

**Mental Health and Substance Abuse
Treatment:
Results from a Study Integrating Data from
State Mental Health, Substance Abuse, and
Medicaid Agencies**

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Disclaimer

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Foreword

For years, the lack of detailed data on utilization of publicly funded mental health (MH) and substance abuse (SA) services has impeded researchers and policymakers in their efforts to optimize the delivery and financing of such services. To address this serious lack, the Center for Substance Abuse Treatment (CSAT) and the Center for Mental Health Services (CMHS) of the Substance Abuse and Mental Health Services Administration (SAMHSA) together funded and implemented the Integrated Data Base Project. This data base links client-level data from MH and SA abuse agencies and Medicaid, permitting us, for the first time, to track individuals across all three systems.

In this report, we are pleased to present the initial analytical findings from the Integrated Data Base. The project greatly enhances our ability to examine many important questions related to treatment patterns in mental health and substance abuse. Clearly, such data integration has far-reaching implications for States as they strive to improve the delivery of substance abuse and mental health services.

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Executive Summary

State and local governments manage a substantial portion of all substance abuse (SA) and mental health (MH) treatment dollars. Multiple agencies treat the same clients, and multiple data systems collect information on them. To understand the full spectrum of treatment for clients with MH and SA disorders, States need information from many data systems. Few States have an integrated information system.

The Center for Substance Abuse Treatment (CSAT) and the Center for Mental Health Services (CMHS) of the Substance Abuse and Mental Health Services Administration (SAMHSA) initiated an effort five years ago to integrate Medicaid, State mental health, and State substance abuse agency data. Now under confidentiality agreements with the States, data from this CSAT/CMHS Integrated Data Base (IDB) Project has been analyzed and is the subject of this first report.

The IDB, currently built for the year 1996, assembles information from three types of State organizations – State MH, State SA, and Medicaid agencies. The IDB contains data from these types of organizations on mental health and substance abuse clients, their use of services, and level of expenditures. The IDB is assembled separately for three participating States – Delaware, Oklahoma, and Washington – and links person-level and service-level information across the multiple organizations in each State into one uniform data base.

This report presents findings from analyses of a subset of IDB records - persons with a primary mental or substance abuse disorder who are under age 65. Information about three groups of clients is presented: clients with mental disorders only (MH-only clients), clients with substance abuse disorders only (SA-only clients), and clients with dual MH+SA disorders (MH+SA clients). The study answers questions about the treatment services received by these populations under three different State auspices - the State MH and/or SA agency, Medicaid, or multiple auspices. Study questions include:

- Which State organizations (MH, SA agencies, Medicaid, or both) support which types of clients (MH-only, SA-only, or MH+SA clients)?
- What MH and/or SA conditions are most prevalent within and across States and State organizations?
- Where - in what settings - do clients receive services? Does it differ between State MH and SA agencies and Medicaid?
- How many clients receive services under these different State auspices? What types of services do they receive?

States are analyzed separately because there are many dimensions that differ among the States that can greatly influence the results by State. These include organization of the delivery system, administration of funding, range of services covered, payment methods, State-specific epidemiology, and many other factors.

Key Findings

- About 4 percent of the population of each State (Delaware, Oklahoma, and Washington) was treated for primary MH and/or SA disorders in 1996 under the auspices of State MH/SA agencies and/or Medicaid.
- For persons treated for primary MH and/or SA disorders under those auspices across the three States, 68 percent received mental health services only, 21 percent received substance abuse services only and 11 percent received services related to both MH and SA. (Clients with dual disorders may be underestimated because some organizations did not collect enough information to determine dual diagnoses.)
- A significant proportion of clients with MH-only disorders received care only under the Medicaid program (26 to 52 percent across the three States). Clients with SA-only disorders were treated predominately under State SA agencies – 65 to 97 percent of SA clients across the three States.
- Clients with dual MH+SA disorders were more likely to be treated under the MH/SA agencies than under Medicaid in the States. Of those under the MH/SA agencies, about half (averaged across the States) were treated under both the MH and SA agency, with the remainder being treated mostly under the MH agency only.
- Youth clients were predominantly males, whether they had MH, SA, or dual MH+SA disorders. Adult MH-only clients were more likely to be female.
- Minorities (from backgrounds other than non-Hispanic white) were found among the MH-only population at about the same rate as they were among the resident population of each State. However, minorities were a larger portion of clients with SA-only disorders compared to the populations of each State.
- Adult MH clients treated under Medicaid only (not under State MH agencies) were less likely to have schizophrenia, major depression, and psychoses – the most serious mental illnesses.
- Clients with single diagnoses (MH or SA) were very unlikely to be hospitalized, 87 stays per 1000 MH-only clients and 23 stays per 1000 SA-only clients in 1996. However, clients with dual MH+SA disorders were much more likely to be hospitalized, at a rate of 457 hospitalizations per 1000 clients.
- Hospitalization rates of clients under different State auspices varied tremendously. For example, for MH-only youth clients, between about 5 per 1000 and 500 per 1000 were hospitalized in 1996, depending on the State organization supporting the client.
- Residential care was rarely provided to persons with MH-only disorders, but frequently was the setting for those with SA-only disorders and with dual disorders.

TABLE OF CONTENTS

Foreword	i
Executive Summary	ii
Key Findings	iii
Chapter 1. Overview of the Integrated Data Base	1
Introduction.....	1
Overview of the Integrated Data Base (IDB).....	2
The Population of the Integrated Data Base.....	3
Characteristics of the Participating States	4
Delaware	6
Oklahoma	10
Washington	11
A Note of Warning about State Comparison	12
Protecting Confidentiality of the Data	13
Structure and Size of the Data Base	14
Purpose of this Report.....	15
Organization of the Report.....	16
Chapter 2. Methods of Analysis for the Integrated Data Base (IDB).....	17
Study Population	17
Classifying Types of Clients	18
Developing Service Categories	19
Overlapping Clients and Services	19
Other Statistical Matters.....	20
Limitations	20
Chapter 3. Clients with Mental Disorders Only.....	23
Both State MH Agencies and Medicaid Provide MH Services.....	23
Medicaid Supports a Younger MH Clientele	24
Young Males and Adult Females Comprise the Majority of State MH Clients	25
Minorities in State MH Populations Generally Are in Proportion to the State Populations	26
Youth and Adult Mental Health Clients Have Different Mental Disorders	27
MH Services: A Large Proportion of MH Clients Receive Treatment in Outpatient Settings Only.....	29
The Number of Hospitalizations Varies Markedly by State Entity.....	31
Use of Residential Facilities by MH Clients is Even Less Likely than Hospitalization	33
Chapter 4. Clients with Substance Abuse Disorders Only	35
State Substance Abuse (SA) Agencies Care for Most SA Clients	35
SA Clients are Older, On Average, than MH Clients	36
Males Dominate the State SA Youth Population	36
Proportionately More Minorities Are Treated for SA than in the Total State Populations	37
More Youth Treated for Drug Disorders and More Adults Treated for Alcohol Disorders.....	39
SA Services: Treatment of SA Clients Is Provided Mostly in Outpatient Settings Only	41
Substance Abuse Youth Clients are Rarely Treated in Hospitals	44
SA Clients Are More Likely to Receive Residential Care than Hospital Care	45

Chapter 5. Clients with Dual Mental Health and Substance Abuse Disorders	49
Medicaid Alone Supports Some Clients with Dual MH+SA Disorders	50
A Small Proportion of Clients with Dual MH+SA Disorders are Young	52
Males Dominate Youth and Females Dominate Adults with Dual Disorders.....	52
Minority Representation Among Clients with Dual Disorders Is Comparable to the State Population in Two States	53
Different Types of Dual Disorders Affect Youth and Adults	54
Type of Substance Use Differs by Age Group for Those with Dual MH+SA Disorders.....	56
The Prevalence of MH Diagnoses by SA Diagnoses and Vice Versa.....	57
MH/SA Services: Clients with Dual Disorders Are Frequently Treated in Multiple Settings	59
Clients with Dual MH+SA Disorders Are Frequently Hospitalized.....	60
Residential Care is one of the Multiple Settings Used for Clients with Dual Disorders.....	62
 Chapter 6. Summary and Conclusions	 65
The Integrated Data Base (IDB) Project	65
Results of the First Analysis of the IDB	66
Which State Organizations Support Which MH/SA Clients?	66
What are the Characteristics of Clients Receiving MH/SA Treatment under State Auspices?.....	67
What MH/SA Disorders Are Treated across State Organizations?.....	67
Do settings of Service for MH/SA Clients Differ by State Organization?.....	68
How Many Services Are Provided to Clients under Different State Organizations?.....	68
Limitations	69
Future Directions	70
 References.....	 73
 Appendix A. Advisory Panel.....	 75
 Appendix B. Detailed Methods of Data Development for this Study	 77
Selection of Clients for the Integrated Data Base (IDB).....	77
Selection of Study Population from the IDB	77
Diagnostic Categorization.....	78
Number in the Study Population	79
Number in the Study Population without Detailed Diagnoses	80
Service Categorization	80
Identification and Flagging of Duplicate Services	83
Medicaid Enrollment	86
Other Statistical Issues Specific to This Study.....	87
Further Methods Detail Available.....	87

TABLES

Table 1.1:	State Population Receiving State-Administered MH/SA Services.....	4
Table 1.2:	Characteristics of Programs that Support MH/SA Services in Participating States, 1996	7
Table 1.3:	Number of Records Received, by State.....	15
Table 2.1:	Number of Clients in the IDB and Excluded from the Study, by Reason for Exclusion and by State.....	17
Table 2.2:	Number of People in the IDB and Selected for Study (with Primary MH/SA Disorders of Any MH/SA Service and Age less than 65) by State and by Diagnosis	18
Table 2.3:	Number and Percent of Study Population Assigned to MH or SA Categories by Method of Classification – Diagnosis or Related Service	19
Table 4.1:	Percent of Youth SA Clients Who Received Selected Services, by State and State Organization.....	43
Table 4.2:	Percent of Adult SA Clients Who Received Selected Services, by State and State Organization...	43
Table 5.1:	Clients with Dual MH+SA Disorders by Source of Treatment, Excluding Medicaid in Each State and Youth Services in Delaware*	51
Table B.1:	Diagnoses Used as Selection Criteria for the IDB.....	77
Table B.2:	Diagnosis Categories Used as Inclusion Criteria for the Study	78
Table B.3:	Number of Client Records for Analysis of MH/SA Services by Type of Client, State, and Organization Supporting Treatment	81
Table B.4:	Percent of MH/SA Client Records with Missing Detailed Diagnosis-Related Data,* by Type of Client, State, and Organization Supporting Treatment.....	82
Table B.5:	Service Categories.....	84
Table B.6:	Enrollment in Medicaid for Clients Receiving Medicaid MH/SA Services, by State.....	86

FIGURES

Figure 3.1: MH Clients Are Treated Mainly by the MH Agency or Medicaid, Not Usually Both.....	24
Figure 3.2: A High Proportion of MH Clients under Medicaid Only Are Young in Two States	25
Figure 3.3: Young MH Clients Are Predominantly Male Regardless of Their Source of Support.....	25
Figure 3.4 Adult MH Clients Are Predominantly Female Regardless of Their Source of Support.....	26
Figure 3.5: Minority Status of Youth MH Clients Is Similar to the Youth Population in Two States	26
Figure 3.6: Adult MH Clients in Two States Reflect the State Minority Population.....	27
Figure 3.7: Childhood and “Other” Mental Disorders Most Common among Youth MH Clients.....	28
Figure 3.8: Serious and “Other” Mental Disorders Most Common among Adult MH Clients	29
Figure 3.9: Youth MH Clients Received Mostly Outpatient Services.....	30
Figure 3.10: Adult MH Clients Received Outpatient Services Almost Exclusively.....	31
Figure 3.11: Hospital Stays More Likely for Youth MH Clients under Both Auspices	32
Figure 3.12: Hospital Stays More Likely for Adult MH Clients under Both Auspices	33
Figure 3.13: Few Youth MH Clients Received Residential Care	34
Figure 3.14: Few Adult MH Clients Received Residential Care	34
Figure 4.1: Most SA Clients Are Treated in Programs under State SA Agencies Only	36
Figure 4.2: A Small Percent of SA Clients Are Young, Yet It Varies by Source of Support.....	36
Figure 4.3: Most SA Youth Clients Are Male	37
Figure 4.4: Most SA Adult Clients Treated under SA Agencies Only Are Male	37
Figure 4.5: SA Youth Clients Are More Likely to be Minority than is the State Youth Population	38
Figure 4.6: SA Adult Clients Are More Likely to be Minority than is the State Adult Population.....	38
Figure 4.7: Most SA Youth Clients Have a Primary Drug Disorder	40
Figure 4.8: Most SA Adult Clients Have a Primary Alcohol Disorder	40
Figure 4.9: Young SA Clients Are Treated Almost Exclusively in Outpatient Settings	41
Figure 4.10: Adult SA Clients Are Treated Mostly in Outpatient Settings	42
Figure 4.11: SA Youth Clients Are Rarely Treated in Hospitals.....	45
Figure 4.12: SA Adult Clients Supported by Medicaid (Alone or Jointly) Are More Likely to be Hospitalized...	45
Figure 4.13: Residential Care for Youth Clients with SA Disorders Is Only Under the State SA Agency	46

Figure 4.14: A Substantial Number of Adult SA Clients Are in Residential Care	46
Figure 5.1: Clients with Dual MH+SA Disorders Are Less Likely to be Treated Under Medicaid Alone	51
Figure 5.2: A Small Portion of Clients with Dual MH+SA Are Youth.....	52
Figure 5.3: Most Youth with Dual MH+SA Disorders Under State MH/SA Agencies Are Male	53
Figure 5.4: Most Adults with Dual MH+SA Disorders Under State MH/SA Agencies Are Male.....	53
Figure 5.5: Minorities Among MH+SA Youth Clients Generally Are Proportionate to State Populations	54
Figure 5.6: Minorities Among MH+SA Adult Clients Generally Are Proportionate to State Populations	54
Figure 5.7: Youth Clients with Dual MH+SA Have Mainly Childhood, Mood/Anxiety, and Stress/Adjustment Disorders	55
Figure 5.8: Adult Clients with Dual MH+SA Have Mainly Schizophrenia, Major Depression, and Psychoses..	56
Figure 5.9: Youth Clients with Dual MH+SA Are More Likely to Have Primary Drug than Alcohol Disorders	57
Figure 5.10: Adult Clients with Dual MH+SA Are As Likely to Have Primary Alcohol as Drug Disorders in Two States	57
Figure 5.11: MH+SA Clients Using Different Primary Substances Have Similar Distributions of Mental Disorders	58
Figure 5.12: MH+SA Clients Are Split between Primary Alcohol and Drug Disorders for All Mental Disorders	59
Figure 5.13: Youth Clients with Dual MH+SA Rarely Receive Only Inpatient or Only Residential Care	60
Figure 5.14: Adult Clients with Dual MH+SA Are More Likely to Receive Care in Multiple Settings than Youth.....	60
Figure 5.15: Youth with Dual MH+SA Treated under Some Auspices Have High Rates of Hospitalization.....	61
Figure 5.16: Adults with Dual MH+SA Treated under Some Auspices Have High Rates of Hospitalization	61
Figure 5.17: MH+SA Youth Are More Likely Treated in Residential Settings than MH or SA Only Youth Clients	62
Figure 5.18: MH+SA Adults Are More Likely Treated in Residential Settings than MH Only Adult Clients	63

Chapter 1. Overview of the Integrated Data Base

Introduction

Mental health and substance abuse treatment services in the United States are funded by various public and private entities. State and local governments manage a substantial portion of all substance abuse (SA) and mental health (MH) treatment dollars.¹ Of the \$11.9 billion spent on SA treatment in 1997, State and local governments managed 48 percent of those dollars; of the \$73.4 billion spent on MH services in that year, they managed 41 percent. The relative role of States in managing MH/SA services is in contrast to their voice in all health care: they managed only 22 percent of all health care dollars in 1997.

Most States have multiple agencies supporting or managing MH/SA services. Mental health can be administered separately from substance abuse; services for youth can be administered separately from those for adults; and both Medicaid and State MH/SA agencies can be involved in supporting such services. As a result, information about public MH/SA services resides with individual agencies: who receives services from the agency, who delivers the services, what types of service are being delivered, and how much the services cost. Understanding issues such as whether a person is being treated for substance abuse and mental disorders, the continuity of care across Medicaid and other State or local agencies, or the total cost of care per MH/SA client² is not feasible with separate data systems. Furthermore, pooling these diverse data sources is not straightforward.

The Center for Substance Abuse Treatment (CSAT) and the Center for Mental Health Services (CMHS) of the Substance Abuse and Mental Health Services Administration (SAMHSA) initiated an effort five years ago to integrate valuable sources of data on substance abuse and mental health services: Medicaid data and State MH/SA agency data. This one-time Integrated Data Base (IDB) project demonstrates the feasibility and difficulty of linking data across agencies in three States (see Whalen et al., 2001). The first phase of the project is complete, and now, information from the CSAT/CMHS IDB, available for analyses by SAMHSA and the participating States, is the subject of this report.

CSAT and CMHS undertook the IDB project to create a better understanding of how States support individuals in need of services, given the States' important and complex role in MH/SA care. The IDB assembles information on mental health and substance abuse clients, utilization, and expenditures at the State level. The study is able to address many important questions about the populations treated in State organizations and the services provided to them, such as:

¹ Estimates from the CSAT/CMHS Spending Estimates Project (Coffey et al., 2001). In addition to State and local tax dollars that support Medicaid and other MH/SA health services, State and local governments manage the Federal portion of Medicaid and Federal SA and MH block grants.

² Throughout this report, "MH," "SA," or "MH/SA" are used as shorthand to refer, albeit imperfectly, to clients with mental illness, alcohol, or drug abuse disorders.

- How many people receive treatment services under various State entities that provide MH or SA services? How many receive services from multiple State entities?
- What are the characteristics of clients who receive such services, including those diagnosed with both mental and substance abuse disorders?
- How many and what types of services do they receive?

Overview of the Integrated Data Base (IDB)

The IDB, currently encompassing one year of data (1996) for three States (Delaware, Oklahoma, and Washington) incorporates Medicaid data and State MH/SA agency data. The latter may be organized under one agency (as in Oklahoma) or two (as in Washington) or may be organized by adult and child services (as in Delaware). Medicaid programs typically collect information for adjudicating fee-for-service claims or monitoring prepaid care. State MH and SA agencies typically collect data to track treatment and outcomes of their clients. Each State has a different organizational arrangement and structure of benefits for public MH and SA services; an overview is presented in the sections that follow.

The unique feature of the IDB is that it combines into one data base for each State information for individuals who receive services under multiple public programs that provide MH and SA care in that State. Thus, the IDB provides a more complete picture of the MH/SA clients seen in more than one part of the State-supported MH/SA care system. (Individuals who receive services under only one organization during the year are also included.) The IDB contains person-level and service-level data for all such clients within a State. Thus, for example, the IDB can reveal the combined expenditures on treatment for individuals who use services under multiple State organizations that support MH/SA care. Strict data confidentiality protections, described below, were applied to these sensitive health data.

The three participating States were chosen after a search for States with electronic data, the ability of their data systems to link clients across agencies, and State interest in the project. At the beginning of this project, Washington State had made significant progress in creating such linkages and the IDB project drew on their methodology. Throughout the IDB project, each of the States provided strong support of the concept and valuable staff time to provide data, documentation, consultation, and advice. Without this support the IDB would not have been possible. The data base provides a ready and uniform source of information for the three States and for CSAT and CMHS researchers.

The data base currently contains information on MH and/or SA clients, including all of the physical or MH/SA services delivered to those clients through Medicaid or the State MH and/or SA agencies. Service and cost information are included, as well as demographics, client history, Medicaid eligibility status throughout the year, diagnoses, providers, and prescription drug information. MH/SA agencies and Medicaid are part of the project in each State. (Some other State programs, such as MH/SA programs within the justice or education systems, are not included.) The IDB is complete for calendar year

1996. Years 1997 and 1998 are in process. The analyses presented in this report are based on 1996 data.

This project also provides a data base framework for States that want to build and maintain integrated MH/SA data. A linking methodology, adaptable to other States that are interested in combining client data, is available as part of the project (Whalen et al., 2001). The development of an integrated State data system is essential for States that plan to coordinate two or more funding streams and to monitor continuity of care and analyze cost-effectiveness.

The IDB is a secondary data source. “Secondary data” means the data were collected for some purpose other than to answer the specific research questions of this study. Purposes may include program administration, insurance reimbursement, health care management, or any others. The special purposes and requirements of the original data collection will affect the completeness of the data bases, reliability of specific data elements, and the appropriateness of the data for a new purpose. This issue must be considered in analyzing any secondary data source.

