Summary Score</i>	<i>0.59 (0.54-0.63)</i>

Respondents were asked to compare their present satisfaction with life to their life satisfaction of two years ago in order to determine whether they believe that their quality of life is getting better or getting worse (Table 11). Sixty-three percent of respondents were more satisfied with their lives now than they were two years ago. The summary score, representing the estimated population response, is also indicated.

**Table 11. Change in overall life satisfaction in past 2 years**

<b>Response</b>	<b>Percent</b>
much more satisfied	32.2
somewhat more satisfied	19.2
slightly more satisfied	11.6
about the same	21.5
slightly less satisfied	3.3
somewhat less satisfied	4.8
much less satisfied	7.4
<i>Summary Score</i>	<i>0.69 (0.65-0.72)</i>

### **Overall Life Satisfaction**

In addition to being asked to rate their global life satisfaction with a single question (and how their present satisfaction compared to satisfaction of two years ago), respondents were asked to assess their present and past life satisfaction by responding to eight items which addressed various aspects of day to day life (i.e., housing, occupational status, physical health, mental health, interpersonal relationships, economic status, self-sufficiency, and leisure activity). The reported overall life satisfaction scores are shown in Table 12. By this measure, respondents indicated that they were slightly more satisfied with their lives now than they were two years ago (0.59 on a scale of zero to one with a score of 0.50 indicating no change).

**Table 12. Overall life satisfaction**

	<b>Score</b>	<b>95% Confidence Interval</b>
satisfaction past 6 months	0.60	0.56-0.63
present satisfaction compared to satisfaction of 2 years ago	0.59	0.56-0.62

## Child Survey

Demographic characteristics of 378 respondents to the child survey instrument are summarized in Table 13.

**Table 13. Demographic characteristics of child survey respondents**

<b>Diagnostic Classification</b>	
percent schizophrenia	0.5
percent bipolar disorder	0.5
percent depression	13.2
percent panic disorder	3.2
percent conduct disorder	12.4
percent oppositional defiant	10.0
percent ADHD	37.6
percent adjustment disorder	22.8
<b>Mean Age (years)</b>	11.7
<b>Percent Female</b>	30.5
<b>Percent Rural</b>	44.9
<b>Ethnicity</b>	
percent American Indian/Alaskan Native	1.4
percent Asian/Pacific Islander	0.5
percent Black, not Hispanic	3.2
percent Hispanic/Latino	1.9
percent White, not Hispanic	89.5

### **Point 5. Analysis of Statistical Findings**

#### Adult Survey

The present study was designed to describe several important characteristics relating to demographic patterns, mental health services, and life satisfaction of the Medicaid population. The sample design was chosen in order to determine differences in these characteristics that may be due to diagnosis, rural versus urban residence, or severity of illness.

**Statistical analysis.** For variables that have a continuous distribution (e.g., age, number of hospitalizations, satisfaction scales) a one-way analysis of variance (ANOVA) model was used. With this method, the means of an arbitrary number of groups can be compared and statistically significant differences between groups can be determined. The data presented provides the statistical measure which simultaneously tests for at least one difference among all groups. In tests with more than two groups, this value does not represent a pair wise comparison between any particular pair of groups. These measures (two-way comparisons) for selected variables of interest can be provided upon request.

For variables that are classified into categories (e.g., gender, education, marital status, etc.) chi-square testing was used with the appropriate degrees of freedom for each category being tested. This method allows calculation of the probability of expected versus observed distribution of data within individual cells and tests for non random distribution among all cells.

#### Effect of Diagnosis

**Age.** The mean age of the study population was 36.4 years with a 95% confidence interval of 35.1-37.8 years. Most of the variation in age between diagnostic groups was due to respondents with schizophrenia being older and respondents with adjustment disorder being younger than the population as a whole.

**Gender.** The distribution of gender in the sample population was 78.2% female (95% confidence interval: 72.7-82.5) and 21.8% male (95 % confidence interval: 19.5-27.3). Only respondents with adjustment disorder demonstrate consistency with the population distribution. Most striking is the nearly equal distribution of gender among persons with schizophrenia. Schizoaffective disorder shows a similar trend. The categories of bipolar, depressive, anxiety, and panic disorders showed a preponderance of females. This is generally consistent with the epidemiology of these conditions and more pronounced in the sample population due to the overall preponderance of females.

**Marital status.** Marital status is one measure of ability to form and sustain interpersonal relationships. In the study population, 31.4% of persons were single (never married) with a 95% confidence interval of 26.4-37.3%. Persons with schizophrenia and schizoaffective disorder were more likely to report single marital status than the population as a whole. This is consistent with the relationship between these disorders and social impairment. The only diagnostic group less likely to be single than reported in the general population are persons with panic disorder (who are also more likely to be divorced). Persons with bipolar disorder, depression, and general anxiety disorder are also more likely to be divorced than the population as a whole which is 36.0% with 95% confidence interval of 30.6-42.4.

**Education level by diagnosis.** In the study population, 55.6% of persons are estimated to have a high school or equivalent education. Analysis of the data did not show significant differences in educational level by diagnostic stratification. The values for all groups appear to be consistent with those estimated for the study population as a whole.

**Ethnicity.** In the study population, 93% of persons were White, not of Hispanic origin (95% confidence interval of 90.4-95.6). Persons with schizophrenia, schizoaffective disorder, and general anxiety disorder were less likely to be White and of non-Hispanic descent than the study population as a whole.

**Geographic location.** Of persons who responded to the survey, 44.8% lived in a rural county. There did not appear to be a difference in rural versus urban county residence when categorized by diagnosis.

### **Effect of Rural versus Urban Residence**

There were no significant differences in rural versus urban residence when examined by variables of age, gender, marital status, or level of education. Persons who live in a rural county do not report less education than persons in urban counties. Many studies which describe characteristics of rural populations (especially those receiving treatment in the public sector) assume that persons who live in rural areas have less education. It is important to note that this does not appear to be the case in Iowa. The distribution of ethnicity between rural and urban counties demonstrated a significant difference; non-White persons were more likely to report residence in an urban county.

### **Effect of Illness Severity**

Self-reported history of psychiatric hospitalization was obtained by asking respondents information about their cumulative hospital stay and number of hospitalizations over the course of their lifetime. One question asked: “In your lifetime, approximately how much time have you spent in a hospital for emotional or psychiatric problems?” Response choices were 1=never, 2=less than 1 week, 3=between 1 week and 1 month, 4=between 1 month and 6 months, and 5=greater than 6 months. The estimated population response of the Iowa Medicaid population receiving mental health services are summarized in Table 14.

**Table 14. Population estimate of cumulative psychiatric hospitalization**

<b>Cumulative Hospitalization Over Lifetime</b>	<b>Percent</b>	<b>95% Confidence Interval</b>
never	45.2	39.5 - 51.6
less than 1 week	9.8	6.8 - 14.2
between 1 week - 1 month	17.7	13.9 - 22.6
between 1 week - 6 months	17.2	13.4 - 22.1
greater than 6 months	10.1	7.7 - 13.1

### **Effect of Diagnosis on Hospitalization**

The relationship between diagnosis and history of psychiatric hospitalization in the study respondents is summarized in Table 15. Persons with schizophrenia and schizoaffective disorder report cumulative hospital stay between 1 month and 6 months. Persons with anxiety disorder report the lowest cumulative hospitalization (i.e., less than one week). Other diagnostic categories report cumulative hospital duration between these groups.

The self report of mean number of hospitalizations shows a consistent and direct relationship with the self report of cumulative hospital duration. Panic disorder shows a somewhat disproportionate relationship between duration of hospitalization and number of hospitalizations. This suggests more frequent but shorter hospitalizations as compared to the pattern seen with illnesses such as schizophrenia, schizoaffective disorder, and bipolar disorder in which the cumulative duration of hospitalization and total number of hospitalizations are both relatively high.

**Table 15. Duration and number of psychiatric hospitalizations by diagnosis**

<b>Diagnosis</b>	<b>Duration*</b>	<b>Number of Hospital Stays** (mean)</b>	<b>Age***</b>
schizophrenia	3.98	8.79	39.90
schizoaffective	4.23	14.50	37.83
bipolar disorder	4.04	9.36	38.42
depression	3.01	5.67	36.25
anxiety disorder	1.94	0.92	36.87
panic disorder	2.85	6.44	36.26
adjustment disorder	2.48	3.08	31.21

\*F Value 41.313 (p=0.0001) by one-way analysis of variance

Scale: 1=never; 2=less than 1 week; 3=between 1 week and 1 month; 4=between 1 month and 6 months; 5=greater than 6 months

\*\*F Value 5.514 (p=0.0001) by one-way analysis of variance

\*\*\*F Value 9.986 (p=0.0001) by one-way analysis of variance

### **Assessment of Functional Status**

Functional status in the survey respondents and estimate of functional status in the study population was assessed by evaluating self report of residential status, occupational status, and economic status. Self reported satisfaction with each aspect of functional status was also addressed.

**Residential status.** Persons with schizophrenia and schizoaffective disorder are less likely to report that they are living independently. This is consistent with the increased likelihood of impaired function often associated with this diagnosis. Although persons with a diagnosis of schizophrenia report independent living status in 70.13% of cases, this may be an over estimate due to non-response bias (i.e., it is probable that persons who had a lower level of impairment due to their illness were more able to respond to the mail-out survey). Persons with a stable living situation are also more likely to have received the survey since they had a known mailing address.

**Occupational status.** In the study population, an estimated 43.2% of persons reported that they were working or in school at the present time (95% confidence interval of 37.6-49.8). Persons with schizophrenia and schizoaffective disorder were less likely to report going to work or school. While this finding is not unanticipated, persons with general anxiety disorder were also less likely to report work or school, indicating that this group may also have significant functional impairment in regard to occupational status.

Persons who work or go to school appear to be engaged in these activities on roughly a half time basis. Persons with diagnoses of anxiety disorder, panic disorder, and adjustment disorder work or go to school for more hours per week than persons in the other groups. In all diagnostic groups, of those who work or go to school, approximately 70% are paid (or receive financial support) for this activity. Persons with major depressive disorder and anxiety disorder appear to be paid less often than persons in the other groups. Although the reason for this cannot be determined from information contained in the present study, it is possible that persons in these groups are more likely to attend school, as opposed to work.

Persons who live in a rural county were more likely to report that they worked or attended school than were persons who live in an urban county. Of persons working or going to school, however, there were no apparent differences in the number of hours of work/school per week or whether or not they were paid for this activity.

**Economic status.** In the study population as a whole, the three most frequently reported sources of income were:

1. SSI: 40% of respondents (95% confidence interval: 34.7-46.2)
2. Social welfare benefits (e.g., AFDC): 37.5% of respondents (95% confidence interval: 31.9-44.0)
3. Earned income: 31.1% of respondents (95% confidence interval: 25.8-37.3)

The three most frequent income sources reported by subjects in each diagnostic category were also noted. Responses appeared to reflect the disability (presumably due to psychiatric illness) within each diagnostic group. Disability income (SSDI) was the second most common response in persons with schizophrenia and schizoaffective disorder. Persons with bipolar affective disorder also reported SSDI as a frequent income source. Somewhat more unexpectedly, persons with anxiety disorder and panic disorder reported SSDI as one of their three most common sources of income. Although the present study cannot determine the basis for which respondents receive SSDI, that this source is frequently reported by persons with anxiety disorders suggests that significant functional impairment may be present in this group. In comparison, earned income was the most frequently reported income source in the anxiety disorder group. This apparent discrepancy may be explained by heterogeneity within this diagnostic group (i.e., a wide range of functional status).