The Population of the Integrated Data Base

The IDB is a census of people with mental and substance abuse disorders who are treated under State agencies – the MH agency, the SA agency, or the Medicaid program. For the data base, mental and substance abuse disorders are intentionally defined broadly and include those persons who have clinical conditions that may or may not be indicative of a current mental or substance disorder, such as a diagnosis of alcoholic cirrhosis, which may indicate sequelae from an earlier alcohol dependence. For State MH or SA authorities, all persons who received clinical treatment services under their auspices are included in the IDB. For Medicaid data, several criteria are used to define the relevant population:

- persons with a primary or secondary mental illness or substance abuse diagnosis or with a related medical diagnosis, based on the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM);
- persons with procedures related to specific MH/SA services (for example, psychotherapy, rehabilitation, methadone, or counseling), based on codes that are either State-specific or from the manual of Common Procedural Terminology, 4th Edition (CPT-4) ;
- those who receive specific types of Medicaid services that may indicate mental or substance disorders, such as community mental health center services or inpatient psychiatric facility services; or
- those with records with appropriate revenue billing codes (for example, claims with psychiatric room charges, codes for intensive psychiatric therapy, or alcohol rehabilitation charges).

As a result of applying such broad criteria, the IDB includes not only persons with an explicit mental or substance disorder but also those with an implied mental or substance disorder.

Unlike the IDB, the population for the analyses in Chapter 2 and following includes only persons with an explicit MH and/or SA disorder. The inclusion and exclusion criteria for those analyses are described more fully in Chapter 2 of this report.

For all people in the IDB, all medical services provided by Medicaid to the defined MH/SA population are included; this will enable future investigations of health care utilization and cost for the physical care of these MH/SA clients. People with dementia are excluded from the IDB except when they had another included MH or SA condition. (Patients with dementia without MH or SA conditions were omitted because their patterns and loci of care differ significantly from the MH/SA group.)

Using the full IDB (that is, the broader integrated State MH/SA agency and Medicaid data), Table 1.1 shows that the MH/SA population treated under State auspices was about 4 percent of the 1995 population in each of the three States. The number of MH/SA clients unduplicated in the data base of these three States is just over 380,000, which is about 0.6 percent of the U.S. population that received MH and/or SA services in 1996 (U.S. Department of Health and Human Services, 1999; NIAAA, 1997; Epstein and Gfoerer, 1998).

Table 1.1: State Population Receiving State-Administered MH/SA Services

State	State Population in 1995	Number of MH/SA Clients in the IDB	Percent of State Population Receiving MH/SA Services
Delaware	717,000	27,594	3.8
Oklahoma	3,278,000	137,704	4.2
Washington	5,431,000	215,111	4.0
Total IDB	9,426,000	380,409	4.0

Source: CSAT/CMHS IDB Project, 1996 data; Bureau of Census, 1995 projections of the 1990 Census.

Characteristics of the Participating States

The three IDB States (Delaware, Oklahoma and Washington) administer MH, SA, and Medicaid services through different organizational, financing, and payment arrangements. In Delaware, child and adult services are managed by different agencies; in the other two States, they are integrated within each agency. In Washington State, mental health and substance abuse services are separately administered; in Delaware and Oklahoma, they are integrated. All three Medicaid programs have managed care and fee-for-service reimbursement arrangements. The percent of the 1996 Medicaid population enrolled in managed care (that is, both capitated and other arrangements with and without primary care case management) varied across the States – 78 percent in Delaware, 19 percent in Oklahoma, and 100 percent in Washington (HCFA, 2001a). In Delaware, the

MH/SA authorities operate and oversee the managed behavioral health care carve-out arrangement for Medicaid. In Washington, SA services are carved-out from Medicaid managed care and administered by the State SA agency. For MH services, a network of behavioral health professionals function as a prepaid plan for Medicaid MH services, which oversees those contracts. None of the States had passed legislation for MH parity by 1996 or 1997 (Lamphere et al., 1999).

State Medicaid programs must provide Federally mandated health services, regardless of physical or mental illness, and may provide any of the Federally defined optional services (HCFA, 2001b). The services are:

Mandated

- physicians services
- early and periodic screening, diagnosis, and treatment (EPSDT) services for children
- inpatient hospital services other than in Institutions for Mental Diseases (IMD)
- outpatient hospital, rural health clinic, and Federally Qualified Health Center services
- other laboratory and x-ray services
- skilled nursing facilities services for individuals age 21 or older
- family planning services and supplies
- home health services for persons eligible for nursing facility services
- nurse-midwife services to the extent allowed by State law
- pediatric and family nurse practitioner services
- medical and surgical dental services

Optional

- clinic services
- licensed practitioners' services (e.g., podiatrists, psychologists, nurse anesthetists)
- inpatient hospital services to individuals age 65 or older in an IMD
- nursing facility services to individuals age 65 or old in an IMD
- prescription drugs (covered in all States)
- intermediate care facility for the mentally retarded (ICF/MR) services
- occupational therapy
- inpatient psychiatric services for individuals under age 21
- nursing facility services for individuals age under 21
- eyeglasses
- diagnostic services
- screening services
- preventive services
- rehabilitative services
- case management services
- respiratory care services
- TB-related services
- private duty nursing
- dental services
- physical therapy
- speech, hearing and language therapy
- prosthetic devices
- hospice care services
- other medical services as approved by the Secretary

All three States provide all mandated Medicaid benefits to Medicaid-eligible MH/SA clients. This includes EPDST, which requires that all medically necessary services be provided to children under the Medicaid program. However, the U.S. Congress and the

Federal Medicaid program have imposed limits on how services can be delivered to MH/SA clients. For example, Medicaid matching payments cannot currently be used for treatment of some MH/SA patients in Institutions for Mental Diseases, which are “inpatient facilities of more than 16 beds whose patient roster is more than 51 percent severe brain disorders by primary admitting diagnosis” (NAMI, 2001). Medicaid cannot cover treatment in IMDs for patients between the ages of 22 and 64. Persons under age 22 or over age 64 can be treated in IMDs at State option, but not all States offer that option under Medicaid. Medicaid will pay for inpatient services to those aged 22 to 64 in general or community hospitals.

The optional services under State Medicaid programs vary, as do the services provided by State mental health and substance abuse agencies. Below, services are identified that differ across the three States. The reader should realize that comparison of Medicaid or other MH/SA services across States is complicated because nomenclature of services and programs differ, making it difficult to know whether or not the same services are provided.

Beyond Medicaid, State MH/SA services stand as fairly comprehensive safety nets for people who have mental and substance abuse disorders but who have limited or no Medicaid, private insurance benefits, or personal resources. The services provided by State MH/SA, as well as Medicaid, agencies are listed in Table 1.2. Next, the organizations that administer or provide MH/SA care in each State are described along with MH/SA services and IDB development issues specific to the three States.

Delaware

MH/SA data in Delaware reside in three distinct organizations:

- Division of Alcoholism, Drug Abuse and Mental Health of the Delaware Department of Health and Social Services (DADAMH/DHSS) provides adult behavioral health services.
- Division of Social Services, Medicaid Program of DHSS provides behavioral health services to adults and children with relatively low needs for such services.
- The Department of Services for Children, Youth and Their Families (DSCYF) of the Division of Child Mental Health Services (DCMHS) provides child behavioral health services.

The Diamond State Health Plan, a capitated managed care plan, was established January 1996 under a Medicaid waiver. The behavioral health portion of the plan is a basic benefit administered by Medicaid, and administered by the DADAMH for seriously mentally ill (SMI) adults and by DCMHS for children. Fee-for-service MH services are also provided under Medicaid for adults. DADAMH and DCMHS also provide medically necessary extended services beyond the basic Medicaid benefit to eligible

Table 1.2: Characteristics of Programs that Support MH/SA Services in Participating States, 1996

Characteristic	Delaware	Oklahoma	Washington
Organization, Domains, and Populations Served	<p><u>Adult MH/SA agency priority populations:</u></p> <ul style="list-style-type: none"> • Low-income adults with little or no insurance including people with acute needs or those who are seriously and persistently ill. • Adults with severe and persistent mental illness and/or substance abuse who exceed their basic Medicaid benefit (carve-out clients). • Medicaid-enrolled adults, not enrolled in managed care, with services that are reimbursed by Medicaid <p><u>Child MH/SA agency covers:</u></p> <ul style="list-style-type: none"> • Medicaid-eligible, SCHIP¹-eligible children for extended services • Uninsured children. <p><u>Medicaid program covers:</u></p> <ul style="list-style-type: none"> • Eligible adults and children with low to moderate long term needs • Disabled adults (SPI³) with high needs are funded by Medicaid and care managed by DADAMH. 	<p><u>MH/SA agency covers:</u></p> <ul style="list-style-type: none"> • Low-income children, adults, elderly • Persons with chronic MI • Persons with emergencies, regardless of income • Persons eligible for Medicaid in rural, non-HMO areas jointly with Medicaid <p><u>Medicaid covers:</u></p> <ul style="list-style-type: none"> • All adults and youth enrolled in Medicaid 	<p><u>MH agency covers:</u></p> <ul style="list-style-type: none"> • Low-income adults and children, except for MRDD² • Low-income severely mentally or emotionally ill • Emergencies for higher incomes • Medicaid eligible adults and children for monitoring of services <p><u>SA agency:</u></p> <ul style="list-style-type: none"> • Covers indigent and low-income youth, adults and families. • Covers priority populations of pregnant women, parents with small children, and youth • Manages programs funded by Medicaid in addition to Federal Block Grant and State dollars <p><u>Medicaid covers:</u></p> <ul style="list-style-type: none"> • Eligible adults and children
Medicaid Income Eligibility Rules for Selected Groups	<ul style="list-style-type: none"> • Pregnant women ≤ 133% of poverty • Children 6-18 ≤ 100% of poverty • Delaware does not include Medically needy 	<ul style="list-style-type: none"> • Pregnant women ≤ 133% of poverty • Children 6-17 ≤ 100% of poverty • Medically needy ≤ 39% of poverty 	<ul style="list-style-type: none"> • Pregnant women ≤ 133% of poverty • Children 6-17 ≤ 100% of poverty • Medically needy ≤ 76% of poverty
Population under 65 in poverty under Medicaid	<ul style="list-style-type: none"> • 47 percent 	<ul style="list-style-type: none"> • 40 percent 	<ul style="list-style-type: none"> • 46 percent
Federal Medicaid Match	<ul style="list-style-type: none"> • 50 percent 	<ul style="list-style-type: none"> • 70 percent 	<ul style="list-style-type: none"> • 50 percent

Characteristic	Delaware	Oklahoma	Washington
Types of MH/SA Services Covered beyond Mandated Medicaid Services	<p><u>Adult MH/SA agency covers:</u></p> <ul style="list-style-type: none"> • Outpatient counseling • Community centers • Program of Assertive Community Treatment/Assertive Community Treatment (PACT/ACT) • Intensive case management • Short-term and long-term residential rehabilitation • Methadone maintenance • Detoxification <p><u>Child MH/SA agency covers:</u></p> <ul style="list-style-type: none"> • Basic benefits for non-Medicaid youth • Extended Services for all youth that exceed basic benefits • Medically necessary MH/SA services without limit to eligible children • Case management <p><u>Medicaid covers:</u></p> <ul style="list-style-type: none"> • Psychiatric inpatient care for those under 22 and over 64 • Hospital outpatient services • Residential treatment • Case Management • Community MH services • Acute inpatient services • Rehabilitation services • Emergency services • Day treatment • Detoxification • Transportation 	<p><u>MH/SA agency covers all services without limits:</u></p> <ul style="list-style-type: none"> • Detoxification • Inpatient treatment • Outpatient mental health centers • Residential treatment • Halfway houses • Long term care inpatient • Case management <p><u>Medicaid covers:</u></p> <ul style="list-style-type: none"> • Psychiatric inpatient care for those under 22 and over 64 • Outpatient services including physician services. Also includes psychologists for youth. • Residential treatment for youth and pregnant women and their children, provided in inpatient facilities • Case management for severely mentally ill • MH/SA outpatient services for those in nursing facilities • Rehabilitation services • Emergency services • Day treatment for youth • Detoxification including up to five inpatient days. • Up to twelve inpatient days in a general hospital for all needs including MH/SA 	<p><u>MH agency covers:</u></p> <ul style="list-style-type: none"> • Community MH Services • Elderly mental health services • Inpatient psychiatric services • Case management <p><u>SA agency (DASA) covers:</u></p> <ul style="list-style-type: none"> • Inpatient detoxification • Intensive inpatient treatment • Intensive outpatient treatment • Recovery house/extended care recovery house • Long term residential care • Residential treatment for youth • Youth outpatient <p><u>Medicaid covers:</u></p> <ul style="list-style-type: none"> • Psychiatric inpatient care for those under 22 and over 64 • Hospital outpatient • Residential treatment by inpatient providers • Case management • Community mental health centers • Psychosocial rehabilitation • Emergency services • (DASA manages the alcohol/drug portion of the Medicaid funded program such as various levels of outpatient services, limited hospital based detoxification, medical stabilization for pregnant women, and assessment of clients.)
Provider Arrangements	<p><u>Adult MH/SA agency has a network of providers across State:</u></p> <ul style="list-style-type: none"> • State-run providers • Contract providers <p>And operates and/or funds:</p>	<p><u>MH/SA agency operates and/or funds:</u></p> <ul style="list-style-type: none"> • 3 State mental hospitals (two adult, one youth facility). • 2 private psychiatric hospitals • Residential care facilities 	<p><u>MH agency contracts with:</u></p> <ul style="list-style-type: none"> • 14 county-based prepaid health programs that provide community mental health services – Regional Support Network (RSN)

Characteristic	Delaware	Oklahoma	Washington
	<ul style="list-style-type: none"> • 1 State psychiatric hospital including a psychiatric nursing facility • 2 non-State psychiatric hospitals • 7 multi-service MH organizations with or without residential care • Outpatient mental health centers • SA treatment programs, including counseling, case management, residential rehabilitation, methadone maintenance and detoxification 	<ul style="list-style-type: none"> • Community mental health centers, some with internal or contracted inpatient beds and day programs. • 2 State SA treatment centers • Contracts with SA service providers 	<ul style="list-style-type: none"> • 2 State mental hospitals <p><u>SA agency funds:</u></p> <ul style="list-style-type: none"> • Prevention, treatment, and support services (transitional housing, child care, limited transportation) • Counties which contract with private SA treatment agencies • Community SA treatment centers
Medicaid Payment Arrangements	<p><u>Medicaid uses:</u></p> <ul style="list-style-type: none"> • Capitated, managed MH/SA care for adults • Fee-for service MH care for adults • Capitated, managed MH/SA for children <p><u>Adult MH/SA agency:</u></p> <ul style="list-style-type: none"> • Manages the MH/SA managed carve-out program for Medicaid adults <p><u>Child MH/SA agency:</u></p> <ul style="list-style-type: none"> • Manages managed MH/SA carve-out for Medicaid children • Contracts w/ managed behavioral health carve-out plans 	<p><u>Medicaid uses and oversees:</u></p> <ul style="list-style-type: none"> • Capitated managed MH/SA care in urban areas (for TANF only). • Fee-for-service (FFS) for all other Medicaid clients in urban areas and all clients in rural areas. 	<p><u>Medicaid uses and oversees:</u></p> <ul style="list-style-type: none"> • Capitated payment to a pool for RSN (see above) • FFS option and managed care option (latter chosen by 60% of Medicaid enrollees) • DASA oversees and manages SA resources for Medicaid; billing occurs through the Medicaid MMIS system and services are funded on a fee-for-service basis.
IDB Issues	<p><u>Children:</u></p> <ul style="list-style-type: none"> • Children = 18 years and under <p><u>Dual Records:</u></p> <ul style="list-style-type: none"> • Exist (e.g., DADAMH and Medicaid) for identical persons, services, and dates, and must be identified and unduplicated 	<p><u>Children:</u></p> <ul style="list-style-type: none"> • Children = 17 years and under <p><u>Dual Records:</u></p> <ul style="list-style-type: none"> • Exist occasionally for DMHSAS and OHCA for identical persons, services, and dates; and must be unduplicated. Dual records within DMHSAS are not a problem due to their unique ID system. <p><u>Other Issues:</u></p> <ul style="list-style-type: none"> • DMHSAS classifies: a) program clients and, b) contacts who received too few services to be admitted to the program 	<p><u>Children:</u></p> <ul style="list-style-type: none"> • Children = 17 years and under <p><u>Dual Records:</u></p> <ul style="list-style-type: none"> • Shared services between SMHA and Medicaid managed care are found less often in the data because Medicaid managed care reimbursement is sent directly to the RSNs. As a result, fewer diagnoses and shared expenditures are in the data base.

¹SCHIP = State Child Health Insurance Program. ²MRDD = mental retardation and developmental delay. ³SPI = severely and persistently mentally ill.

adults and children, respectively. DADAMH and DCMHS contract with a network of independent providers. DSCYF also is an accredited managed care organization.

In 1996, Delaware provided an extensive set of benefits for persons with MH/SA disorders, not only as Medicaid optional services but also as services specific to DADAMH and DSCYF. Delaware covered extensive MH/SA benefits beyond Medicaid for all eligible youth and Assertive Community Treatment programs.

Delaware has integrated adult MH agency and adult SA agency information, but has not integrated child behavioral health data with these integrated adult data. There is only limited integration of Medicaid and adult agency data for Medicaid-eligible clients. This complicated organizational structure for behavior health information has implications for assembling an integrated data base for State services. Records for the same people are tracked at two agencies – Medicaid and either DADAMH or DCMHS. This occurs when, for example, DADAMH is responsible for providing the behavioral health benefits and Medicaid pays part of the bill. To reconcile duplicate records and assemble total spending, the data systems of separate organizations must be linked.

An IDB issue that was resolved differently for Delaware than the other two participating States was the definition of the youth population. Delaware classifies 18 year olds (as of December 31, 1996 for the 1996 file) in the youth population for their programs; the other States count 18 year olds in the adult population. As a convenience to the States, who wanted to use these files for program evaluation and planning, the IDB counts 18 year olds as youth in Delaware and as adults in Oklahoma and Washington State.

Oklahoma

MH/SA data in Oklahoma reside in two distinct and independent organizations:

- Department of Mental Health and Substance Abuse Services (DMHSAS) is responsible for the State's mental health and substance abuse services.
- Oklahoma Health Care Authority (OHCA) is responsible for all medical and MH/SA services for persons eligible for Medicaid.

Under a 1995 Medicaid 1115 waiver, OHCA began a transition in urban areas from completely fee-for-service (FFS) reimbursement to FFS and managed care (called SoonerCare). In 1996, only those persons meeting requirements for Temporary Assistance to Needy Families (TANF) were enrolled in managed care; all other Medicaid persons received services under FFS. Regardless of the payment system, identical MH/SA services are provided to all Medicaid recipients. Any MH/SA service not covered under Medicaid is available from DMHSAS, which also provides all MH/SA treatment services to non-Medicaid low-income persons.

In 1996, Oklahoma had limits on services under Medicaid. For example, Oklahoma Medicaid limited: all care in inpatient facilities to 12 days (for fee-for-service benefits); psychologist services to youth clients; residential treatment to youth; case management to children with severe emotional disturbances and adults with severe mental illness; day treatment to youth; and inpatient detoxification to 5 days during the year. Some of these

services were unlimited under the State MH/SA agency: inpatient treatment, residential treatment, case management and detoxification. Oklahoma does not offer Assertive Community Treatment programs.

Although data for MH and SA services at DMHSAS are integrated through their unique client identifiers, neither is integrated with Medicaid data. DMHSAS distinguishes their recipient population as 1) *clients* admitted to a program for treatment and 2) *contacts* who received services without being admitted to a treatment program. The latter may receive preventive screening, educational services, and one-time services. Both *clients* and *contacts* are included in the IDB. Only *clients* are included in the analyses in this report because this study is focusing on those treated for mental or substance abuse disorders.

Washington

MH/SA data for Washington State reside with three separate agencies, each under the Department of Social and Health Services (DSHS):

- State Mental Health Agency (SMHA) under the Mental Health Division (MHD)
- Division of Alcohol and Substance Abuse (DASA)
- Medical Assistance Administration (MAA), which is responsible for Medicaid.

MAA offers its Medicaid enrollees MH treatment under managed care, through the Integrated Community Mental Health Plan. In 1996, virtually 100 percent of Medicaid enrollees participated in the managed care program, which operates under a 1915b waiver. SMHA funds community mental health services through contracts with 14 Regional Support Networks (RSNs), which are county or multi-county prepaid health networks. The RSNs are directly accountable to the Mental Health Division.

Washington offers a second program, the Basic Health Plan, which is primarily a medical managed care plan that offers limited MH/SA services for the uninsured and underinsured.

Although funded by Medicaid, all SA services for Medicaid enrollees are managed by DASA using managed care principles but still provided on a fee-for-service reimbursement basis. DASA contracts with county organizations to arrange outpatient treatment services and contracts directly with inpatient providers for residential services. DASA provides SA prevention and treatment needs for the entire State population.

Washington Medicaid limits some MH/SA services. For example, for MH clients Washington Medicaid covers residential care only through general inpatient facilities. (Thus, residential services could not be identified in the Washington Medicaid data. Furthermore, Washington State could not provide to this project the residential services data provided through the State MH agency.) In addition, detoxification for SA clients is limited to inpatient settings only. Also, Washington does not provide Assertive Community Treatment programs.

Some services obtained from other States were not obtained from Washington. In addition to residential services, which could not be identified in Washington State data, data from the Medicaid agency for admissions to State mental institutions were not provided to this project. Medicaid covers services for such institutional care only for those under age 22 and over 64.

The Office of Research and Data Analysis (ORDA) operates a management information system that integrates information from SMHA, DASA, Medicaid, and other agencies. ORDA provided methods for eliminating duplicate person records and service records, which were useful for the IDB project. In order to apply consistent methods and create uniform files across the three States, the IDB project did not use the ORDA-integrated data for the IDB, but worked with the original agency files.

A data integration issue of overlapping services results from Washington contracting arrangements. Because Medicaid reimburses the RSNs directly, SMHA and Medicaid rarely record utilization and spending for the same people and services. As a result, MH diagnoses from the Mental Health Agency are not collected and shared services between SMHA and Medicaid are available less frequently in Washington than in Delaware and Oklahoma.

A Note of Warning about State Comparison

Because of the many differences among the States, this report could have presented the results for each State separately. However, most statistics in this report for each State are shown side-by-side to aid readers' comprehension of State-specific results and to identify where general statements are possible because of general, underlying trends in MH/SA treatment that appear as similar results across the three States.

Comparisons of MH/SA utilization and expenditures between States should not be made because State programs for delivering MH/SA services differ in so many dimensions. Their history in such programs can differ, as can their program resources and financing, organization, benefits, arrangements for paying providers, incentives for treatment, available settings for care, extent of managed behavioral health care, and networks of providers. Some of these differences were highlighted in the previous sections. Also, the epidemiology of mental disorders being treated across regions or States can differ, as can the demographics of the populations. Furthermore, characteristics of Medicaid programs (their benefits, eligibility criteria, payment arrangements, levels of payment, and extent of managed care) also vary considerably from State to State. In addition, the amount of joint administration and funding for MH/SA services differs across the States. These multi-dimensional differences make it impossible to ascribe any particular finding across the States to one underlying factor or another.

Furthermore, although a nation-wide view of State and local services would be an obvious goal for this type of investigation, this project cannot approximate national estimates with data from only three States. The reader should keep in mind that the range of estimates across these three States may not reflect the full range of differences that might be observed if all 50 States were available in the IDB and these analyses.

Protecting Confidentiality of the Data

Both Federal and State requirements for protection of client information were followed for the IDB Project. States differed somewhat in their requirements, but each required: 1) submission of detailed descriptions of the project (purpose, planned studies, and time frame), 2) files and data elements needed, and 3) safeguards to be used for protecting the data.

The United States Department of Health and Human Services (HHS) has strict rules for protecting alcohol and drug treatment records (42 CFR Part II). Those provisions specify that records with identifying information can be disclosed only in limited, specified, and controlled circumstances. One of the allowed disclosures is for research purposes, under which data were obtained for the IDB project.

The HHS 42 CFR regulations are subject to reasonable interpretation by the States – so requirements for documentation and review can differ across the States. To comply with HHS 42 CFR and State requirements, agreements on data sharing and non-disclosure were signed with each State. Those agreements describe the procedures to be followed throughout the project to protect the confidentiality of the data. The most stringent requirements of any State were applied to the data for all States.

Personal identifiers and personally identifying information³ had to be obtained to link clients across organizations within a State and to construct the IDB. However, after linkage and verification, all personal identifiers were removed from the IDB and anonymous unique client identification numbers were assigned throughout the files of the data base to permit internal linkage of data files for analyses. No formula was retained in the data base to convert anonymous client identifiers back to original identifiers. With the Final Rule on Personally Identifying Information released by HHS December 2000 (under the Health Insurance Portability and Accountability Act of 1996), the IDB will be reviewed for consistency with that final rule, which requires compliance by April 2003.

In addition, the IDB is stored on a dedicated computer in a locked room at one of the contractor's facilities. Specified custodians of the data base are responsible for identifying authorized users, restricting access to the data and the locked room, managing password protection of the data, and destroying confidential results from data base processing or analyses. Any portable results of processing (printouts or electronic media containing confidential information) are kept in locked storage and are destroyed when no longer needed. All data files received under the project are tracked with respect to date of receipt, type of data, year of the file, supplier of the data, contact person, and final disposition.

³ Personal identifiers are data that identify individuals directly – such as name, address, telephone number, Social Security Number or another identification number. Personally identifying information can also be indirect pieces of information about a person – such as birth date, postal code, county of residence, diagnosis – which combined together allow the observer to identify the individual involved either through linkage with an outside data base or by personal knowledge of the circumstances of an individual. For instance, one person over the age of 100 may live in a county. With both pieces of information, age and county, it may be possible to identify the individual and learn confidential information about the person. In this circumstance, age and county would be considered personally identifying data.

Finally, in reporting results, analysts remove any statistics that are based on so few observations that indirect identification of a client might be possible. For example, in this study, only results based on 30 cases or more are reported.

Structure and Size of the Data Base

In each of the States, the data items collected by the State substance abuse, mental health, and Medicaid agencies differed substantially. Although a separate IDB was built for each State, the structure of each IDB is the same and records of the same type were made uniform.

The IDB for each State consists of 12 files – three client-level files, eight service-level files, and one person-summary file. Files are separated by type of organization that supplied the data (MH/SA agency, Medicaid) and by type of service (inpatient, outpatient, etc.). The files can be linked at the service-level and person-level with service-based and client-based indices, respectively.

The file structure is:

Client Files:

- **Core MH/SA Client File:** one record per user of any mental health, alcohol, or drug abuse service from a State MH/SA agency or Medicaid agency, containing basic demographics.
- **Detailed MH/SA Agency Client File:** one or more records per client of State MH/SA agency, containing client attributes and conditions at points during treatment.
- **Detailed Medicaid Enrollment File:** one record per time period that an individual is enrolled in Medicaid during the year (with multiple records possible per person), containing demographic and eligibility information.

Service Files:

- **All Services File:** one record per service for all services received from the State MH/SA authorities or Medicaid; each record links to a service detail record in one of the files below.
- **SA Service File:** one record per service from State substance abuse agencies, containing details on the service provided.
- **Outpatient MH Service File:** one record per outpatient service from State MH agencies, containing details on the service provided.
- **Institutional MH Service File:** one record per stay or per month in an institution (hospital, residential, or other institutional facility) covered by a State MH agency, containing details on the service provided.

- **Medicaid Inpatient File:** one record per stay in an inpatient hospital facility covered by Medicaid, containing diagnoses, and details of service provided.
 - **Medicaid Long-Term-Care File:** one record per month in a long-term-care facility covered by Medicaid, containing diagnoses, and details of service provided.
 - **Medicaid Prescription Drug File:** one record per prescription filled and covered by Medicaid.
 - **Medicaid Outpatient and Other Service File:** one record per event for any other service covered by Medicaid not mentioned above, containing diagnoses, types of service, dates of service. In addition to outpatient services, this file includes durable medical equipment, transportation, laboratory services, physician charges for inpatient treatment, etc.
- Summary File:**
- **Person Summary File:** one record per person in the IDB summarizing basic demographics, service utilization, and expenditures across all types of files.

Over 62 million observations were processed to develop the IDB. Each State submitted all records for users of State-sponsored MH/SA care, whether through a mental health agency or a substance abuse treatment agency. In addition, each State submitted records of users of Medicaid-sponsored services (medical and behavioral health) as well as the enrollment records for the total population of persons covered by Medicaid (whether or not they used any type of service during the year). The table below lists the counts of records by State for major types of file contributed to the IDB Project.

Table 1.3: Number of Records Received, by State

Incoming Files	Number of Records Received from:			
	Delaware	Oklahoma	Washington	Three States
State MH/SA agency records	954,554	2,500,721	3,357,092	6,812,367
Medicaid claim/encounter records	3,625,018	13,734,015	26,718,568	44,077,601
Medicaid enrollment records	1,088,473	3,947,390	6,586,762	11,622,625
Total records	5,668,045	20,182,126	36,662,422	62,512,593

Source: CSAT/CMHS IDB Project, 1996 data

Purpose of this Report

This report introduces the three-State integrated data base and describes the first analyses performed. The analyses focus on persons with a primary MH and/or SA disorder.

Although health care utilization and costs for comorbid conditions (such as trauma or HIV/AIDS) are contained on the data base from Medicaid data, these analyses examine only the direct costs of the diagnosis and treatment of MH/SA disorders, rather than any relationship between MH/SA and physical health disorders.

The analyses are conducted separately for clients with mental disorders only, for clients with SA disorders only, and for clients with both types of disorders. The analyses answer basic questions, illustrated here for MH-only clients:

1. How many people receive MH services from the State? Within a State, how many people receive these services from the State mental health agency only, from the State Medicaid program only, and from both?
2. Who receives MH services from the State MH agency and who from Medicaid? How do the youth and adult populations differ between the two organizations – demographically and clinically?
3. What types of services do MH clients receive from the State MH agency, from Medicaid, and from both? Are different types of services provided to youth and adults?

Organization of the Report

Following this overview of the integrated data base and the major differences among the States, Chapter 2 describes the methods used in this initial study of the integrated information on clients of State MH/SA agencies and Medicaid agencies.

Chapters 3, 4, and 5 in this report look separately at three types of client populations that receive MH/SA treatment through some State organization:

- Chapter 3 examines clients with mental disorders only,
- Chapter 4 studies those with substance abuse disorders only, and
- Chapter 5 reports on persons with both mental illness and alcohol and/or drug disorders.
- Chapter 6 summarizes and discusses the findings.

Chapter 2. Methods of Analysis for the Integrated Data Base (IDB)

Study Population

This analysis is based on a subset of persons in the Integrated Data Base (IDB) of State mental health or substance abuse (MH/SA) agency and Medicaid agency records. Both clinical conditions and age of the client define the subset. Four types of client records were excluded from the study. They are listed in the next Table in the order in which they were excluded.

Table 2.1: Number of Clients in the IDB and Excluded from the Study, by Reason for Exclusion and by State

Clients	Delaware	Oklahoma	Washington	Total
Number in IDB	27,594	137,704	215,111	380,409
Number excluded for:				
No primary MH/SA diagnosis or service*	8,881	12,217	57,118	78,216
Missing age	33	21	1,285	1,339
Age over 64	1,051	8,537	13,276	22,864
All reasons	9,965	20,775	71,679	102,419
Total in study	17,629	116,929	143,432	277,990

*In Appendix B, Table B.2 shows diagnoses included in the study.

While the IDB contains persons with a primary or secondary MH or SA disorder, this analysis includes only those who had a *primary* MH or SA diagnosis or who received any MH or SA service at some point during calendar year 1996. The percent of people in the IDB excluded from the study due to lack of primary diagnosis or evidence of clinical treatment was 21 percent (78,216 out of 380,409), which represented 32 percent in Delaware, 9 percent in Oklahoma, and 27 percent in Washington (calculated from Table 2.1).

The mental disorders are schizophrenia, major depression, psychoses, stress and adjustment disorders, childhood disorders, mood/anxiety disorders, and other mental disorders. The “other” group includes personality disorders, physiological malfunction arising from mental factors, and mental disorders due to organic brain damage. The SA conditions include alcohol psychoses, alcohol dependence, alcohol abuse, drug psychoses, drug dependence, and drug abuse. A detailed list of MH and SA disorders included in the study is in Table B.2 in Appendix B. These conditions clearly reflect MH or SA disorders; they exclude conditions that may or may not indicate a MH or SA disorder (for example, cirrhosis of the liver). When a State agency provided records without diagnoses, a service related to MH or SA treatment was used to identify MH/SA clients, and their specific “detailed” diagnosis was labeled “unknown.”

While the IDB contains all age groups treated by the State agencies, this analysis excludes clients over 64 years of age and those of unknown age. Persons aged 65 and over were excluded from the study because information about their Medicare coverage

was not included in the data base, resulting in a partial view of their publicly supported MH/SA service utilization and expenses. Less than 7 percent of each State’s IDB client population was excluded due to age over 64 (calculated from Table 2.1). Records for clients with missing age were excluded because they could not be used for an important classification in this analysis – youth and adult subgroups. Less than 1 percent of each State’s client population in the IDB was excluded due to an unknown age (calculated from Table 2.1).

For the analysis, the study population was split into two age groups: youth (aged 0-18 for Delaware and 0-17 for Oklahoma and Washington) and adults (aged 19-64 for Delaware and 18-64 for Oklahoma and Washington), following the definitions used in each State.

Table 2.2 shows the total number of people in the IDB, the number excluded from this analysis, and the resulting size of the study population, by type of MH/SA condition. The data base for this study includes 277,990 MH/SA clients. About 6 percent of the study population is from Delaware, 42 percent is from Oklahoma and 52 percent from Washington. For all of these clients, information was available on over six million service records for MH and/or SA treatment.

Table 2.2: Number of People in the IDB and Selected for Study (with Primary MH/SA Disorders or Any MH/SA Service and Age less than 65) by State and by Diagnosis

State	Number in IDB	Number Excluded from Study	Number in Study Population	Study Population by Disorder*			
				Mental Illness		Substance Abuse	
				Percent	Number	Percent	Number
Delaware	27,594	9,965	17,629	68%	12,020	38%	6,749
Oklahoma	137,704	20,775	116,929	83%	96,497	27%	31,306
Washington	215,111	71,679	143,432	77%	110,264	30%	43,130
Total	380,409	102,419	277,990	79%	218,781	29%	81,185

Source: CSAT/CMHS IDB Project, 1996 data. *Persons with MH and SA disorders are counted in each diagnosis cell so the total of these two columns is greater than the total study population; the percent is relative to the States’ study population.

Classifying Types of Clients

Based on diagnoses and services, clients were classified into those with a mental disorder only (“MH only” clients), those with a substance abuse disorder only (“SA only” clients), or those with both mental disorders and substance abuse (“MH+SA” clients). A client was given a dual MH+SA classification, if the client had one or more of three combinations of diagnoses or services: 1) both a primary MH and a primary SA disorder, 2) a primary MH and a secondary SA disorder, or 3) a primary SA and a secondary MH disorder. Otherwise, the client was assigned to either “MH only” or “SA only” based on the client’s single assignment to a MH category or a SA category. Table 2.3 shows the number of clients assigned to a MH-only, SA-only, or MH+SA category based on

diagnoses. Clients missing diagnoses were assigned to these categories by a classification of the services received. A description of the classification process follows.

For the 277,990 clients treated under various agencies across the three States, 68 percent received mental health services only, 21 percent received substance abuse services only and 11 percent received services for both MH and SA (calculated from Tables 2.3 and 2.2). These are the client categories that are analyzed in Chapters 3, 4 and 5 respectively.

Table 2.3: Number and Percent of Study Population Assigned to MH or SA Categories by Method of Classification – Diagnosis or Related Service

	MH Only			SA Only			MH+SA		
	Number	Percent based on:		Number	Percent Based on:		Number	Percent Based on:	
		Dx	Service		Dx*	Service		Dx**	Service
Delaware	10,254	96%	4%	5,426	19%	81%	1,949	96%	4%
Oklahoma	79,620	64%	36%	20,037	12%	88%	17,272	88%	12%
Washington	98,325	49%	51%	32,887	58%	43%	12,220	90%	10%
Total	188,199			58,350			31,441		

Source: CSAT/CMHS IDB Project, 1996 data. *Does not include diagnoses determined by use of an indicator for agency admitting category of alcohol or drug of choice, which was used after the study population was drawn. **Counted as “diagnosis-based” if either the MH or SA classification was based on diagnosis.

Developing Service Categories

In building the IDB, each service record was assigned to one of about 50 detailed service categories (for example, inpatient, outpatient, medication monitoring, MH therapy, durable medical equipment, or transportation). This assignment was based on: source of record, type of service provided, provider type, revenue code and a few other data elements. See Appendix B for detail on service categories used.

For this analysis, detailed service categories were aggregated by setting of care: inpatient general hospital, inpatient psychiatric hospital, residential care, long-term care, and outpatient and other services. These were still further designated as MH, SA, or medical service (i.e., not a MH or SA service). Clients with no diagnoses were assigned to the MH-only, SA-only, or MH+SA group based on categorization of services.

Finally, type-of-agency indicators were assigned to each client based on whether State MH/SA agencies or Medicaid agencies or both provided MH or SA services to the client. The agency indicator was based on whether MH or SA services came from a particular division within a State. This study focuses primarily on type-of-agency and general-categories-of-care aggregations and comparisons.

Overlapping Clients and Services

One of the unique features of the IDB is the ability to make observations about clients and services in more than one State MH, SA or Medicaid agency. This feature requires that duplicate entries be detected for certain analyses. One client service may be reported by more than one source - State MH agency, SA agency, or Medicaid. For example, the same client, service, provider, and date could appear in the data base of each source; this

can occur, when Medicaid pays the bill and the State MH/SA agency manages the care. If utilization was simply added together from the two sources, the total number of inpatient or residential stays for a client would be overstated. Thus, for this study, when inpatient utilization rates across Medicaid and State Agency records were calculated, the reported days of service were counted from one source only. (Note: duplicate records from different administrative sources are retained in the data base for other purposes.)

The reconciliation of duplicate inpatient records was based on matching services provided to the same patient on the same or overlapping dates. When the client, the type of provider, the service, and dates of service were the same in the MH/SA agency and Medicaid data bases, then only one source of the inpatient service was counted. As noted in Chapter 1, because the MH/SA agency records and the Medicaid records are organized separately in the data base and because multiple records were identified for the same service, the number of services can be counted in an unduplicated fashion across multiple sources.

The analyses that follow are based on linked data bases and unduplicated counts of clients and inpatient services. The analyses of residential and outpatient services were designed to avoid the need for unduplicated services. For example, residential services are counted in terms of the number of clients (unduplicated) who have any residential stay(s) during the year.

Other Statistical Matters

The following decision rules were used in conducting these analyses:

- Minimum cell sizes of 30 cases in denominators were set for reporting rates.
- In addition, at least 30 percent of records must have diagnosis to be reported in the analyses of types of mental or substance abuse disorders.
- Regardless of cell size, at least 10 percent of other values must be present for estimates to be reported.
- Statistical tests were not used because the study is based on a census of information in each State and, thus, sampling does not affect the results.

Additional details regarding these issues can be found in Appendix B.

Limitations

Limitations of this work relate primarily to the differences in the underlying data structure and content across State MH agencies, SA agencies, and Medicaid. The limitations include:

- **Missing Diagnoses.** While diagnoses from Medicaid claims were generally available for analysis, diagnoses on State MH or SA agency data were often not available for a portion of clients and sometimes not available for an entire organization. When that

organization treated one type of client (MH or SA), all clients under that organization without a diagnosis were assigned to the appropriate general category of MH or SA. After including this and other diagnosis-related information and looking at the clients treated under the State MH or SA agency only, the percent of such clients missing diagnoses was 11 percent in Delaware, 59 percent in Oklahoma, and 70 percent in Washington (Table B.4 in Appendix B). However, for other State-entity comparisons (that is, for clients under Medicaid and joint auspices), less than 18 percent of client records were missing diagnosis-related data. The rule that 30 percent of records must have diagnosis-related information for results to be reported limits analyses by diagnosis for some subgroups for Oklahoma and Washington. Furthermore, the use of indicators rather than a clinically determined diagnosis means that bias can occur across States and State organizations due to classification differences. Thus, conclusions about diagnostic mix of clients should be viewed as tentative because of these data problems. Overall, 38 percent of clients had missing diagnoses.

- **Clinical Severity.** Even when diagnoses were available, little additional information on the clinical status of the client was available. Thus, some variations in measures analyzed across States, organizations, and client subgroups may be explained by unknown clinical severity.
- **Classification of Services.** Differences in definitions of services across the States, including under the Medicaid program, make assignment of two service categories – residential and inpatient services – problematic across the States. Because of differences in labeling and classification of residential treatment, counts of residential stays are not comparable across the States. Furthermore, because Oklahoma and Washington count residential stays as inpatient stays, the hospitalization rates also are potentially affected. However, this does not invalidate comparison of these rates across organizations within the States.

Another service classification issue relates to delivery of MH and SA services in State SA or MH agencies, respectively. State SA agencies may deliver mental health services, and State MH agencies may deliver substance abuse treatment services. However without an explicit diagnosis or other indicator of service, those instances cannot be distinguished or separated from the type of agency treating them. Recall this study assigns clients to the MH or SA categories partially on the basis of where they received their services.

- **Medicaid Eligibility.** Clients' Medicaid eligibility status can and does change over time. As a result, people are enrolled and unenrolled over the course of a calendar year. This study includes Medicaid clients who receive services according to the State-specific Medicaid claims data bases. Across all three States, 66 to 70 percent (depending on the State) of the Medicaid clients in the study population were enrolled in Medicaid for the entire calendar year (see Table B.6 in Appendix B). Between 24 and 26 percent of Medicaid clients were enrolled continuously for periods ranging between 2 and 11 months. Only between 5 and 8 percent of Medicaid clients were not continuously enrolled during the calendar year. These latter clients were enrolled for multiple, non-consecutive months (e.g., April and June). Less than full-year

enrollment in Medicaid will affect counts of services for Medicaid compared to State MH/SA agencies, although receipt of services from the latter agencies also varies in the length of time for MH/SA clients. Despite these issues, the pattern of Medicaid enrollment was similar across the three States, which means that Medicaid enrollment patterns should have little effect on the differences in service utilization across the States.