### **Satisfaction with Functional Status**

For most diagnostic categories, the sample population reported the least satisfaction with economic status and the most satisfaction with residential status; reported satisfaction with occupational status was intermediate. This pattern was observed in all diagnostic groups except for persons with bipolar illness. Persons with bipolar disorder were least satisfied with occupational status, although the difference between reported satisfaction with residential status and occupational status was small.

Among all diagnostic groups, persons with schizophrenia reported the best satisfaction with economic status although measures of economic status demonstrated that this group had the highest frequency of SSDI as a source of income. Similarly, although persons with schizophrenia reported relatively high satisfaction with occupational status, they fared unfavorably in measures of occupational status (i.e., low proportion attending work/school, few hours in work/school, and low proportion being paid for work/school). Finally, although persons with schizophrenia reported a relatively good level of satisfaction with their residential status, as a group, they have the lowest frequency of independent living status. Self report of satisfaction with residential, occupational, and economic status in persons with schizophrenia may, in part, be affected by prominent negative symptoms of their illness.

Persons with major depressive disorder reported the lowest satisfaction with occupational and economic status of all groups, and a relatively low satisfaction with residential status compared to other diagnostic groups. Dissatisfaction expressed by this group may, in part, be either a consequence or a cause of their illness.

### **Description of Present Mental Health Services by Respondents** **Service Need, Availability, and Use**

The survey section that asked for self report of service need, service availability and service use demonstrated poor reliability in the pilot studies (see Appendix S.2: Validation/Reliability Pilot Study Summary). Reliability was suspect in the sample population because many sections were left unanswered and answers could not be inferred from non-response. Since it could not be assessed in the context of the present study, the validity of self-report is unknown. Individual counseling was the service with the highest self report of need, availability and use by study respondents. When the reported need for services was broken down by diagnostic categories, differences of statistical significance were reported for the following services: help with medication management, group therapy, family counseling or therapy, and in home services. All diagnostic categories except for panic disorder reported “individual counseling” as their greatest service need although the difference between groups was not statistically significant. Persons with panic disorder reported “help in understanding condition” as the greatest service need but this did not represent a statistically significant difference from other diagnostic groups.

**Service access and service utilization.** Measures of access to services and utilization of services provides an estimate of barriers to service use. Although the nature of such barriers cannot be identified by the methods of this survey, limitations in both access and utilization may be due to systematic factors such as cost, transportation, and waiting time or to patient characteristics such as stigma, motivation, discouragement or non-participation by other family members.

Perceived *access* to services was estimated by measuring the correlation between self-report of service need and service availability. Defined in this way, help with medication management was the service with the highest accessibility. A statistically significant difference between diagnostic groups was found only for individual counseling. For this service, persons with schizoaffective disorder indicated the lowest access and persons with major depressive disorder indicated the highest access. Help with medication management had the highest perceived access by all diagnostic groups.

Service *utilization* was defined by the correlation between the self report of service need and service use. Hence, this measure is an indicator of service appropriateness as perceived by the service recipient. By this measure, help with medication management was the service with the highest utilization. As in the description of service access, help with medication management was described as the service with the highest self report of utilization by all diagnostic groups. Statistically significant differences between diagnostic groups were found only for help in understanding condition and help with coping skills.

### **Satisfaction with Mental Health Services**

The results of the present study demonstrate high service satisfaction under the present fee-for-service system. Almost two thirds (63%) of the respondents indicated a high level of overall satisfaction with the mental health care they had received over the past 6 months. In contrast, only 13% indicated overall dissatisfaction with mental health services. Questions regarding specific aspects of satisfaction with services all yielded similar distributions of responses. For example, 65% indicated that the mental health care professionals they deal with seem to think their opinions about their treatment needs are important, as opposed to 9% who did not; 60% of respondents felt that they were given as much information as they needed, while 12% did not. Finally, 59% felt they had enough say about the services and medication they received, as opposed to 13% who did not.

**Service satisfaction scale**. The mean level of the service satisfaction scale reported by respondents was 0.72 on a scale of 0 (lowest satisfaction) to 1 (highest satisfaction). As illustrated in Figure A, the distribution of scores is heavily skewed toward levels of high satisfaction. Service satisfaction higher than a neutral value of 0.5 was reported by 81% of respondents. Furthermore, 51% had service satisfaction scales above 0.75.

### **Satisfaction with Life Quality**

Almost half of the respondents (47%) indicated that they were either “very satisfied” or “somewhat satisfied” with their overall quality of life over the past 6 months, as opposed to 22% who indicated that they were either very dissatisfied or somewhat dissatisfied. Again, the distribution of responses to specific questions regarding quality of life (e.g., satisfaction with housing, work, physical health, relationships) tended to be quite similar.

**Life satisfaction scale**. Similar to the service satisfaction scale responses, the observed responses to the life satisfaction scale were also, on the average more positive than neutral. As illustrated in Figure B, the distribution of these scores is also skewed in a positive direction, although is more symmetric than that of the service satisfaction scores. A life satisfaction score greater than 0.5 was reported by 66% of the respondents.

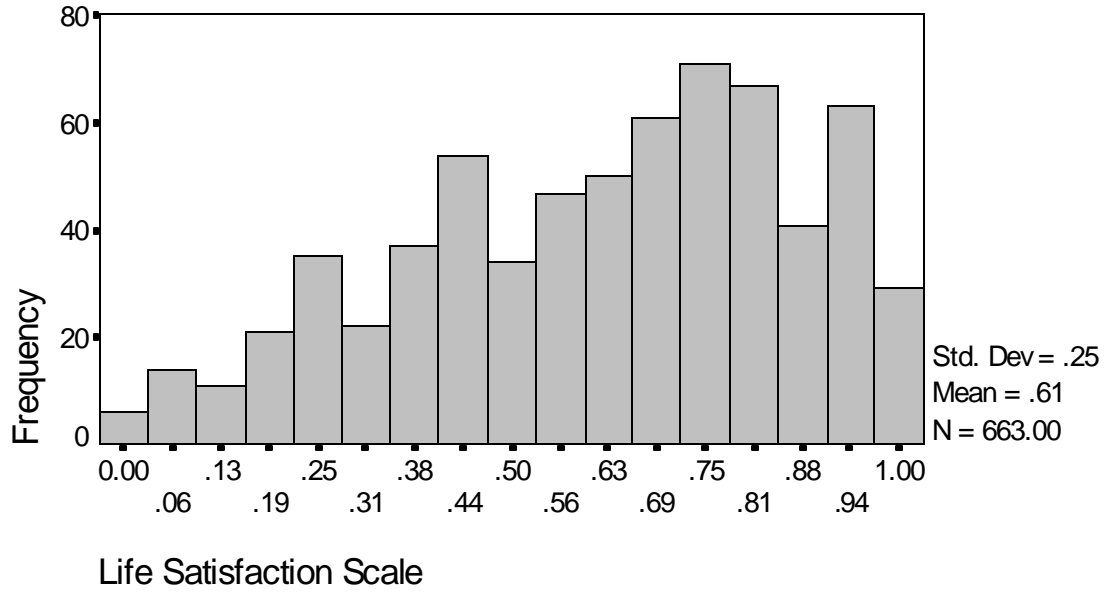
**Figure A**

Observed Distribution of Service Satisfaction Scales

Among Respondents

Observed Distribution of Life Satisfaction Scores

Among Respondents



### **Child Survey**

Data from the child survey was evaluated in order to identify factors that contributed to service satisfaction, service ease, and quality of life of Medicaid mental health service recipients and their parent or caretaker.

The relationship of the survey informant to the child was classified into a birth parent (biological) subgroup and a non-birth parent (foster, adoptive, step, grandparent or other relative) subgroup. The identity of survey informants is summarized in Table 16.

**Table 16. Informant characteristics**

<b>Parental Category</b>	<b>Percent of Sample</b>
birth parent	73.1
adoptive parent	7.7
foster parent	10.9
step parent	1.1
grandparent	3.7
aunt/uncle	1.6
friend	0.3
other	1.3

The study also analyzed mental health service responses by the child or adolescent's current home. Three categories emerged: 1) parental home; 2) another home (predominately foster care); and 3) institution (hospitalized).

### **Diagnoses**

The distribution of respondents by age and age at first use of mental health services for children with diagnoses of major depressive disorder, conduct disorder, oppositional defiant disorder and adjustment disorder is summarized in Table 17. Children with depression were older than children in the other diagnostic categories and encountered mental health services at an older age. Children with ADHD received services earlier in their development.

Assessment of service need differed among respondents according to diagnostic group. Parents of children with major depression and conduct disorder perceived a need for the services of a psychiatrist more often than the parents of children with other diagnoses. Children with conduct disorder and major depression were most likely to have a history of hospitalization. Children with adjustment disorder were less likely to have been hospitalized as were children with ODD. The children who were hospitalized were significantly older in age.

Children with conduct disorder and major depression appeared most likely to be placed out of the birth-parent home. Children with adjustment disorder lived in 'other situations' (foster care, possibly secondary to abuse). The age distribution implied that children in institutions are older than children at home or in foster care. Peak ages of children in foster home settings included ages 6, 9, and 17.

The distribution of diagnostic category was not affected by rural versus urban location, but did vary by gender (Table 18). Depressed and adjustment disorder groups consisted of a relatively greater proportion of females.

**Table 17. Distribution of diagnoses in the sample**

Diagnosis	Schizophrenia	Bipolar	Depression	Anxiety Disorder	ADHD	Conduct Disorder	Oppositional-Defiant	Adjustment Disorder
% sample	0.5	0.5	13.2	3.2	12.2	10.1	37.6	22.8
current age	*	*	13.6 (2.8)	*	10.5 (3.1)	12.5 (3.6)	12.1 (3.8)	11.6 (3.6)
age first contact w/services	*	*	9.4 (3.7)	*	5.7 (4.2)	7.9 (4.4)	7.4 (2.8)	8.2 (3.8)

Note. The values equal the means (SD).

\* Too few responses

**Table 18. Diagnoses by gender**

Diagnoses	Female Percent	Male Percent
depression	46.0	54.0
conduct disorder	22.2	77.8
oppositional	26.3	73.7
ADHD	20.0	80.0
adjustment disorder	44.7	55.3
Total Sample	30.5	69.5

p < 0.0001, chi-square

The perception of service need, availability and use also varied by gender of the child. According to survey respondents, males more often needed psychiatrists, group homes and residential care. The study discovered boys more often utilized psychiatric care and group homes, while girls used foster care more frequently than boys. More information about the illness and treatment was given when the respondent's child was a boy. There did not appear to be a difference in service satisfaction and service ease according to gender.