Initially, this study included analyses of expenditures for MH/SA services. However, in the process of analysis, it became clear that complex patterns of missing data, varying definitions of services, and differences in the underlying MH/SA infrastructures in the States could not be resolved within the timeframe of this report. Additional study of underlying data issues and differences in the structure, financing, and delivery of MH and SA services among the three States are planned in the future.

Additional detail about methods used in analyses in this report is available in Appendix B and on the SAMHSA/CSAT Web site at <http://www.samhsa.gov/centers/csat/csat.html>.

Chapter 3. Clients with Mental Disorders Only

The Integrated Data Base (IDB) enables analyses of three distinct groups of clients who receive State-administered MH and SA treatment services. The three distinct groups are clients with – mental illnesses, substance abuse disorders, and both MH+SA disorders. Because the treatment systems – the networks of provider, sources of financial support, and settings of care – often differ by disease (Coffey et al., 2000), it is instructive to examine the care of these populations separately. In this chapter, State clients with *mental disorders only* are explored.

Like other disorders, some people with mental disorders who do not have the personal resources to receive treatment privately (through private health insurance or personal financing) usually can rely on the State for evaluation and treatment of mental illness. States have had important roles in treatment of mental illness since the days of poor houses and the growth of State mental hospitals, which flourished until the 1970s. The treatment of mental disorders since that time has moved to the community.

State support for mental health (MH) services is usually provided through two major organizations – Medicaid and State MH agencies. Changing circumstances of clients can alter their eligibility for Medicaid and its benefits. Individuals can exhaust Medicaid benefits or require services not covered by Medicaid in their State. When these things happen, MH agencies usually provide a safety net for those who need treatments for mental disorders. These State MH agencies also care for people who have limited financial means but are not eligible for Medicaid.

To understand how States organize care for people with mental disorders, this chapter examines the characteristics of clients who receive mental health services from:

- State mental health agencies only (MH Agency Only),
- Medicaid agencies only (Medicaid Only), and
- Both types of organization (Both Auspices).

The IDB permits examination of MH services under all of these State auspices.

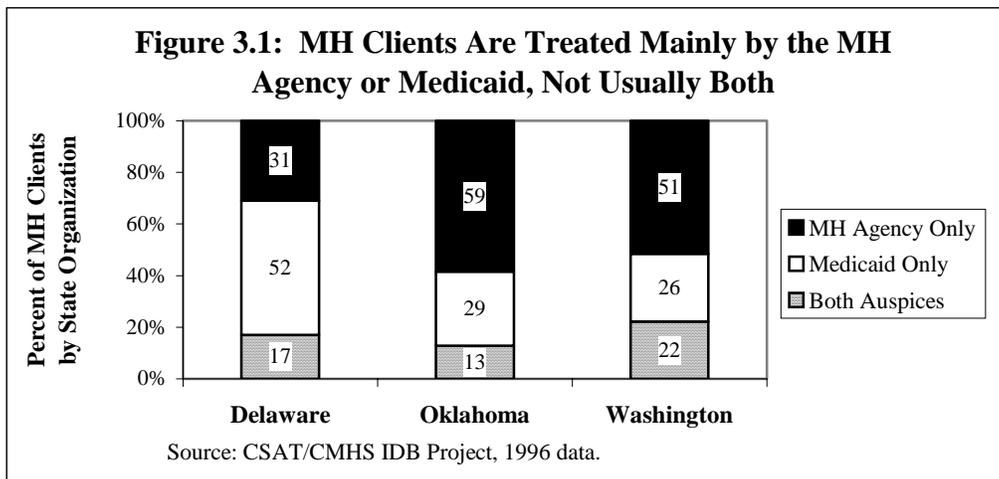
A Note of Warning about State Comparison: Chapter 1 discussed the multiple dimensions along which States differ in their organization, financing, and delivery of MH/SA services and the difficulty that poses for identifying the causes for different estimates across States. Therefore, interpretations focus on differences within the States and on general patterns that appear for all States.

Both State MH Agencies and Medicaid Provide MH Services

The proportion of MH clients served by different State agencies varies across the States. Of the three States in this study – Delaware, Oklahoma, and Washington – State MH agencies were the dominant support of MH clients in two – Oklahoma and Washington

(Figure 3.1). However, Delaware Medicaid apparently played a larger role in providing MH services than the MH/SA agencies. In Oklahoma and Washington, State MH agencies alone provided MH services to 51 and 59 percent of MH clients, respectively. In Delaware, Medicaid alone provided treatment to 52 percent of MH clients. Persons with mental illness served by both Medicaid and the State MH agency represented under one-quarter of State MH clients across the three States, ranging from 13 percent in Oklahoma to 22 percent in Washington State.

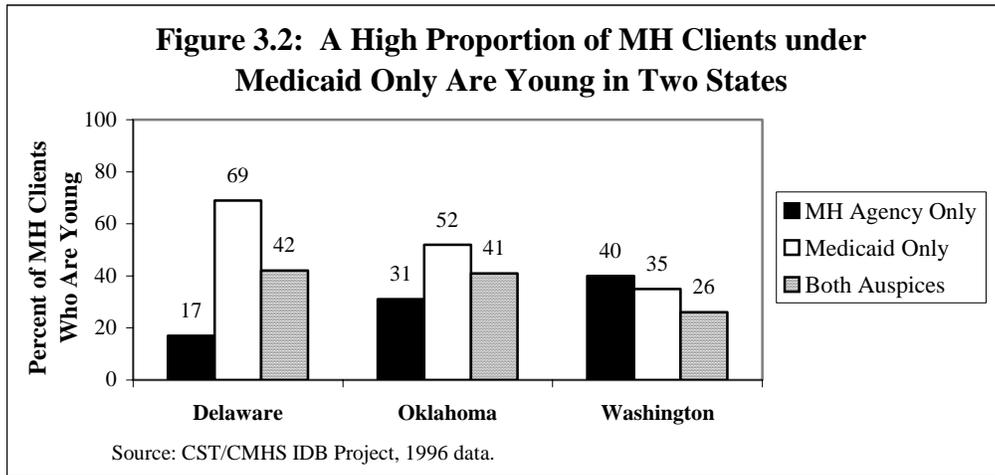
The availability of diagnoses across sources most likely influences these estimates. While fee-for-service Medicaid claim submissions must have diagnoses, Medicaid managed care claims submitted for monthly payments for clients generally do not. Delaware does ask providers submitting monthly bills for youth clients to include their diagnoses, and virtually all Delaware MH youth records had diagnoses. This difference in availability of diagnosis on client records may explain, at least partly, the higher proportion of MH clients treated under Medicaid in Delaware. Conversely in Washington, the majority of Medicaid MH clients received outpatient care through Regional Support Networks, which are county-level health authorities that purchase and manage MH services and function as prepaid health plans. Those clients could not be identified in the Medicaid data base but could be identified in the State MH agency data base. However, the State MH agency does not collect diagnoses on outpatient records for those clients. This difference in availability of diagnosis on client records may be related to the lower rate of MH clients treated under Medicaid in Washington.



Medicaid Supports a Younger MH Clientele

While the proportions of youth in the three States’ populations are almost identical (25 to 28 percent among the States are under 18 years of age, based on 1995 projections of the 1990 Census, not shown), the proportions of youth served under different organizations within the States are not. In Delaware, almost 70 percent of the Medicaid population receiving MH benefits through Medicaid only is under age 19 (the Delaware cut-off for the youth population) (Figure 3.2). In Oklahoma over half (52 percent) is under age 18. In Washington, those over 18 years of age – the adults – dominate the MH clients served

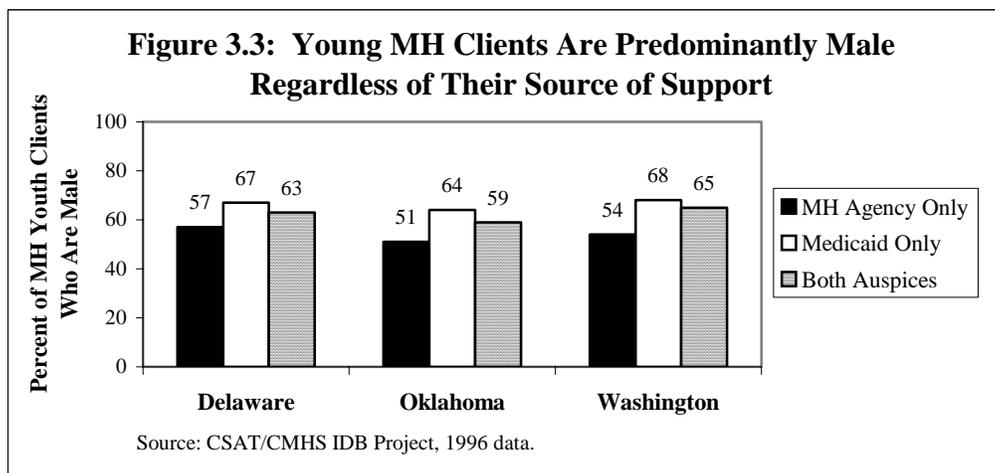
by Medicaid only. The percent of Medicaid-only MH-only clients who are adults in Washington is 65 percent (100 minus 35 percent youth).

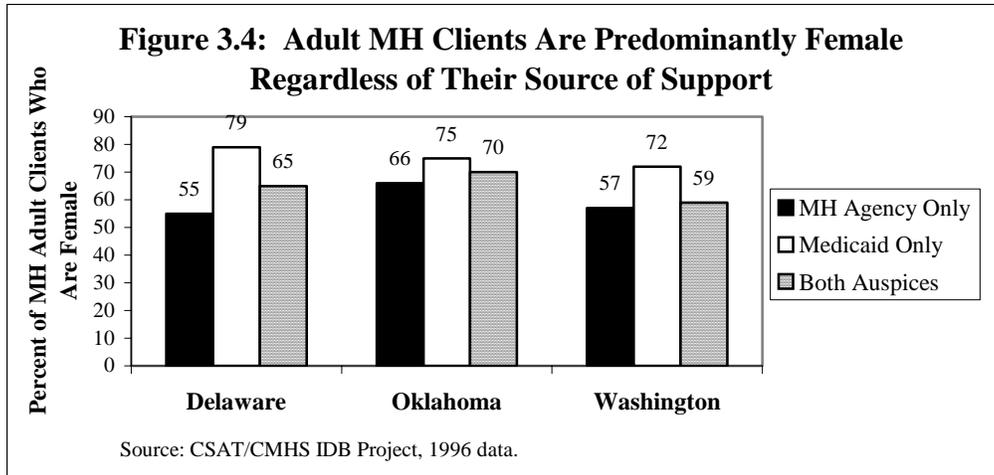


In contrast, patients treated only under State MH agency budgets in two States are less likely to be young – only 17 percent in Delaware and 31 percent in Oklahoma (Figure 3.2). In Washington, 40 percent of clients under the State MH agency are young. Thus, 60 to 80 percent of the State MH only populations across the States are adults. The larger adult populations exist across all types of organizations in Oklahoma and Washington, but not in Delaware, where Medicaid recipients of MH services are predominately young.

Young Males and Adult Females Comprise the Majority of State MH Clients

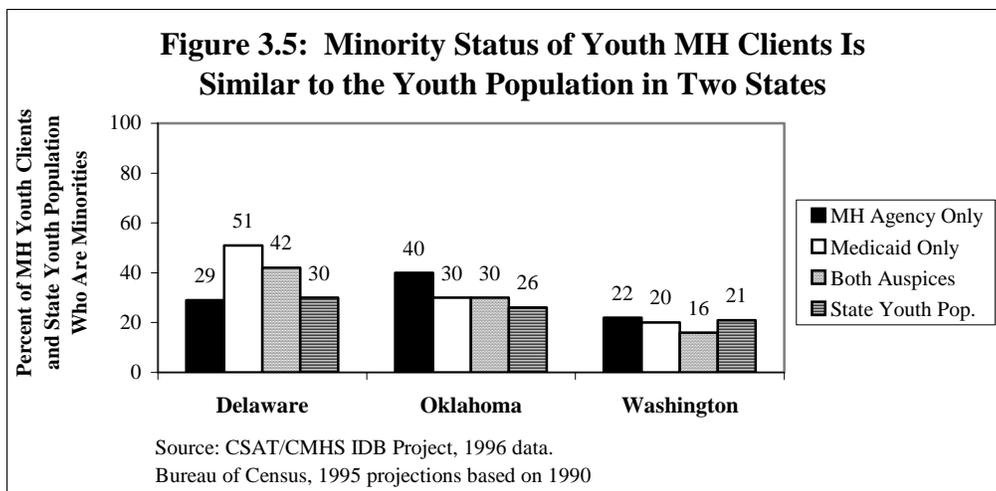
Across all ages, State MH clients are slightly more likely to be female – between 47 and 65 percent, depending on the State and State organization (not shown). However, the gender distributions differ markedly between youth and adult populations. While youth receiving MH services are more likely to be male (51 to 68 percent in Figure 3.3), adults receiving MH services across all agencies are predominantly female (55 to 79 percent in Figure 3.4).

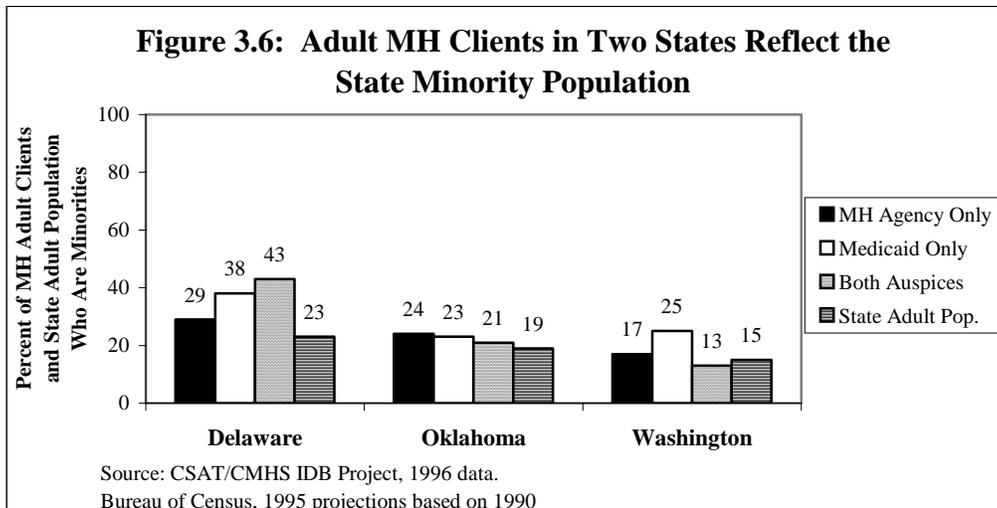




Minorities in State MH Populations Generally Are in Proportion to the State Populations

Generally, the State MH populations include proportions of minority racial and ethnic clients (that is, other than non-Hispanic whites) that are similar to the proportion of minorities in the resident populations of the States (based on 1995 projections of the 1990 Census). One exception is Delaware. While 30 percent of Delaware’s youth population is from minority groups, 51 percent of youth treated under Medicaid and 42 percent treated under both Medicaid and the State MH agency are minority. For Oklahoma, a 26-percent minority youth population is more comparable to a 30-to-40-percent minority youth MH population, depending on the State organization. In Washington, the minority youth and the MH minority youth proportions are more similar – 21 percent Statewide versus 16 to 22 percent among the State organizations (Figure 3.5).





Likewise for adults, the percent of minorities among the MH clients of State organizations is comparable generally to the percent of minorities among the State adult population. Again, Delaware has a higher proportion of minorities among the State adult MH clients than among State adult residents (Figure 3.6).

Youth and Adult Mental Health Clients Have Different Mental Disorders

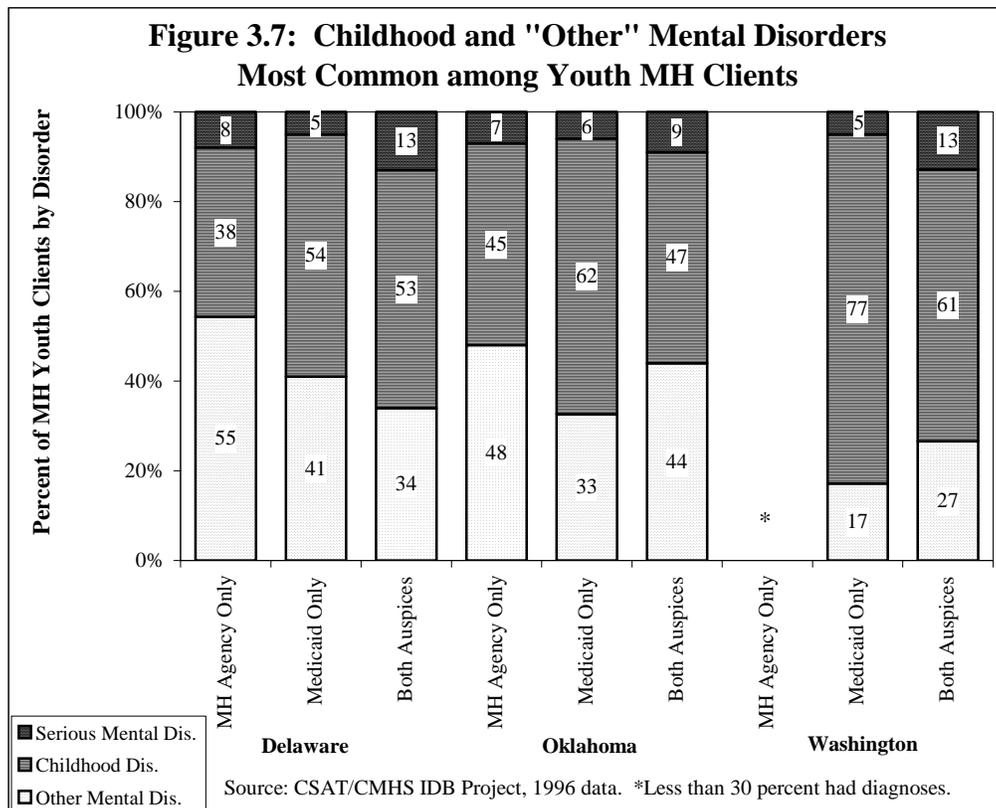
A Note About Diagnostic Detail: The availability of diagnosis-related information varies across organizations' data systems and across the States (see Table B.3 in Appendix B). A high proportion of records without diagnoses in the Washington MH agency excludes that organization from comparisons on diagnosis. The criterion for this descriptive study is that diagnostic statistics are reported only when 30 percent or more of records contain the item of interest (that is, no more than 70 percent of records are missing the item of interest). In addition in Oklahoma, 66 percent of youth MH records and 59 percent of adult MH records from the State MH agency had no diagnoses, and this weakens conclusions about the diagnostic makeup of their clients. Nevertheless, most State subgroups (that is, 14 of 18 State-organization-age subgroups for MH-only clients, as shown in Appendix B, Table B.4) had a low rate of missing diagnosis-related information: 12 of the 14 had 2 percent or fewer clients with missing diagnoses and 2 of the 14 had 12 percent or fewer with missing diagnoses. This means that, other than for Washington and Oklahoma MH agencies, the diagnostic comparisons are based on solid evidence.

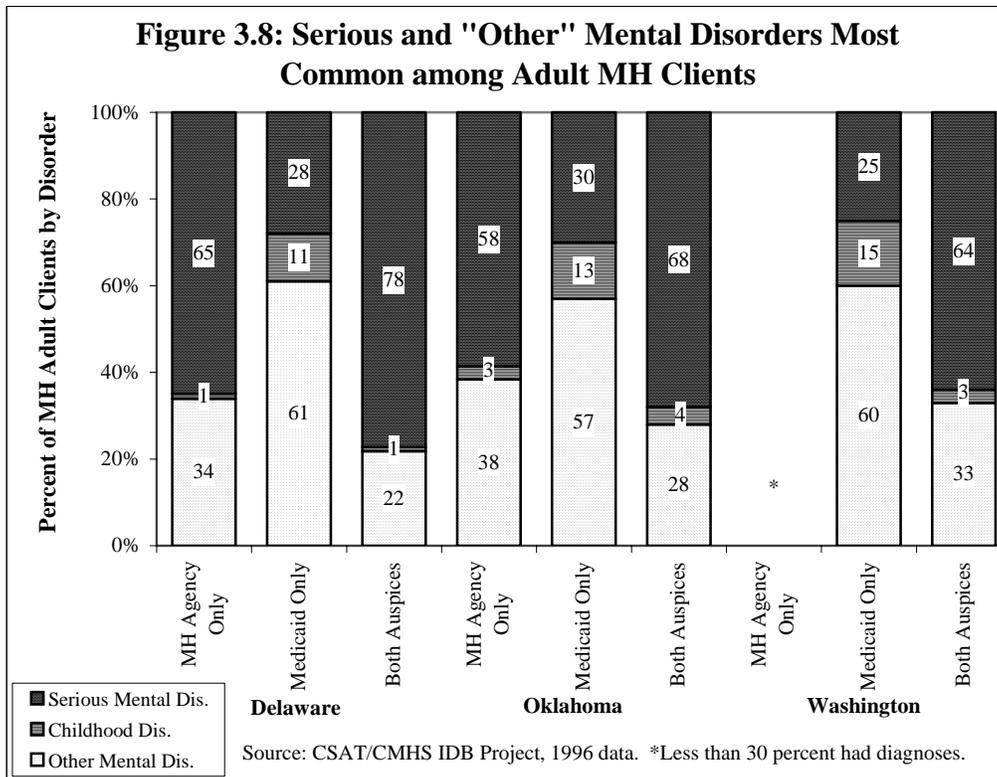
For the following youth and adult analyses, the seven diagnosis groups in the study (Table B.2) were collapsed to three groups. *Serious mental disorders* included schizophrenia, major depression, and psychoses. *Childhood disorders* included attention deficit/hyperactivity disorder and other childhood disorders. *Other mental disorders* included stress/adjustment, mood/anxiety, personality, and sexual disorders, as well as physiologic malfunctioning related to mental factors and organic brain damage.

As expected, young MH patients are more likely to be diagnosed with childhood disorders than are adult patients who receive State-supported services. Between 38 and

77 percent of youth clients treated under any type of State organization had childhood diagnoses, and between 17 and 55 percent of youth MH clients had “other mental disorders” (stress/adjustment disorders, mood/anxiety disorders, or other mental disorders listed above) (Figure 3.7). Only 5 to 13 percent of youth had serious mental disorders: schizophrenia, major depression, or psychoses. The distribution of youth with these serious mental disorders was less for Medicaid only clients than for clients supported under other auspices in each State. Otherwise, the magnitude and variance of serious mental illness across the three States was similar. The underlying epidemiology of age at onset of serious mental illness may be influencing those distributions, along with referral of clients with serious disorders to the State MH agency (either as the sole source of treatment or jointly with Medicaid support). However, the other two categories (childhood and other disorders) vary without a consistent pattern across State entities, which may reflect variability in diagnosis and coding of mental disease or organization-specific referrals.

Adult MH clients are more likely than youth to have serious mental disorders such as schizophrenia, major depression, and psychoses. Between 25 and 78 percent of adult clients were diagnosed with these conditions (Figure 3.8). A small proportion of adults is treated for childhood disorders, such as attention deficit/hyperactivity disorders. Other mental disorders such as mood/anxiety disorders, stress/adjustment disorders, and others are common as primary diagnoses for adults; between 22 and 61 percent of adult MH clients have these disorders.





Consistent diagnostic patterns occur by organization across the States. Adult MH clients treated under Medicaid alone (outside of State MH agencies) are less likely to be diagnosed with the serious mental illnesses of schizophrenia, major depression, and psychoses. That proportion for Medicaid-only clients (between 25 and 30 percent) is about half of the portion of State-MH-agency-only clients with serious mental illness (58 and 65 percent in the two States reported). At the same time, the percent of clients treated under both Medicaid and State MH agencies with serious mental illness is the highest – 78 percent in Delaware, 68 percent in Oklahoma, and 64 percent in Washington.

MH Services: A Large Proportion of MH Clients Receive Treatment in Outpatient Settings Only

To simplify the combinations of types of service examined for MH clients, this study classifies clients into those who receive only one type of service (outpatient-only, inpatient-only, or residential-only care) and those who receive multiple services (any combination of those services). While outpatient care only may be a reasonable treatment setting for many clients, inpatient only or residential only is less fitting for MH treatment today. Clients who are not severely ill can usually be treated effectively in outpatient settings without inpatient or residential admissions, while clients who are severely ill usually require a spectrum of services that may include inpatient, residential, and outpatient care. Clients with outpatient, inpatient, or residential treatment in combination with other services are reflected in the “multiple settings” group. Hospital and residential care in total during the year (that is alone or with any combination of other services) are examined in the next two sections.

In 1996, a high proportion of youth and adult MH clients received outpatient services only. This was especially apparent for those provided care under one organization only (the MH agency only or Medicaid only) in all three States (Figures 3.9 and 3.10). For all six State organizations (excluding the both-auspices category), 84 percent or more of the youth or adult MH clients received outpatient services only.

Multiple services (for example, at least two types of service such as outpatient and inpatient care) during the year were mostly provided to MH clients who were eligible for and received services under both Medicaid and the State MH agency. This indicates that clients cared for jointly by two State agencies were probably more seriously ill and more complicated to treat. Perhaps those who exhausted Medicaid benefits (which tend to cover acute care services) required more extended care from State MH agencies. Or, perhaps those clients treated under both auspices needed services not covered by Medicaid. The proportion of clients who received services from both agencies and who received multiple types of service ranged from 13 to 46 percent of youth MH clients and from 19 to 26 percent of adult MH clients across the States (Figures 3.9 and 3.10).

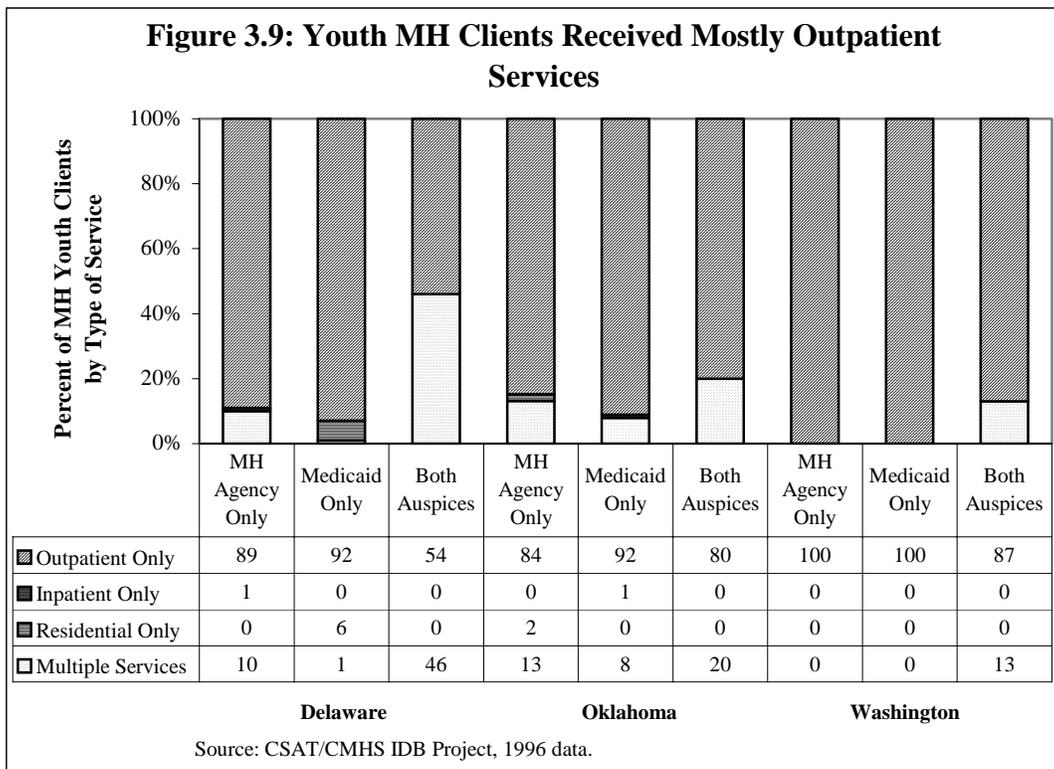
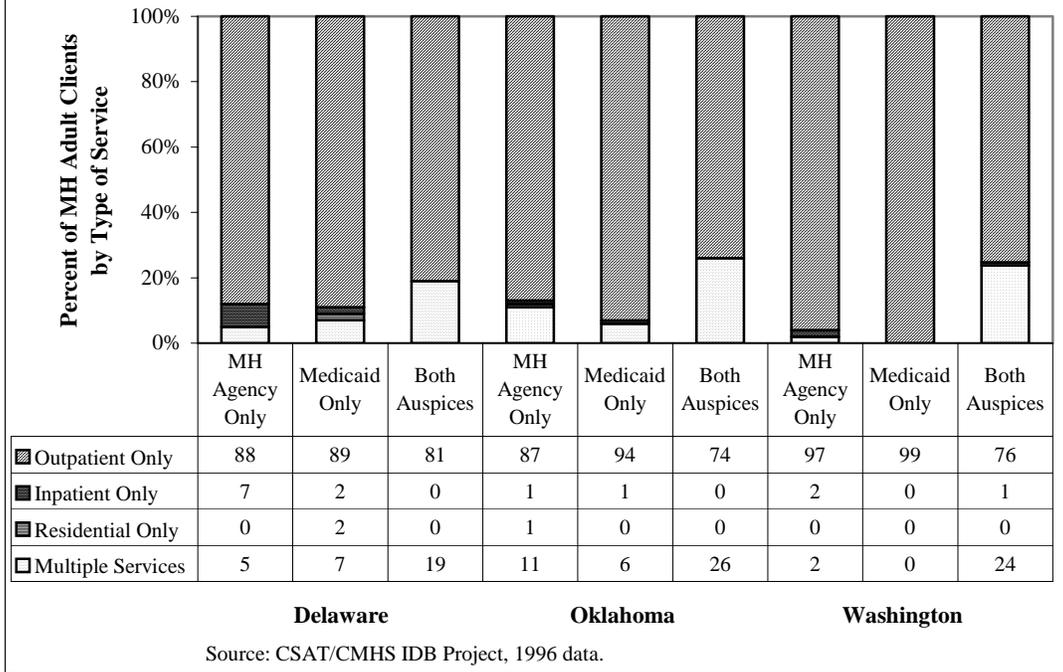


Figure 3.10: Adult MH Clients Received Outpatient Services Almost Exclusively



Consistent with the changing philosophy of treating mental illness in outpatient rather than inpatient settings, inpatient only treatment was rare in this population in 1996. For youth across all organizations and States, 1 percent or less of them received only inpatient care. For adults, only as much as 7 percent of them in a single State MH agency received only inpatient services; the other State organizations used inpatient only services for 2 percent or less of adult MH clients.

Few youth received care only in residential settings. In Delaware, 6 percent of clients treated under the Medicaid program received residential services only. In Oklahoma, 2 percent of State MH agency youth clients received such services. In Washington, no clients are shown receiving residential services only, because the State MH agency does not include residential treatment in their data base and because Medicaid includes all residential treatment as inpatient care. In Oklahoma, residential care under Medicaid also is counted as inpatient treatment. Under all other auspices, fewer than 0.5 percent of youth clients received solely residential care. For adult MH clients, 2 percent or fewer received treatment for a mental illness in a residential facility only.

The Number of Hospitalizations Varies Markedly by State Entity

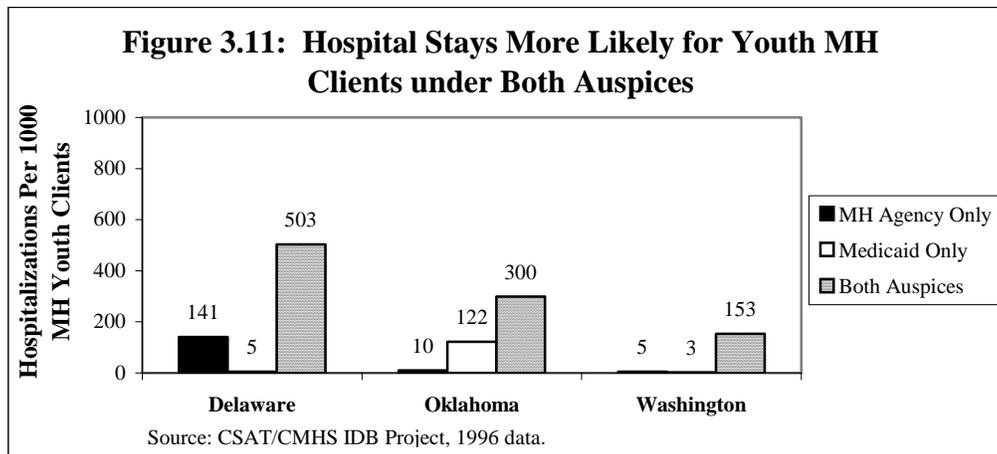
This section examines the rates of hospitalization – the number of hospital stays per 1000 MH clients – whether or not they received only hospital services or hospital services in combination with other MH services.

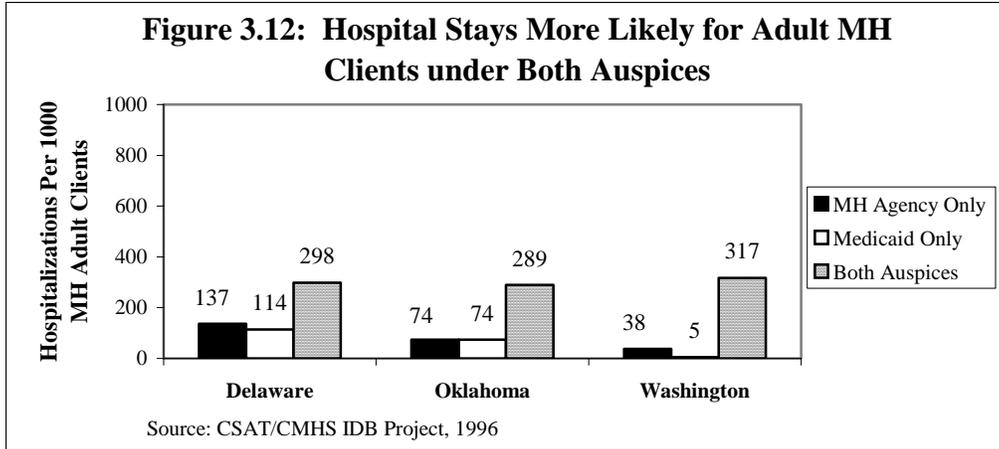
Hospitals are the most expensive setting for treatment of mental illness. For that reason and to promote the ability of clients to function in the community, many organizations

aim to minimize the number of hospital stays for MH clients. In addition, Medicaid does not permit the States to cover inpatient treatment for clients aged 22 to 64 in Institutions for Mental Diseases (IMDs) (explained in Chapter 1). This exclusion applies to psychiatric hospitals and to residential facilities of 16 beds or larger. This exclusion does not apply to youth under age 22 treated in IMDs.

The data displayed in Figures 3.11 and 3.12 show that clients who are treated under both the State MH agency and Medicaid are much more likely to have had a hospital stay than are clients receiving services from a single organization – Medicaid only or a State MH agency only. For youth, Delaware had 503 hospitalizations per 1000 MH clients treated under joint auspices, Oklahoma had 300, and Washington 153. (Recall that Oklahoma Medicaid and all Washington hospitalization rates include residential stays.) Averaged across the three States, State organizations, and age groups, the hospitalization rate for MH-only clients was 87 per 1000 clients (not shown).

The low rate of hospitalization for Medicaid-only MH youth clients in Delaware (5 per 1000) and Washington (3 per 1000) occurred in an environment where Federal Medicaid does not prohibit any State from covering such treatment and the EPDST program requires that treatment services be provided to children when medically necessary. All three States indicated that they cover psychiatric inpatient care for those under 22 years of age as an optional Medicaid service. These low hospitalization rates in Delaware and Washington might be related to their mature Medicaid managed care programs compared to Oklahoma, which started their Medicaid managed care program in 1996 in a few areas. The higher Oklahoma rate of hospitalization for Medicaid youth also may be related to the coverage of residential treatment as inpatient services, although this was true of Washington as well. Furthermore, in Washington, a few inpatient stays for MH youth clients may be missing – less than 100 children under the Children Long Term Inpatient Program (CLIP) – because Washington State did not collect those data in 1996.



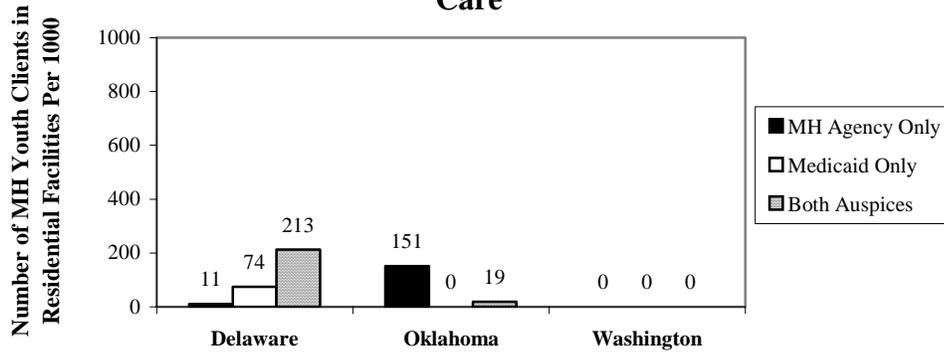


Use of Residential Facilities by MH Clients is Even Less Likely than Hospitalization

Because residential services were either accounted for as inpatient services or excluded under all three Washington organizations and counted as inpatient care under Oklahoma Medicaid in 1996, Figure 3.13 shows no residential services under those auspices. Otherwise in Oklahoma, 151 per 1000 youth, who were treated under the State MH agency only, received residential care, and only 19 per 1000 youth who were treated under both the MH agency and Medicaid received residential services. In Delaware, 213 per 1000 youth under both Medicaid and the State MH agency were admitted to residential care for treatment, while 74 per 1000 youth MH clients under Medicaid only received residential care. Only in Delaware does Medicaid report residential services for youth. The other two States may provide residential services under Medicaid in inpatient facilities.

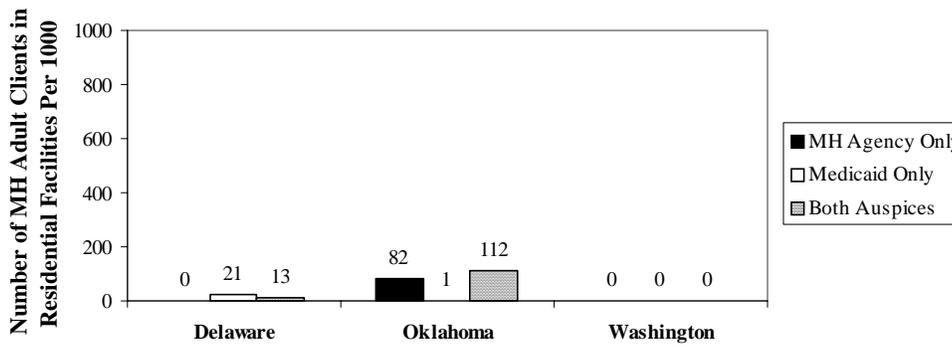
Residential treatment for adults has a somewhat different pattern. Again, Washington reported no residential treatment for adult MH clients outside of hospital settings in 1996 (Figure 3.14). Delaware almost never admitted adult MH clients to a residential facility. Such adults in Oklahoma were more likely to receive residential care. In 1996, 82 per 1000 Oklahoma adults treated under the State MH agency alone received residential care; 112 per 1000 treated under both the State MH agency and Medicaid received residential treatment. Almost no adult MH Medicaid-only clients were treated in residential settings. These results most likely reflect the IMD exclusion under Medicaid for adults 22 to 64 years of age (explained in Chapter 1).

Figure 3.13: Few Youth MH Clients Received Residential Care



Source: CSAT/CMHS IDB Project, 1996 data.

Figure 3.14: Few Adult MH Clients Received Residential Care



Source: CSAT/CMHS IDB Project, 1996 data.

Chapter 4. Clients with Substance Abuse Disorders Only

States play a crucial role in substance abuse treatment. State and local tax dollars and Federal block grants to the States for substance abuse prevention, diagnosis, and treatment form the financial backbone of substance abuse services in the United States (Coffey et al., 2001). In addition for people meeting specific eligibility criteria, Medicaid programs provide some acute care and emergency services for substance abuse. State SA agencies sometimes cover care for anyone with an emergency substance abuse disorder, regardless of their income.

To understand how States organize care for people with substance abuse disorders, this chapter examines characteristics of clients who receive services that are provided under the auspices of:

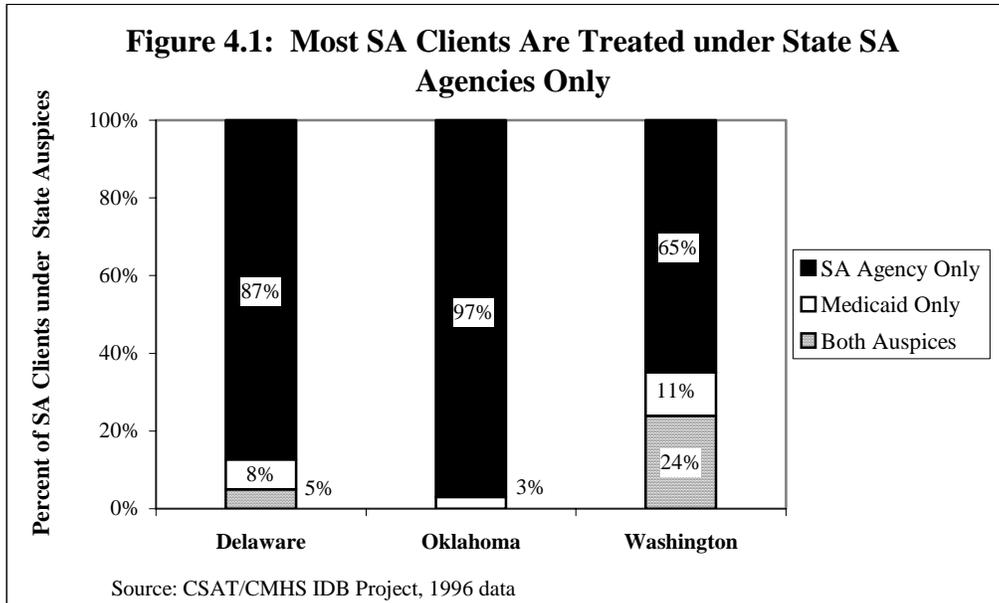
- State substance abuse agencies only (SA Agency Only),
- Medicaid agencies only (Medicaid Only), and
- Both (Both Auspices).