### **Physical Health Status**

While most (over 80%) of children were rated as being in good or better than good health by their parent or guardian, 18.3% of the children were perceived by their parents as being in 'poor' or 'fair' health. The perception of physical health status of children by the study respondents is summarized in Table 19.

**Table 19. Health status perceptions**

Health Ratings by Parents	Percent of Sample
poor	3.4
fair	14.9
good	34.5
very good	29.7
excellent	17.5

Children were perceived as having poorer physical health if the child had been psychiatrically hospitalized. Respondents judged health better if a psychiatrist or non-psychiatric physician was not needed. Furthermore, the study detected better health appraisals if no crisis services were needed or utilized. Respondents who assessed children as having poorer physical health expressed the least satisfaction with service satisfaction and service ease.

### **Assessment of Service Need, Availability and Use**

Mental health services used by children (Table 20) and services used by their parents (Table 21) are summarized below. Key services for children appear to be appointments with professionals such as psychiatrists, psychologists and social workers. In-home services and DHS caseworkers are also seen as important. Respondents perceived a shortage of non-psychiatrist mental health personal. Coping with raising a child was cited as a service that parents deemed undersupplied.

**Table 20. Mental health services utilized by children (percent responding yes)**

Service	Needed	Available	Used
psychiatrist	63.6	78.5	60.7
other physician	41.7	63.5	39.9
counselor, social worker, psychologist	79.5	84.4	74.6
DHS caseworker	51.8	69.7	51.2
in-home services	32.9	53.6	51.2
group or residential care	21.5	46.0	20.1
family foster care	16.8	40.8	17.0
crisis intervention	14.1	38.9	11.9
juvenile court	30.2	50.3	32.1
other	15.2	32.6	13.8

**Table 21. Parent services needed, available and used (percent responding yes)**

Service	Needed	Available	Used
information needed	55.0	61.5	45.7
coping with emergency	33.4	50.3	26.4
coping with raising a child w/ behavioral problems	62.4	58.1	43.9
support/self help groups	43.6	43.6	19.2
coordinating services	40.8	40.4	21.6
respite care	34.2	32.4	17.4
legal rights	29.4	39.8	19.8
other	9.4	19.2	5.2

The survey found service needs highest among institutionalized children and lowest among children in their own homes. Most services were perceived to be more available if the child of the respondent was in an institutional setting. Likewise, the data indicate that services were used more often if the child was living in an institutional setting.

While parents of children who were referred to a residential setting indicated a need for more services by their children, the same parents did not indicate availability and use as often. This suggests that parents of children in residential settings may not have accessed services that could have alleviated the conditions that necessitated placement in a residential setting.

Service use, also, appeared to vary according to characteristics of the parent or caretaker. For example, non-birth parents knew more about the availability of services, which may reflect the greater training and education of foster parents compared with the child's birth parents. Furthermore, non-birth parents indicated utilization of all types of treatment more often than the birth parent group. This may reflect better utilization of services by foster parents, as well as less knowledge of services by the birth parents.

Service need, availability and use also appeared to be influenced by the marital status of the parents. Compared with married parents, all others responded with fewer perceptions of service needs, availability and usage in mental health services.

### **Assessment of Service Satisfaction and Ease**

Most respondents (75%) answered positively to queries of service satisfaction and service ease.

Responses to service satisfaction are summarized in Table 22; responses to service ease are tabulated in Table 23.

**Table 22. Mental health service satisfaction (percent responding yes)**

<b>Questions from Section II, Part 2: Service Satisfaction</b>	<b>Strongly Agree</b>	<b>Mostly Agree</b>	<b>Slightly Agree</b>	<b>Neither Agree/ Disagree</b>	<b>Slightly Disagree</b>	<b>Mostly Disagree</b>	<b>Strongly Disagree</b>
a. ask my opinions	20.7	38.4	12.5	8.7	4.9	7.1	7.6
b. listened to child	20.6	27.4	15.4	18.2	6.0	5.1	7.3
c. told in advance recommendations	18.1	32.4	15.9	12.7	5.4	6.8	8.6
d. availability	24.2	28.0	16.3	9.8	8.2	5.7	7.9
e. include me in planning	26.2	27.8	13.5	10.8	7.0	5.4	9.2
f. ask if I am satisfied	19.5	23.6	13.6	15.7	3.5	9.8	14.4
g. explain goals	22.7	25.7	18.6	10.8	6.2	6.5	9.5
h. treat me with respect	29.5	34.3	12.7	7.6	5.9	3.0	7.0
i. satisfied over the past 6 months	26.7	25.9	11.4	13.4	5.3	6.7	10.6
j. satisfaction now, compared with 2 years ago	26.9	16.9	7.6	31.4	3.8	4.1	9.3

**Table 23. Mental health service ease (percent responding yes)**

<b>The following mental health services were easy (convenient) to obtain or use:</b>	<b>Strongly Agree</b>	<b>Mostly Agree</b>	<b>Slightly Agree</b>	<b>Neither Agree/ Disagree</b>	<b>Slightly Disagree</b>	<b>Mostly Disagree</b>	<b>Strongly Disagree</b>
a. information about MHS	27.3	25.7	15.3	10.1	7.9	6.6	7.1
b. appointments with doctors	26.0	30.9	13.8	7.6	8.7	6.0	7.0
c. appointments with other MHS	25.1	29.5	12.6	9.8	10.7	4.6	7.7
d. family services	23.7	24.5	12.4	19.3	6.1	6.1	8.0
e. medications	34.4	30.0	11.0	11.0	4.1	2.5	6.9
f. referrals	22.1	23.2	15.2	16.3	7.5	4.4	11.3

Analysis of responses to questions regarding service satisfaction, service ease, or quality of life study revealed no statistically significant differences between persons who lived in an urban versus rural county.

Assessment of service satisfaction and service ease varied by birth versus non-birth parents with non-birth parents rating *service ease* and *service satisfaction* significantly higher than the birth parents. Similarly, *service satisfaction* and *service ease* questions appeared to vary according to marital status with separated parents being the least satisfied and widowed parents the most satisfied with services. Married and common-law families also tended to be satisfied. *Service ease* reflected the same trend: separated parents were less contented with the convenience of mental health services.

### **Assessment of Life Quality**

The quality of life and outcome measures used in the study consisted of the Achenbach competency scores, and the Child and Adolescent Scale of Temperament and Life Enhancement (CASTLE). The Achenbach competency measures a child’s activities in three domains including: 1) activities; 2) social; and 3) school. The CASTLE attempts to quantify ‘quality of life’ by measuring 4 domains which are: 1) home; 2) school; 3) social; and 4) mood. This scale offered 40 items, 10 in each category. Each item had 5 responses: 1) never; 2) rarely; 3) sometimes; 4) often; and 5) always. After tallying the responses, an overall CASTLE score was scaled from 0 (least often) to 1 (most often).

Quality of life and outcome measures varied by child gender. Females in the sample scored higher than males in the Achenbach social scale and in the total scale score (Table 24). Furthermore, girls scored higher on the CASTLE home, social, school and total scales.

**Table 24. Quality of life measures by gender**

Measure	Female Sample	Male Sample
Achenbach Activities	5.50	5.23
Achenbach Social	4.70***	3.59***
Achenbach School	3.39	3.22
Achenbach Total	13.56*	12.23*
CASTLE Home	0.54	0.53
CASTLE School	0.59**	0.53**
CASTLE Social	0.68***	0.60***
CASTLE Mood	0.60	0.57
CASTLE Total	0.60*	0.56*

\* = p < 0.05, chi-square  
 \*\* = p < 0.01, chi-square  
 \*\*\* = p < 0.001, chi-square

Quality of life and outcome measures also varied by diagnoses. The Achenbach competence scales were the poorest for ADHD and the best for adjustment disorder. The CASTLE quality of life scales also revealed differences according to diagnostic category. Major depression and ODD rated worst on the home subscale whereas children with conduct disorder scored the worst on the social subscale. Respondents with adjustment disorder scored best on the mood and total scales by measures of parental report.

Residence outside of the home appeared to be associated with poorer parental perception of life quality and in total competency measures. In contrast, non-birth parents (essentially foster parents) rated the children and adolescents as healthier and happier in almost all areas.

## Point 6. Discussion of any Comments or Other Information Provided by the Respondents

### Adult Survey

Respondents to the adult questionnaire were provided an opportunity for comments at the end of both Section II and Section III of the questionnaire. Comments were received from 401 of the respondents. Content analysis yielded the following “themes” or “categories” of comments and the frequencies of comments in each category (Table 25). The total number of comments is greater than 401 because some respondents made multiple comments which fell into more than one category.

**Table 25. Respondent comments - adult**

Comment Categories	Frequency
mental health services have been helpful to client	131
mental health services have been unhelpful to client	129
client has not had mental health services in past six months	45
client desires more services than currently available to him/her	59
client reports financial problems which impact mental health	39
other	41
<i>Total Number of Comments</i>	<i>444</i>
<i>Total Number of Respondents</i>	<i>401</i>

### Child Survey

Respondents to the Child/Family Questionnaire were provided with several opportunities to provide general comments regarding their child’s mental health services. Two open-ended questions specifically asked about positive experiences with mental health services and how mental health services could be improved. In addition, a space for general comments was provided on the questionnaire. The majority of the respondents to the questionnaire used this open-ended format to discuss their experiences with mental health services in Iowa. Ninety-three percent (355) of the completed questionnaires received had comments.

The first open-ended question asked respondents “In your opinion, what has been the *single most positive thing* any therapist or program has done to help your child and family?” Eighty-one percent (308) of respondents answered this open-ended question. The majority of these respondents (88% of 270) identified at least one positive aspect of their child’s mental health services. Twelve percent (38) said they were unable to identify a positive aspect of treatment or describe a negative aspect of treatment.

Of the respondents who identified positive aspects of treatment, there were several types of responses that occurred the most frequently. Thirty percent (93) described positive outcomes that had resulted from interventions. Thirty-two percent (97) described specific therapeutic interventions or aspects of therapy that were helpful. Twenty-one percent (65) identified support for themselves and their child and good communication with parents as being particularly helpful. Eight percent (27) identified medication as the most positive aspect of treatment. Three percent (8) indicated that a good evaluation had been especially important.

The second open-ended question for respondents stated “All agencies (Department of Human Services (DHS); Mental Health Centers) feel they could improve their services in some way. In your opinion, in what way could most agencies improve?” Seventy-five percent (287) of questionnaires received had responses to this question. Ninety-two percent (265) of respondents to this question identified at least one way in which they thought services could be improved. Eight percent (22) said they were unable to identify how services could be improved or were completely satisfied with their services. One of the major areas identified for improvement was increased availability and accessibility of mental health services.

Thirty-eight percent (110) noted barriers to obtaining mental health services in their responses. Forty percent (115) suggested more support for parents and families and improved parent-professional communication. Four percent (11) asked for more thorough evaluations and felt placement and treatment decisions were based on inadequate information. Two percent (5) suggested that the professionals with whom they were working needed better training.

#### **Point 7. Recommendations Based on the Analysis - Adult**

1. The present study provides population estimates of selected characteristics of Medicaid mental health benefit recipients. The description of demographic variables, service satisfaction, and life quality in this population provides a baseline against which changes can be measured.