The Integrated Data Base (IDB) permits examination of SA services under all of these State auspices.

A Note of Warning about State Comparisons: Chapter 1 discussed the multiple dimensions along which States differ in their organization, financing, and delivery of MH/SA services and the difficulty that poses for identifying the reasons for differences in the estimates across States. Therefore, interpretations focus on differences within the States and on general patterns that appear for all States.

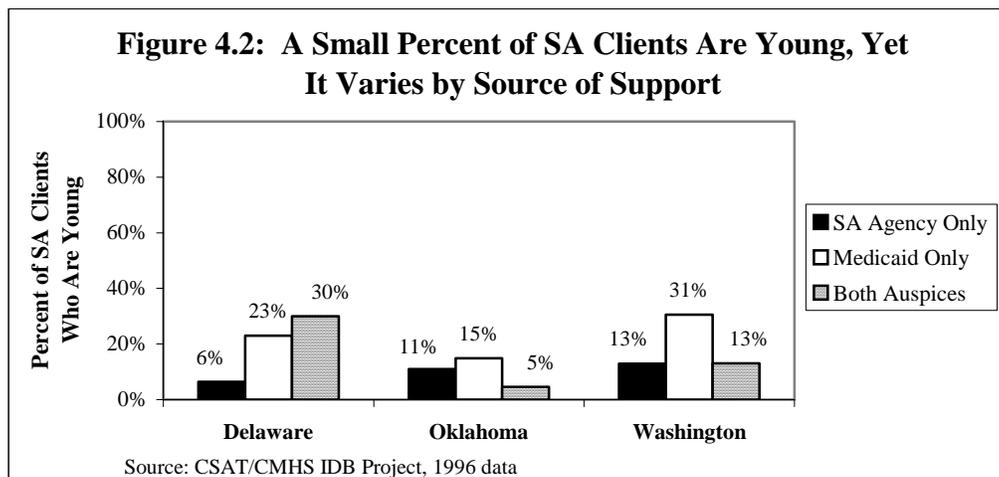
State Substance Abuse (SA) Agencies Care for Most SA Clients

State SA agencies were virtually the exclusive source of support for treatment of State SA clients in all three States. In Oklahoma, 97 percent of clients were treated only under the State SA agency, with 3 percent under Medicaid and no shared clients (Figure 4.1). In Delaware, 87 percent were treated only under the State SA agency, with 5 percent covered by multiple agencies (the State SA agencies and Medicaid). Only 8 percent of Delaware clients were treated for SA only under the Medicaid program. Medicaid played a more significant role in Washington, providing services for 11 percent of SA-only clients without assistance from the State SA agency and for 24 percent of clients jointly with the State SA agency. In Washington, the SA agency manages all Medicaid funds for SA treatment in addition to Federal block grant and other State funds for SA treatment.



SA Clients are Older, On Average, than MH Clients

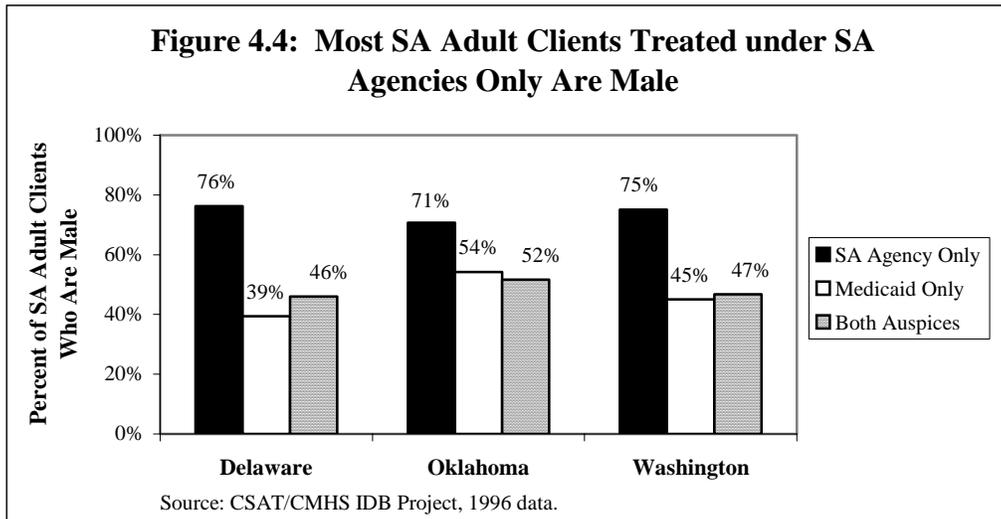
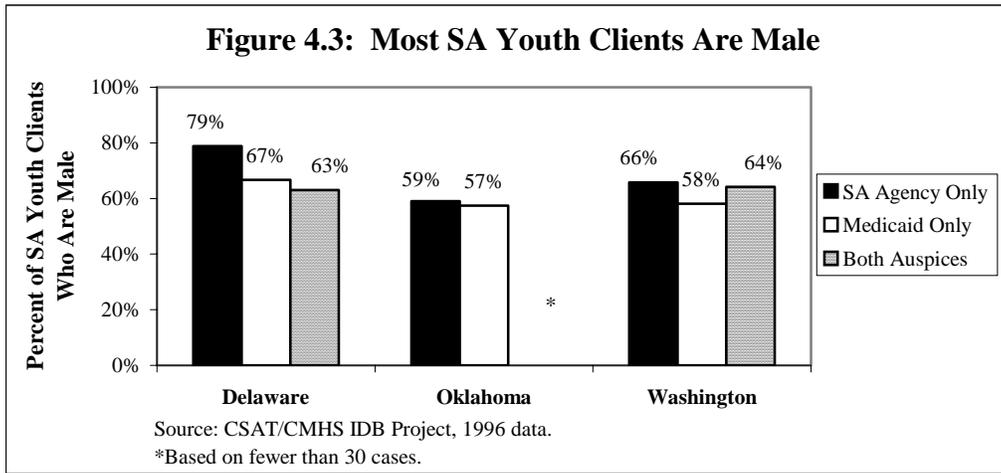
Only 6 to 13 percent of SA clients of State SA agencies, the major source of support for SA treatment in the three States, are youth (Figure 4.2). There is no consistent pattern of age differences across clients under different auspices – State SA agency only, Medicaid only, and both sources of support. The portion who are young among clients with SA-only disorders (5 to 31 percent, depending on the State organization) is lower than in Chapter 3 for clients with MH only disorders (17 to 69 percent (Figure 3.2)).



Males Dominate the State SA Youth Population

Nearly 60 percent or more of the young SA population treated under State auspices across all types of support is male (Figure 4.3). The proportion of males among youth treated under the State SA agency in Delaware is much higher, almost 80 percent. (Note: This statistic and others below for Oklahoma youth who received services under both the

State SA Agency and Medicaid are not reported because there are fewer than 30 such youth.)

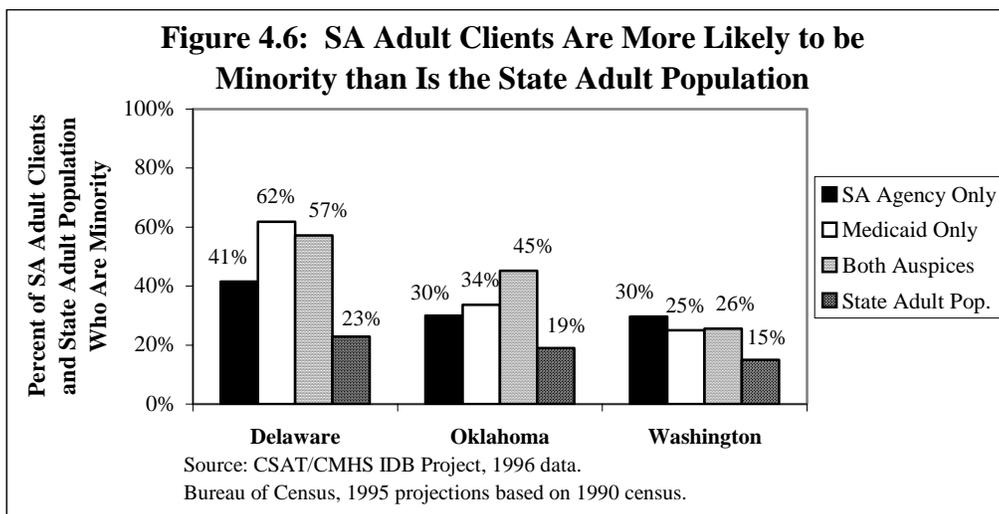
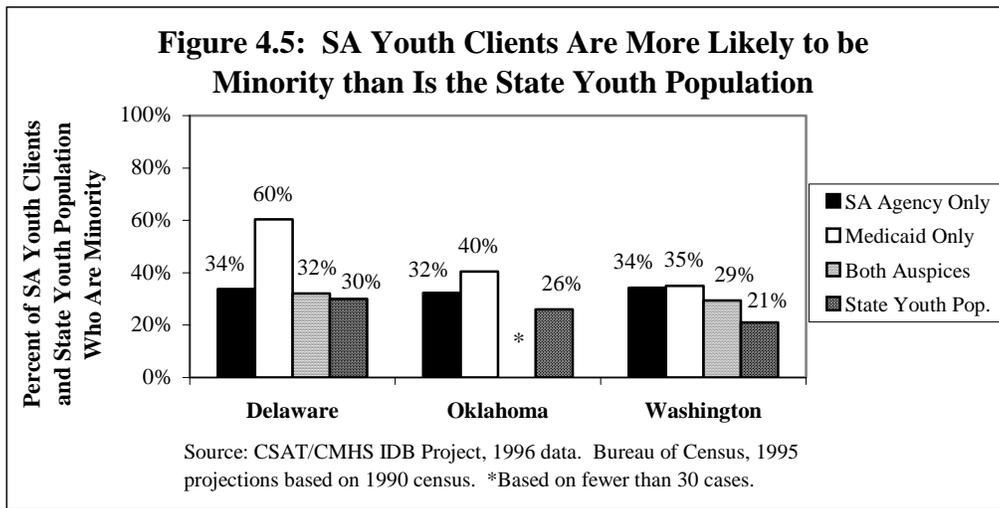


For the adult SA population, only the State SA agency has a high proportion of male clients – 71 to 76 percent (Figure 4.4). Among adults treated under the Medicaid program or under both the State SA agency and Medicaid, females frequently dominate – only 39 to 47 percent of the clientele in four of the six remaining groups are male. Medicaid typically serves a higher proportion of females, especially low-income pregnant and postpartum women.

Proportionately More Minorities Are Treated for SA than in the Total State Populations

Against the benchmark of the 1990 Census with projected 1995 State youth populations, a large proportion of youth treated for SA under State auspices is from minority groups (that is, from groups of other than non-Hispanic white race/ethnicity) (Figure 4.5). In Delaware, 30 percent of youth Statewide is minority, while 32 to 60 percent of the youth in State-supported SA treatment is minority, depending on the source of support. In

Oklahoma, 26 percent of the Statewide youth population is minority, compared to 32 to 40 percent of the youth being treated for SA under State auspices. In Washington, 21 percent of the State's youth is minority compared to 29 to 35 percent of State's SA youth clients. In addition to the fact that each of the SA minority proportions (ranging from 29 to 60 percent) exceeds the minority representation among the general population, they also exceed the minority representation among the population treated for mental illness (ranging from 16 to 51 percent, shown in Figure 3.5).



The percent of minorities among adult SA clients is also substantially greater than among the resident adult population of each State. In Delaware, the proportion of minorities among adults treated under the Medicaid program only (62 percent) is nearly three times the proportion of minorities among all adults in the State (23 percent). In the other two States, this relative proportion is less than two times (34 versus 19 percent for Oklahoma and 25 versus 15 percent for Washington) (Figure 4.6). These results are affected by the racial/ethnic differences between the Medicaid and resident populations of the States. The State SA agencies also had high representations of minorities among their clientele.

More Youth Treated for Drug Disorders and More Adults Treated for Alcohol Disorders

Statistics in this section on drug and alcohol disorders are based on primary diagnosis (when available) or primary drug use reported by the client (for those persons with no diagnosis but with a SA service). Statistics are not based on co-occurring alcohol and drug disorders. Thus, this chapter does not identify, as other studies do (OAS, 1999a and 1999b), people with SA disorders who have dual SA disorders of both alcohol and drugs, based on secondary diagnoses. The study can identify clients that are treated in separate encounters for one disorder (say, alcohol) and then in another encounter for the other disorder (say, drug). However, fewer than 0.5 percent of the clients in the analytic data base were in that situation - too few to analyze separately. Each of these clients was assigned to a single main condition of either alcohol or drug (based on an algorithm described in Appendix B). Thus, the emphasis here is on primary SA disorders.

Young SA clients treated under State auspices are more likely to be treated for primary disorders with drugs than with alcohol (Figure 4.7). In Delaware, between 77 and 93 percent of youth in treatment under State auspices had primary drug abuse disorders. In the other two States likewise, drug abuse or dependence was usually the dominant primary disorder, although primary alcohol disorders were more prevalent in those States than in Delaware. In Oklahoma, about 60 percent of youth in SA treatment under State auspices had primary drug abuse disorders, whether treated under Medicaid or the State SA Agency. (Oklahoma youth treated under both Medicaid and the SA Agency were too few to analyze.) In Washington, youth supported by Medicaid were more evenly divided between primary drug and primary alcohol disorders (48 and 52 percent, respectively). For Washington youth under the SA agency only or under both auspices, primary drug disorders were dominant (69 and 58 percent, respectively). Recall that here only primary drug or primary alcohol disorders are examined, although many SA clients use both drugs and alcohol (OAS, 1999a and 1999b).

Figure 4.7: Most SA Youth Clients Have A Primary Drug Disorder

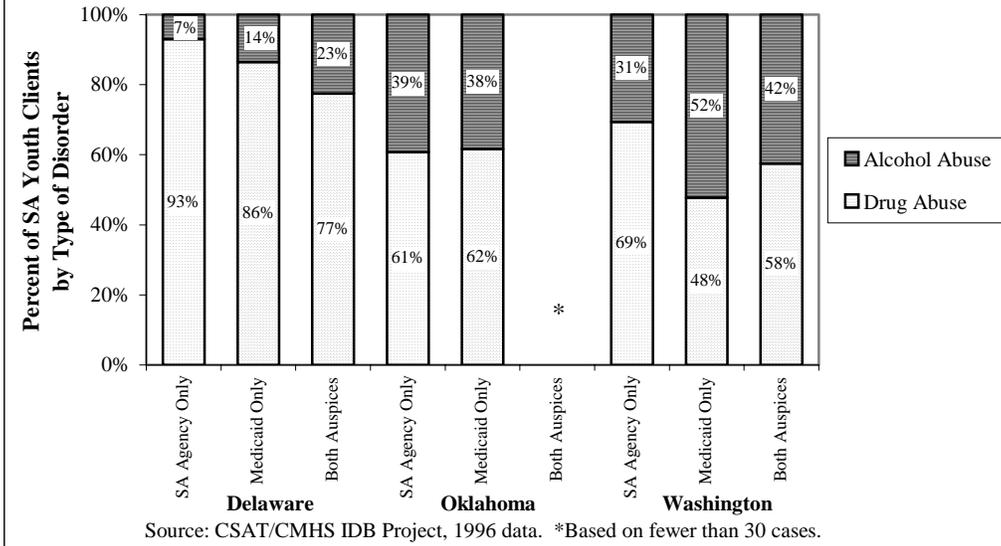
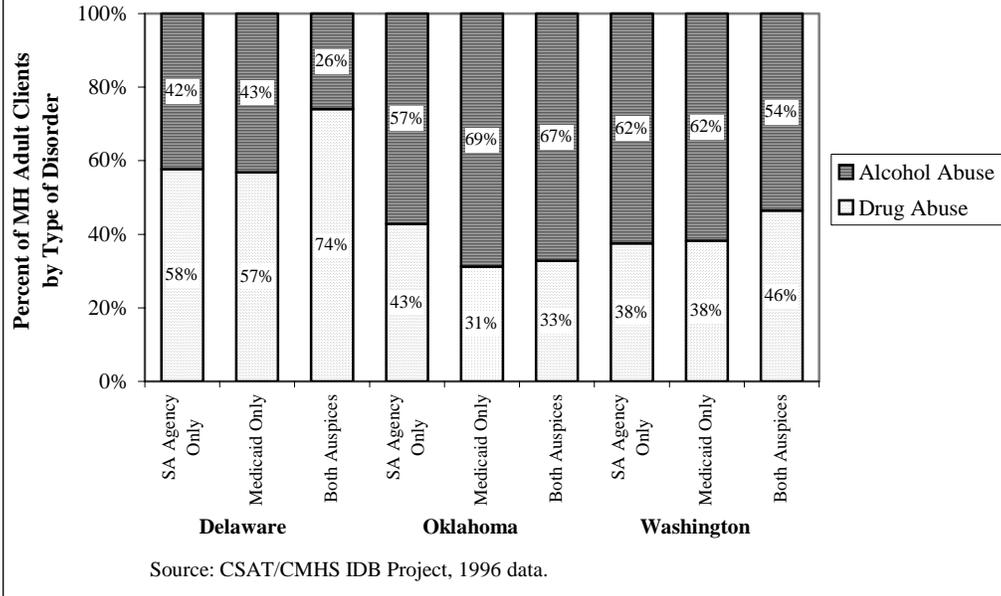


Figure 4.8: Most SA Adult Clients Have A Primary Alcohol Disorder

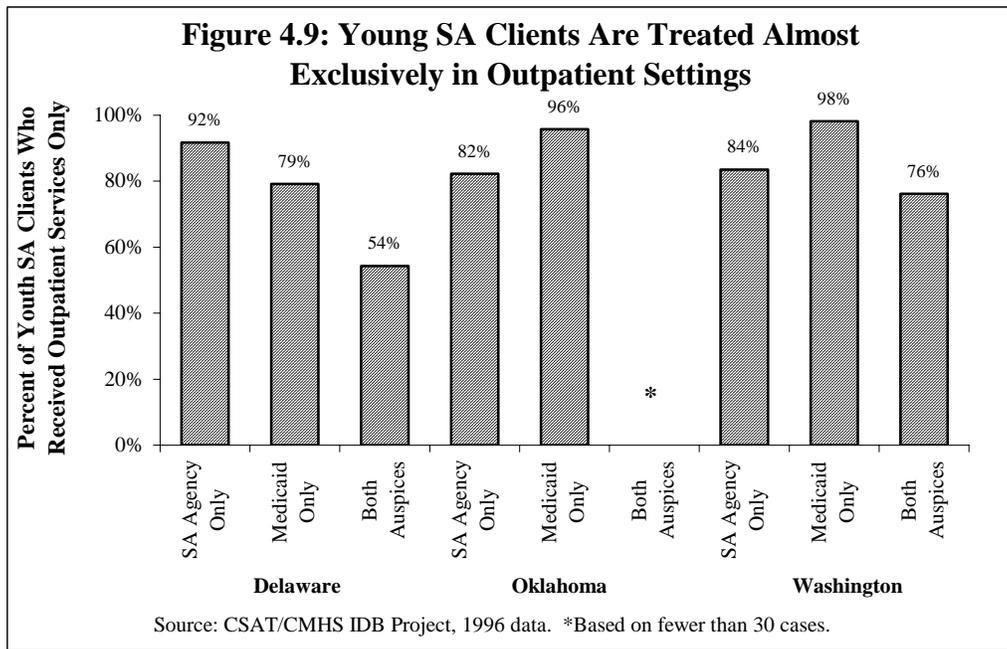


Adults with SA disorders are more likely to have a primary alcohol disorder than a primary drug disorder in two States – 54 percent or more of clients across the sources of support in Oklahoma and Washington (Figure 4.8) had primary alcohol disorders. However, in Delaware a larger proportion (57 to 74 percent) of the adult SA population had primary drug disorders.

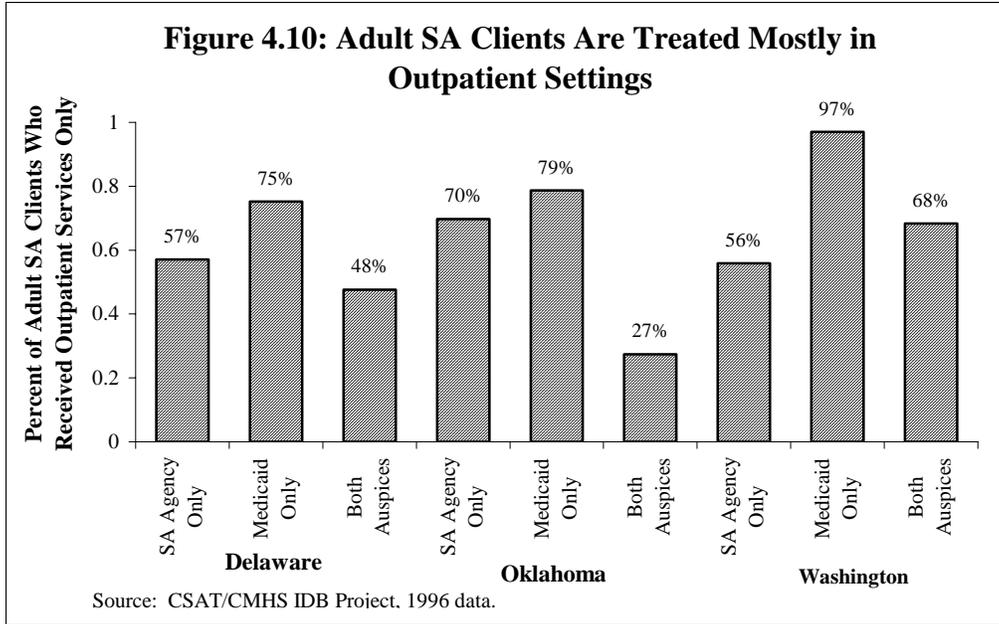
SA Services: Treatment of SA Clients Is Provided Mostly in Outpatient Settings Only

This section looks at SA clients who received services in only one setting (outpatient only, inpatient only, or residential only⁴) during the year, compared to those who received services in two or more settings, called “multiple settings” (for example, outpatient and inpatient treatment) during the year. This is a different view than the number of clients who received any service of a particular type (for example, outpatient treatment, whether or not they received inpatient treatment), which is examined in the next two sections.

In 1996, outpatient services only were the most likely locus of treatment for SA clients in Delaware, Oklahoma, and Washington, for both youth and adult clients (Figures 4.9 and 4.10). Under some auspices, 70 percent or more of clients received outpatient services only, and thus, received no services in inpatient or residential settings.



⁴ In Oklahoma, Medicaid covers residential treatment for youth SA clients and for pregnant women with children in inpatient facilities, but admission generally requires more than a SA diagnosis. For this reason, no residential treatment is found for Oklahoma Medicaid among the clients identified as SA only, from diagnosis-related information. Washington includes residential care in their inpatient services.



Multiple types of services (at least two during the year) were primarily provided to SA clients who were eligible for and received both Medicaid and State SA agency services (Tables 4.1 and 4.2 that follow). These clients may reflect people with more serious and complicated disorders who need a continuum of care across settings, such as acute care services under Medicaid and longer-term care under State agencies. Also in some States, clients with more serious disorders may exhaust Medicaid benefits, requiring care delivered by State SA agencies. The proportion of clients who received multiple services under these two auspices across the States ranged from 21 to 46 percent for youth and from 30 to 73 percent for adults.

Consistent with the changing philosophy of treating SA disorders in outpatient rather than inpatient settings, these data show that SA treatment is almost exclusively provided in outpatient settings. “Inpatient only” treatment was received by one percent or less of persons treated under the State SA agency or Medicaid, except for two situations -- “Medicaid only” adult clients in Delaware and Oklahoma, where 10 and 4 percent, respectively, received only inpatient treatment (Tables 4.1 and 4.2). The very low proportions of clients receiving inpatient only services may be a positive result; 1 or 2 percent of clients can receive inpatient only services simply because they become eligible for State support late in the year with an emergency admission to the hospital.

Government program restrictions undoubtedly affect the locus of care. Substance Abuse Prevention and Treatment (SAPT) block grants, which are managed by State SA agencies, cannot be used for inpatient treatment. At the same time, Medicaid prohibits SA treatment in Institutions for Mental Diseases (which includes psychiatric and chemical dependency hospitals and residential treatment centers of 16 beds more) for adults who are 22 through 64 years of age.

Table 4.1: Percent of Youth SA Clients Who Received Selected Services, by State and State Organization

	Outpatient Only	Inpatient Only	Residential Only	Multiple Services
Delaware				
SA Agency Only	92%	0%	5%	4%
Medicaid Only	79%	1%	11%	8%
Both Auspices	54%	0%	0%	46%
Oklahoma				
SA Agency Only	82%	0%	13%	4%
Medicaid Only	96%	1%	0%	3%
Both Auspices	*	*	*	*
Washington				
SA Agency Only	84%	0%	12%	4%
Medicaid Only	98%	0%	1%	1%
Both Auspices	76%	0%	2%	21%

Source: CSAT/CMHS IDB Project, 1996. *Based on fewer than 30 cases.

Table 4.2: Percent of Adult SA Clients Who Received Selected Services, by State and State Organization

	Outpatient Only	Inpatient Only	Residential Only	Multiple Services
Delaware				
SA Agency Only	57%	1%	32%	10%
Medicaid Only	75%	10%	1%	14%
Both Auspices	48%	0%	0%	52%
Oklahoma				
SA Agency Only	70%	0%	15%	15%
Medicaid Only	79%	4%	0%	17%
Both Auspices	27%	0%	0%	73%
Washington				
SA Agency Only	56%	1%	29%	15%
Medicaid Only	97%	0%	0%	3%
Both Auspices	68%	1%	0%	30%

Source: CSAT/CMHS IDB Project, 1996

Tables 4.1 and 4.2 also show the percent of clients receiving SA services in residential settings only, without an inpatient stay and without separate outpatient services during the year. Youth received care in “residential settings only” almost exclusively under the SA agency, except in Delaware (Table 4.1). In Oklahoma, 13 percent of SA youth clients received residential care only under the State SA agency only and none received it under Medicaid only. In Washington, 12 percent of SA youth clients received residential care only under the State SA agency only and 1 percent received it under Medicaid only. In Delaware, 5 percent of SA youth clients received residential care only under the State SA agency, while 11 percent received “residential care only” under Medicaid only. Generally, none of the youth SA clients under both Medicaid and the State SA agencies

received only residential services during the year, except in Washington where 2 percent did.

The absence of Medicaid reimbursement for residential only services for youth is somewhat surprising because the Federal prohibition of Medicaid coverage for care in Institutions for Mental Disease (which includes a residential facility with more than 16 beds) does not apply to clients under 22 years of age. This does not imply that Medicaid paid for no care of youth in residential settings, because clients who receive residential and other types of services during the year are included in the “multiple services” group. (A later section explores coverage of residential care under any circumstance.)

The same pattern of treatment emerges for adult SA clients (Table 4.2). Generally, only those covered under the State SA agency, and not under Medicaid, received residential treatment only without care in other settings during the year. However, the rate of residential care among adults under State SA agencies was higher than for youth – in Delaware, it was 32 percent for adults versus 5 percent for youth; Oklahoma, 15 versus 13 percent; and Washington, 29 versus 12 percent.

Substance Abuse Youth Clients are Rarely Treated in Hospitals

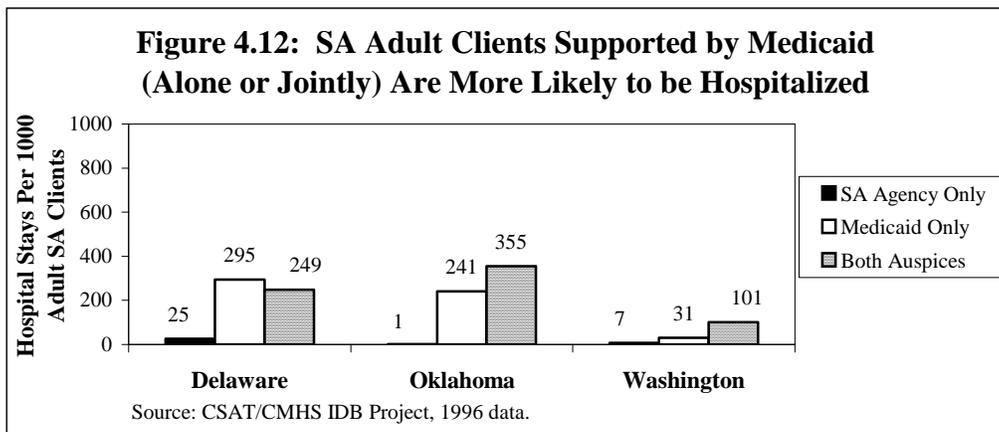
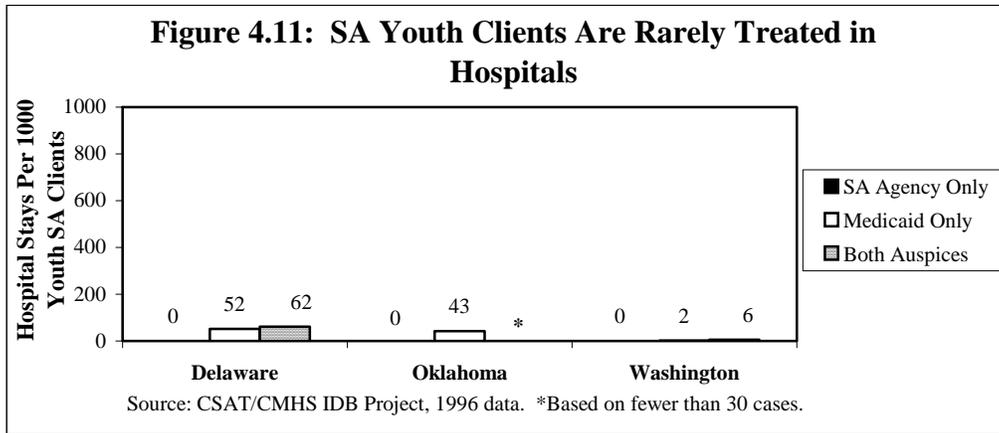
The hospital is the most expensive locus of treatment for substance abuse disorders and some suggest that hospitalization is not necessary for a significant portion of SA clients (IOM, 1990a and 1990b). For that reason, many organizations aim to minimize the number of hospital stays for SA clients. Furthermore, Federal rules that apply to State SA agencies use of Substance Abuse Prevention and Treatment (SAPT) block grants prohibit use of SAPT funds for inpatient treatment of SA clients.

From Figure 4.11, fewer than 63 per 1000 youth SA clients, regardless of type of State support, are hospitalized for substance abuse, including detoxification and/or treatment. Clients admitted to the hospital under the State SA agency after a Medicaid hospitalization, or vice versa, are counted in the “both” category. There are no hospitalizations for youth clients treated under the State SA agency only, likely reflecting SAPT block grant restrictions that prohibit use of SAPT funds for inpatient treatment. The infrequent hospitalization of youth also may reflect their lower need for detoxification because they are more likely to be involved with drugs rather than alcohol, are less likely to be alcohol dependent and in need of detoxification, and may be involved with drugs for which detoxification is not usually recommended (for example, marijuana or cocaine).

A greater proportion of adult SA clients are hospitalized compared with youth, up to 355 per 1000 SA adult clients (Figure 4.12). This may relate to higher rates of inpatient detoxification of adults or to the clinical complications that result from longer-term substance abuse. In addition, the effects of different program rules on use of hospital services are more apparent in the adult population. Those SA adult clients treated only under Medicaid in Delaware and Oklahoma are at least 11 times or more likely to be hospitalized than are those treated only under the State SA agency. Washington Medicaid limits SA-related hospitalizations to pregnant women or to clients who need

detoxification in counties that do not have freestanding detoxification facilities. Under both auspices (Medicaid and State SA agencies), hospitalizations of adult SA clients also are relatively frequent, likely reflecting more serious SA disorders and complications for those clients.

Averaged across the three States, State organizations, and age groups, the hospitalization rate for all SA-only clients in this study was 23 per 1000 in 1996 (not shown). This is much lower than the comparable rate for MH-only client – 87 per 1000 – noted in Chapter 3.

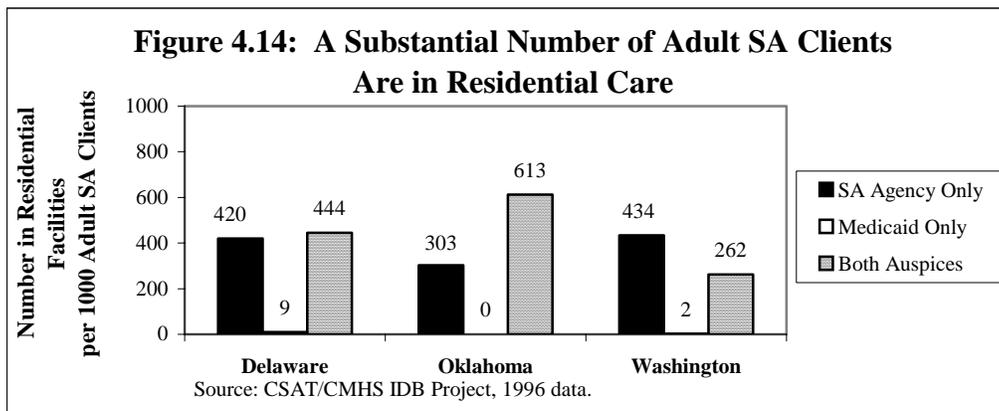
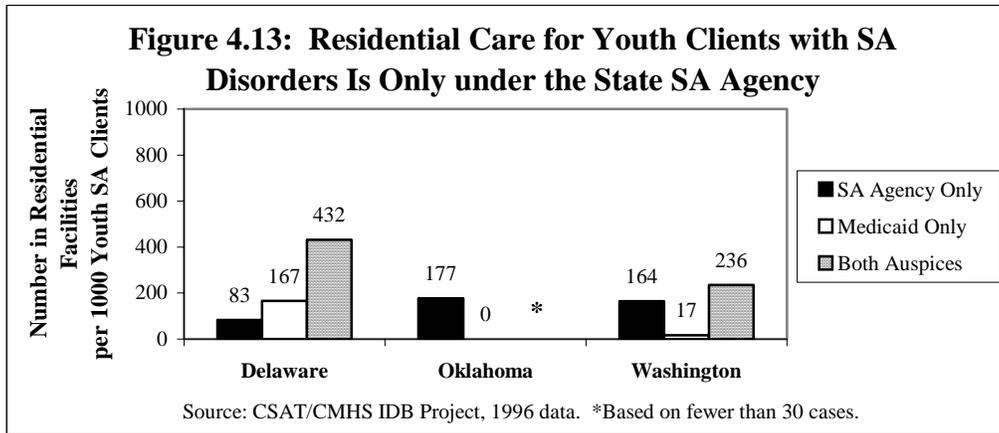


SA Clients Are More Likely to Receive Residential Care than Hospital Care

Under the State SA agency only, from 83 to 177 per 1000 youth clients and from 303 to 434 per 1000 adult clients were treated in residential facilities at some time during the 12-month period (Figures 4.13 and 4.14). SA treatment in residential settings can be funded under SAPT block grants to the States.

In 1996, SA treatment in residential facilities larger than 16 beds could not be funded under Medicaid for those aged 22 to 64. Virtually no (less than 10 per 1000) adults with SA disorders were treated in residential settings under Medicaid in the three States. If 24-hour care was provided under Medicaid, it had to be in a small residential facility.

For youth, very few Medicaid-only recipients with SA disorders were treated in residential settings, except for Delaware. In Washington, there were 17 per 1000 youth; in Oklahoma none. In Delaware, 167 per 1000 Medicaid-only youth recipients were in residential treatment for SA. It is somewhat surprising that Medicaid covered so little residential care for youth with SA disorders since there was no prohibition on such coverage for clients younger than 22. This result may reflect the difficulty of identifying residential treatment in Medicaid data; there is no uniform data element that specifies residential treatment. This result also may reflect increased community alternatives to residential care for youth or billing restrictions (see below).



The near absence of Medicaid-only clients in residential settings is in contrast to the high rates of hospitalization of these clients. Some of this result may be due to State Medicaid coverage rules. For example, in Oklahoma all treatment in 24-hour service facilities occurs in a hospital setting and in Washington, if residential treatment occurs, it is usually covered through the State SA agency. The Medicaid coverage exclusion of Institutions for Mental Diseases (which includes residential facilities of 16 or more beds) for persons aged 22 through 64 clearly limits the use of residential facilities for SA treatment. This clearly influences the very low rate of residential treatment for Medicaid adults. (A few clients under age 22 are classified as adults in the analyses here, likely accounting for the few adults in residential treatment under Medicaid.)

In the future, the SAMHSA IDB project may investigate whether the high hospitalization rate under Medicaid is related to detoxification services and whether providing detoxification in non-inpatient settings might save Medicaid dollars. States also may want to analyze the potential for moving both detoxification and treatment for SA from inpatient to outpatient or residential settings for more clients. This is an increasing practice in SA treatment, nonetheless tempered in some States by the severity of the client's clinical condition (McKay et al, forthcoming).

Chapter 5. Clients with Dual Mental Health and Substance Abuse Disorders

The Integrated Data Base (IDB) enables analyses of people who have co-occurring disorders related to mental illness and to substance abuse and are treated under State agencies. This is generally not possible in studies of administrative data because clients of State agencies may receive their mental health (MH) care from one agency and their substance abuse (SA) treatment from another, with Medicaid sometimes covering some MH/SA services separately from the State MH/SA agencies.

This chapter explores State clients with *dual mental health and substance abuse disorders* and looks at their care across State organizations. For shorthand, clients with dual disorders are referred to as “MH+SA clients” in order to distinguish them from clients with single disorders of any type treated in MH and/or SA agencies (usually referred to, in shorthand, as “MH/SA agencies”).

State governments have a long history of caring for severely mentally and emotionally ill clients with complicated substance abuse disorders, such as mental illness in combination with drug and/or alcohol disorders. This project looks at State support of these MH+SA clients through three main organizations – a State mental health agency, a State substance abuse agency, and the Medicaid agency. However, States differ in their organization of such services and in their information systems related to such services. In some States such as Oklahoma, MH and SA agencies share one integrated information system. In others such as Washington, the two systems are separate, both the delivery system and the reporting of such services. In Delaware, the adult MH and SA services are co-located in a single agency, but their information system in 1996 was comprised of multiple data sources. In addition, Delaware administers child services separately with a separate data system. Medicaid services and information systems are always separate from the State MH/SA agencies and may or may not be under the same department as those agencies.

Because of the complex nature of the problems experienced by persons with MH+SA disorders, analysts often assume that these patients are treated under State MH/SA agencies, where a longer-term continuum of services may be offered in comparison to Medicaid’s more acute care benefit. This assumption is examined here. Also, the characteristics of MH+SA clients, their clinical conditions, and their use of services is studied. The same stratified analysis is used in this as in Chapters 3 and 4, to reveal how services are provided to clients who use:

- State mental health and/or substance abuse agencies only (MH/SA Agencies Only),
- Medicaid agencies only (Medicaid Only), and
- Both sources of support (Both Auspices).

Because persons with dual MH+SA disorders may use MH, SA, or both types of services, the defined category of State agency now encompasses the MH and SA agencies (labeled

“MH/SA Agencies Only”). Also, the Medicaid-only category is included as in earlier chapters. Thus, many sections discuss clients with dual disorders who are receiving services under two or three State entities. In this chapter, we are able to explore where the dual clients receive their MH and SA treatment – whether from a MH agency or from a SA agency.

A Note of Warning about State Comparisons: Chapter 1 discussed the multiple dimensions along which States differ in their organization, financing, and delivery of MH/SA services and the difficulty that poses for identifying the causes for different estimates across States. Therefore, interpretations here focus on differences within the States and on general patterns that appear for all States.

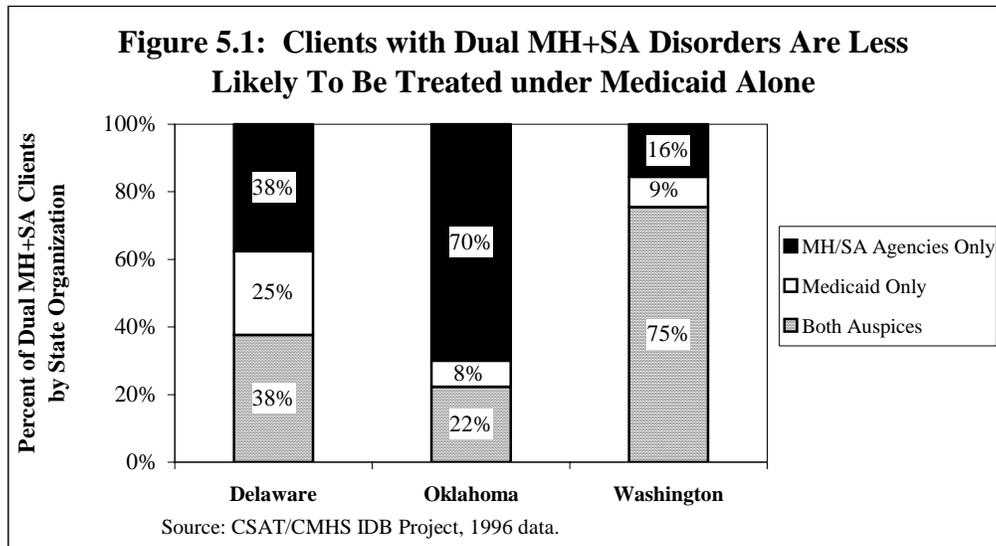
A Note of Warning about Diagnostic Detail: Because clients’ MH/SA clinical designations are identified from services received when detailed diagnostic information was not available, all clients could not be distributed by types of mental illness or substance abuse. For the 31,441 clients with dual MH+SA disorders (however determined), information was available to assign 41 percent of them to more detailed diagnostic categories. The percent missing varies by the breakdowns used in the analysis (age group, State, and organization supporting treatment). Appendix B shows the percent of clients with missing diagnostic detail. Whenever the proportion with missing diagnostic detail is greater than 70 percent of the total clients in a category, results for that category are not reported. Across the categories of the analyses for which statistics for the MH+SA group are reported, the percent of clients with missing MH diagnostic detail is between 1 and 53 percent, depending on the State, organization supporting treatment, and age group; the percent missing SA diagnostic detail is between 2 and 70 percent (Table B.4 in Appendix B).