Under Medco, the demographic profile of the recipient population will either change or remain the same, depending on characteristics of the population who will continue to receive care under this system of management. Similarly, the level of satisfaction with services and perceived life quality in this population will either improve, decrease, or be unchanged. The data provided in the present study will allow measurement of such changes. Resurvey of this population following an extended period of service delivery under managed mental health care (e.g., two years or longer) is recommended in order to estimate the impact of managed mental health care on these and other variables of interest.

2. The present study describes the development of scales for the measurement of satisfaction with services and assessment of life quality that are suitable for use in monitoring characteristics of the Medicaid population under managed mental health care delivery. The scales developed by the study investigators are relatively short and are intended to measure the specific interactions between patients, their service providers, and their quality of life. Preliminary statistical analysis of these scales indicate that they are valid measures of service satisfaction and satisfaction with life quality in the Medicaid population.

3. Self-report of service access and utilization in this and all studies should be interpreted with caution. Pilot data on the survey instrument pertaining to self-report of service need, availability, and use demonstrated low measures of reliability. Validity of self-report, in addition to a more comprehensive understanding of service use among survey respondents, should be measured by linking self-report of service utilization with data contained in Medicaid eligibility and claims files.

4. Self-report of satisfaction in persons who are significantly impaired by their illness cannot be taken as an estimate of functional status. For example, among all diagnostic groups, persons with schizophrenia reported the best satisfaction with economic status although measures of economic status demonstrated that this group had the highest frequency of SSDI as an income source. Similarly, although persons with schizophrenia reported a relatively high satisfaction with occupational status, they fared unfavorably in measures of occupational status (i.e., proportion attending work/school, number of hours in work/school, and proportion paid for work/school). Finally, although persons with schizophrenia reported a relatively good level of satisfaction with their residential status, as a group, they have the lowest frequency of reporting independent living status.

While self-report of satisfaction in persons who are significantly impaired by their illness is neither less important nor less valid than self report in other subgroups, self-report of service satisfaction in these populations is not a valid estimate of functional status. Similarly, self-report of satisfaction with services, mental health status, or functional status cannot be used as the sole indicator of service quality in population subgroups with significant functional impairment due to their illness.

#### **Point 7. Recommendations Based on the Analysis - Child**

1. Improved access to mental health services may be particularly important for separated parents. While most parental groups expressed satisfaction with the mental health services offered in Iowa, separated parents showed clear concerns about the availability of mental health services. Separated parents expressed significantly lower ratings of mental health services on service satisfaction and service ease. In view of the paucity of data in about the separated parents situation - income, marital problems, financial problems, and skills in family life - definite conclusions concerning the reasons for their unhappiness cannot be made. However, separated parents may need particular help in navigating the mental health services system in order to address accommodation and availability.

2. Comprehensive child and adolescent health care systems should be developed. Very high associations of perceived general physical health with mental health outcome and quality of life attests to a firm alliance between physical and mental health. Therefore, mental health services should not exist in isolation, but should be integrated into a cohesive total health care system.

3. Follow-up or follow-back studies should be conducted. Ways in which outcomes could systematically monitored include: 1) following children entering into the system over several years; 2) determining variables leading to a favorable versus adverse outcome; and 3) monitoring of *quality of life* measures.

4. Comprehensive oversight of the provision and outcome of mental health services might best be accomplished by appointing a special child and adolescent multidisciplinary board. The makeup of the board should consist of members from three areas: 1) mental health government administration (e.g., DHS administration, the juvenile system and public educators); 2) medical and other professional providers (e.g., psychiatrists, psychologists, social workers and nurses); and 3) consumers (e.g., members of advocacy groups such as Children with Attention Deficit Disorder, Tourettes Syndrome Association and the Alliance for the Mentally Ill).

The board should review regularly the provision of mental health services to children and adolescents. Economic and clinical data performance indicators of the delivery system may include service utilization and satisfaction, hospital and residential readmission rates, hospital length of stays.

The impact of mental health service effectiveness on other service systems should also be considered including foster care, residential facilities and long term care, juvenile crime, truancy rate and graduation rates, child abuse and neglect reports, and reports from educational specialists.

5. To evaluate the effectiveness of treatment interventions, a comprehensive statewide database should be developed. The data base should include basic child and parental demographics, diagnosis, treatments, standard assessment of symptoms, and outcome measurements of functional and clinical status. Systematic collection of data will allow for more accurate inferences about the performance of the mental health care delivery system under managed mental health care.

### **Overall Limitations of the Present Study**

1. The chance of non-response bias, (i.e., that non-respondents differ systematically from respondents), is a limitation of the present study. In order to more completely address the limitations of study interpretation due to non-response bias, a subsequent study is planned in which Medicaid claims files will be used to describe the service utilization of respondents versus non-respondents.

2. The design of the present study does not provide measurement of the quality or effectiveness of services from a clinical perspective nor does it provide assessment of these variables from the perspective of family members of adult service recipients.

3. The present study does not provide any objective measurement of service access or utilization.

4. The present study does not allow determination of change in mental health service utilization patterns over time. The tracking of movement in and out of Medicaid (e.g., eligibility issues) will be relevant to future monitoring of the program.

## **RECOMMENDATIONS FOR THE EVALUATION OF MANAGED MENTAL HEALTH CARE**

### **Point 8. Recommendations for Subsequent Evaluations after the Implementation of the Managed Mental Health Care Plan**

1. Information about program quality and effectiveness should be obtained from multiple sources, each of which provides a unique perspective. The value of the information obtained will be enhanced if it represents a composite rather than a singular view.

2. Study design (i.e., methodology) should be selected such that the data source which will yield the most accurate information is optimally utilized. Furthermore, comprehensive evaluation should include information collected from both primary data sources (e.g., clinical records, client interviews) and secondary data sources (e.g., utilization claims) depending on the variable(s) of interest.

3. The effect of managed mental health care on individuals will be the most useful if it is based on longitudinal study (i.e., following the same person over time). A subsample, representative of the population of interest, should be selected for study in this manner.

4. Ongoing monitoring of the Medicaid managed mental health care population should include the repeated use of scales similar to those described in the present study but with information obtained by alternative study designs. For example, a general mail-out survey method should be augmented with information obtained from small samples in community mental health center waiting rooms, focus groups, telephone interviews, or face-to-face interviews. In this way, the validity of the mail out survey would be better understood and subpopulations who may be unlikely to respond to a mail out survey are more likely to be represented.

5. Different methodological approaches may be required to address the same question in different population subgroups; reliance on a single methodology can exclude important populations. For example, a mail-out survey would not reach subpopulations who may be the most functionally impaired because of their illness (e.g., persons who are homeless, transient, or otherwise have an unstable living situation).

6. Populations vulnerable to under-utilization of services because of the nature of their illness (e.g., negative symptoms in persons with schizophrenia) should be identified. Service utilization and clinical outcome should be specifically monitored in these groups.

7. Appropriate standards for outcome should be diagnosis specific or developed according to some estimation of case-mix (e.g., chronic versus acute or episodic illness). The chronically mentally ill are different in care needs and outcomes from persons suffering from short-term problems, and thus should be analyzed separately. Other sub-groups of mental health service recipients may also exist, but the appropriate classification of such groups is undetermined at present. To assess the appropriateness of services and effectiveness of treatment, recommended level of treatment for each person must be known.

8. Self-report of satisfaction with mental health status and with mental health services, while important, is only one indicator of quality. In subpopulations such as persons with schizophrenia, satisfaction is not a reliable measure of clinical or functional outcome.

9. Evaluation should address issues that are unique to the public sector. Limited research has been published regarding the long term impact of managed mental health care on persons with serious mental illness.

**Point 9. Recommendations for Outcome Measures to be Monitored by the Department During the Term of the Contract with the Managed Mental Health Care Company**

A diversity of utilization review methods are employed with very little consensus regarding which indicators should be employed. This report proposes a set of indicators to monitor the efficiency, effectiveness, and accessibility of care provided to Medicaid beneficiaries under managed care. As *indicators* of quality, they should not be taken as proof without corroborating evidence; the proposed indicators are only intended for use as screens to suggest performance problems and could be used as contract specifications by which managed care contractors would be evaluated.

The proposed indicators are, however, sufficiently valid to justify asking a managed care contractor to explain why performance appears to be sub-optimal and focused studies may be required to confirm suspected performance problems. However, it should be the responsibility of the contractor to arrange for such studies to be conducted by independent investigators. It is the assumption of this report that the contractor is responsible for system performance in all of its dimensions, not just cost control. Incentives directed at assuring access and quality will be needed. Proposed indicators that may be useful for monitoring the performance of the managed mental health care delivery system are described in Tables 26-28 and are classified according to dimensions of structure (Table 26), process (Table 27), and outcome (Table 28).

**Table 26. Structural indicators  
Therapist FTEs per 1000 Chronic Cases**

total therapist FTE/1000  
psychiatrists FTE/1000  
Ph.D. psychologists/1000  
other PhDs/1000  
MA psychologists/1000  
MSWs/1000  
BAs/1000  
other/1000

**Case Manager FTEs per 1000 Chronic Cases**

**Other Support Staff FTEs per 1000 Chronic Cases**

**Therapist FTEs per 1000 Medicaid Enrollees**

total therapist FTE/1000  
psychiatrists FTE/1000  
Ph.D. psychologists/1000  
other PhDs/1000  
MA psychologists/1000  
MSWs/1000  
BAs/1000  
other/1000

**Case Manager FTEs per 1000 Medicaid Enrollees**

**Other Support Staff FTEs per 1000 Medicaid Enrollees**

**Miles to Therapist**

Information System Permits Computation of Indicators Quarterly

**Table 27. Process Indicators**

**Utilization by Chronic Cases**

number of crisis calls/1000  
number of counseling sessions/1000  
number of days wait for initial appointment  
total  
emergency  
urgent  
routine

**Utilization by Medicaid Enrollees**

number of crisis calls/1000  
number of counseling sessions/1000  
number of days wait for initial appointment  
total  
emergency  
urgent  
routine

**Number of Minutes to Reach a Clinician by Telephone in an Emergency**

**Number of Days to Reach a Clinician by Telephone (non-emergency)**

**Prevention Visits per 1000 Medicaid Enrollees**

**Table 28. Outcome Indicators**

**Outcomes for Chronic Cases**

number of psychiatric hospitalizations/1000  
percent hospitalized  
pharmaceutical expenditures/1000  
number ER visits/1000  
percent adhering to recommended course of mental health treatment  
percent of clients satisfied with access and quality of mental health services  
percent maintaining employment or staying in school while in mental health treatment  
percent with permanent housing after mental health treatment  
percent arrested or incarcerated after mental health treatment  
health status

**Outcomes for Medicaid Enrollees**

number of psychiatric hospitalizations/1000  
percent hospitalized for psychiatric problems  
pharmaceutical expenditures/1000  
number ER visits/1000  
percent adhering to recommended course of mental health treatment  
percent of clients satisfied with access and quality of mental health services  
percent maintaining employment or staying in school while in mental health treatment  
percent with permanent housing after mental health treatment  
percent arrested or incarcerated after mental health treatment  
health status

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