Medicaid Alone Supports Some Clients with Dual MH+SA Disorders

Medicaid alone supports the care of some dual MH+SA clients in each State (Figure 5.1). In Delaware, the proportion of these clients supported by Medicaid is highest – 25 percent receive MH/SA services under Medicaid only. In the other two States, 8 to 9 percent of clients with dual disorders are treated under Medicaid only. Furthermore, the patterns of care differ among the three States. In Delaware, all three arrangements – State MH/SA agencies only (both youth and adult), Medicaid only, and both auspices – treat a similar proportion of clients with dual MH+SA disorders. In Oklahoma, most of these clients are treated solely by the MH/SA agencies. In Washington, both types of organization (MH/SA agencies and Medicaid) jointly support three quarters of these clients. In Washington, the State SA agency and Medicaid coordinate services closely: the State SA agency manages Medicaid dollars for SA treatment of Medicaid eligibles and the same providers that treat Medicaid clients treat State SA agency non-Medicaid clients.

Also the proportion of clients under different treatment systems – MH agency versus SA agency – can be explored cautiously for MH+SA clients. This was possible because these clients either had diagnoses reported in the various data bases or were linked across the MH and SA agencies databases, implying their type of disorder and revealing their

source of service. Thus, for clients identified with dual disorders, system of treatment can be studied. In making these comparisons, we set aside the Medicaid only cases counted in Figure 5.1 and all Delaware youth services because in the Delaware children's program they provide MH and SA services under one agency.



Remaining clients with dual disorders were least likely to be treated under the SA agency alone, than under the MH agency alone. In Delaware, Oklahoma, and Washington, only 11, 6, and 17 percent, respectively, of the clients with dual disorders received care only in the SA agency; conversely, 48, 48, and 31 percent, respectively, received care in the MH agency only (Table 5.1). Nevertheless, these results also are likely to be affected by the availability of diagnostic information. For example, in Washington where the MH agency does not collect diagnosis, fewer clients with dual diagnoses were found to be treated in the MH agency alone relative to the other States.

A substantial proportion of clients with dual disorders received services under both the MH and the SA agency. In Delaware, 41 percent of adults received services under both agencies. In Oklahoma, 47 percent of all youth and adult clients received care under both auspices. And, in Washington, 52 percent of all clients with dual disorders received treatment under both the MH and SA agency.

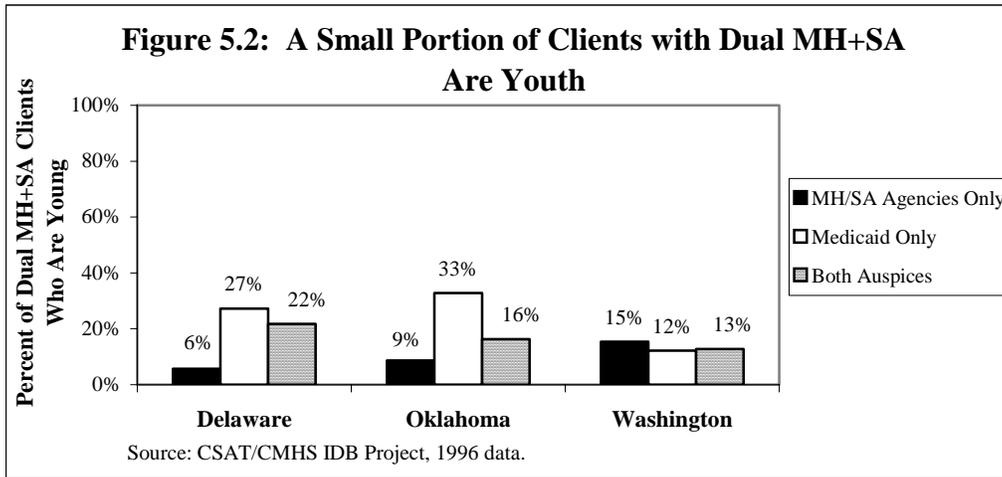
Table 5.1: Clients with Dual MH+SA Disorders by Source of Treatment, Excluding Medicaid in Each State and Youth Services in Delaware*

Source of Treatment*	Delaware Adults	Oklahoma All Ages	Washington All Ages
MH Agency Only	48%	48%	31%
SA Agency Only	11%	6%	17%
Both MH and SA Agency	41%	47%	52%

Source: CSAT/CMHS IDB Project, 1996 data. *Denominators exclude clients receiving services from Medicaid only in each State and Delaware's children services program, which combines MH and SA services under one agency.

A Small Proportion of Clients with Dual MH+SA Disorders are Young

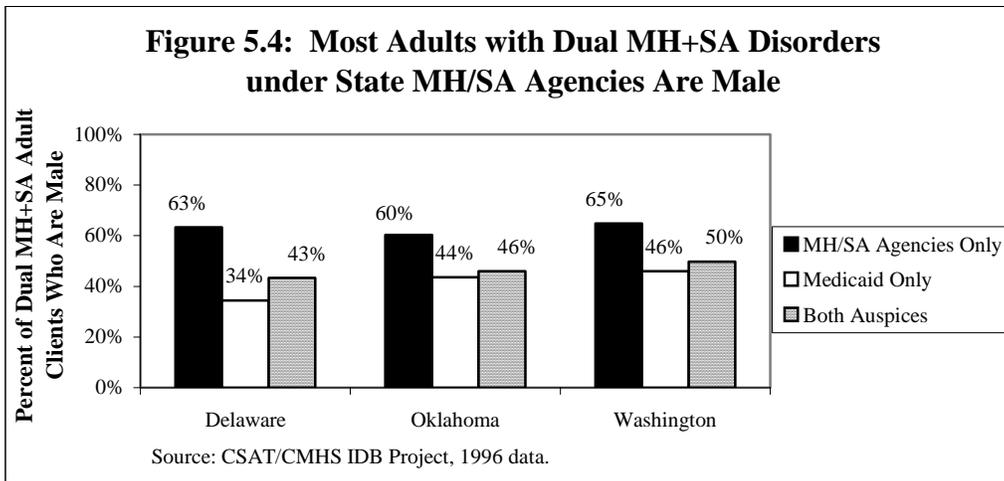
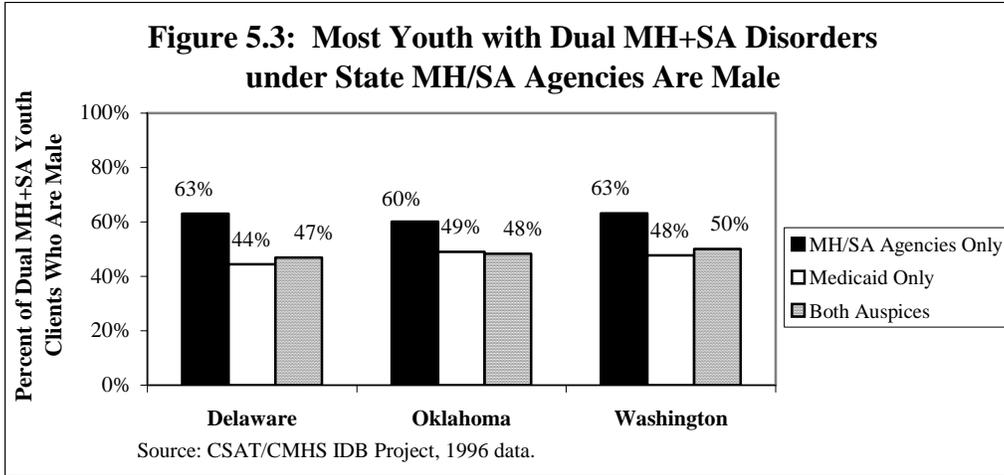
Only 6 to 33 percent of clients with dual MH+SA disorders across all States and sources of support are youth (Figure 5.2). Even for Medicaid, which generally targets services to women and children, youth are a relatively small proportion (12 to 33 percent) of MH+SA clients, compared to Medicaid recipients with a single mental disorder (35 to 69 percent, shown in Chapter 3). Youth were a small proportion of Medicaid clients with a single SA disorder (15 to 31 percent) in Chapter 4.



Males Dominate Youth and Females Dominate Adults with Dual Disorders

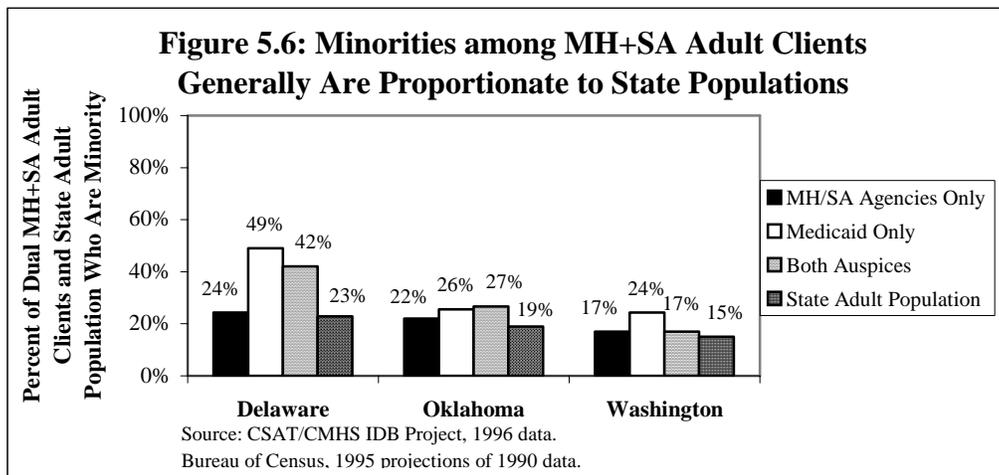
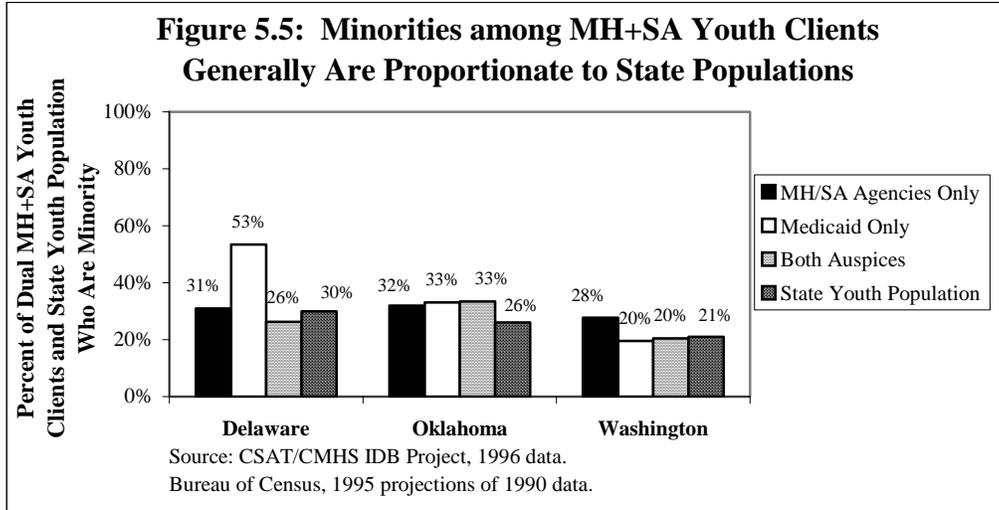
Although the distinctions are not as great in the population with dual MH+SA disorders as in that with single disorders, males still dominate the youth MH+SA population supported by the State MH/SA agencies (Figure 5.3). For MH+SA youth under Medicaid and both types of State support, males and females are close to equally represented.

In the adult population with MH+SA disorders, males dominate only in the MH/SA agencies where they comprise 60 to 65 percent of the clientele (Figures 5.4). Male adult MH+SA clients makeup a low proportion of the Medicaid program (34 to 46 percent), as expected. Those who receive services under both auspices are more evenly divided by gender; 43 to 50 percent are male.



Minority Representation Among Clients with Dual Disorders Is Comparable to the State Population in Two States

Against the benchmark of the State population, in Oklahoma and Washington, the proportion of minorities among clients with dual MH+SA disorders is comparable, regardless of type of organization that supports them. In Delaware the proportions are different: the proportion of minorities among young Medicaid clients with MH+SA disorders (53 percent) is significantly greater than among the Delaware youth population (30 percent) (Figure 5.5). The proportion of minorities among adult Medicaid clients with MH+SA disorders (49 percent) is more than twice as high as the proportion of minorities among the Delaware adult population (23 percent) (Figure 5.6). For other States and organizations, relative numbers of minorities among the dual MH+SA population are comparable to or slightly greater than the respective State populations.

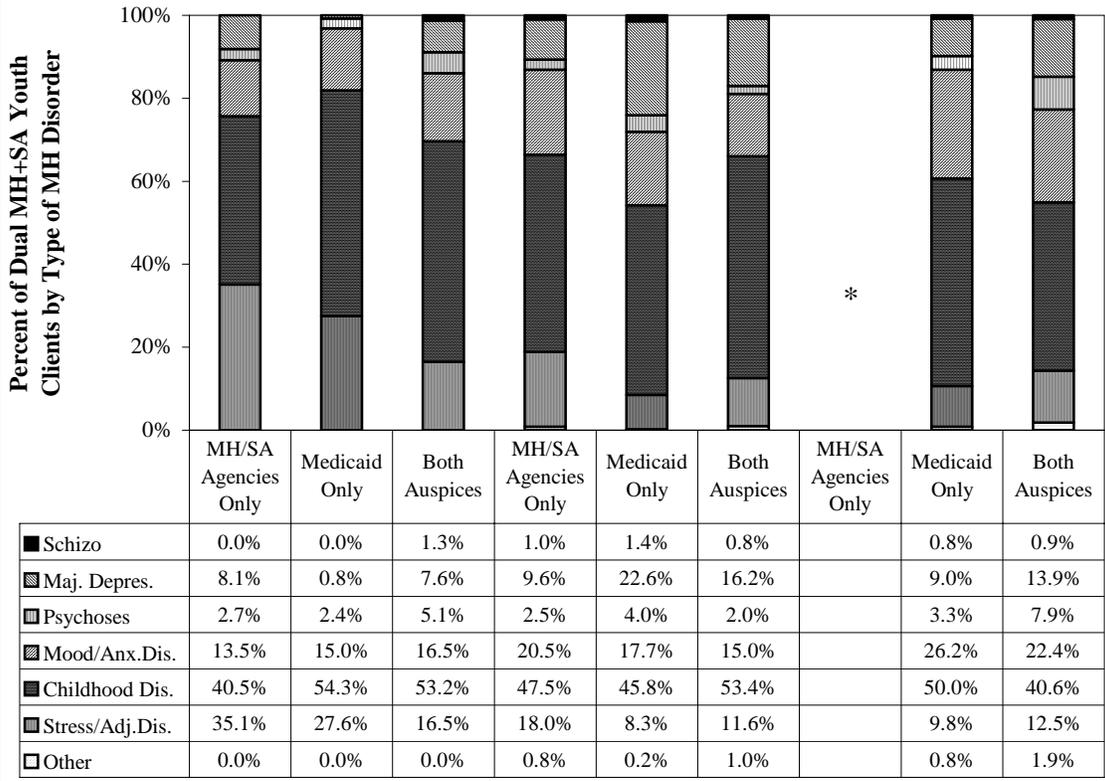


Different Types of Dual Disorders Affect Youth and Adults

Young MH+SA clients treated under State auspices are more likely to have stress and adjustment disorders and, of course, childhood disorders than are adult patients treated under State auspices (Figure 5.7). Between 53 and 82 percent of youth, but only between 7 and 23 percent of adult, clients under State auspices have such diagnoses.

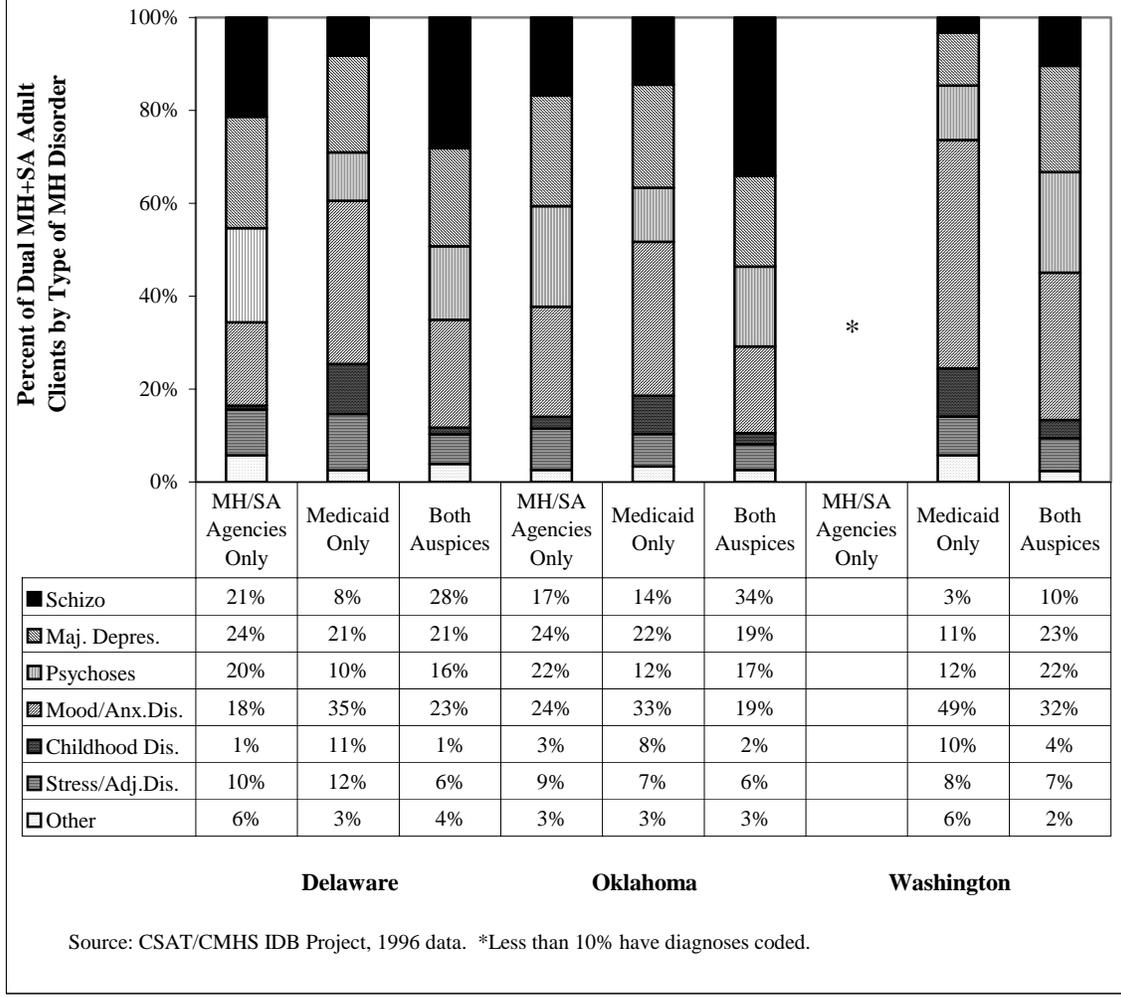
In contrast, the adult MH+SA population is much more likely to be diagnosed with schizophrenia, major depression, and psychoses (Figure 5.8). Mood/anxiety disorders are as common in the adult as youth MH+SA population. Adult clients with single MH diagnoses (shown in Chapters 3) who were treated under Medicaid only (outside of State MH agencies) are less likely to have schizophrenia, major depression, or psychoses. However, these serious mental illnesses are still significant among the adult clients with dual MH+SA treated only under the Medicaid program.

Figure 5.7: Youth Clients with Dual MH+SA Have Mainly Childhood, Mood/Anxiety, and Stress/Adjustment Disorders



Source: CSAT/CMHS IDB Project, 1996 data. *Less than 10% had diagnoses

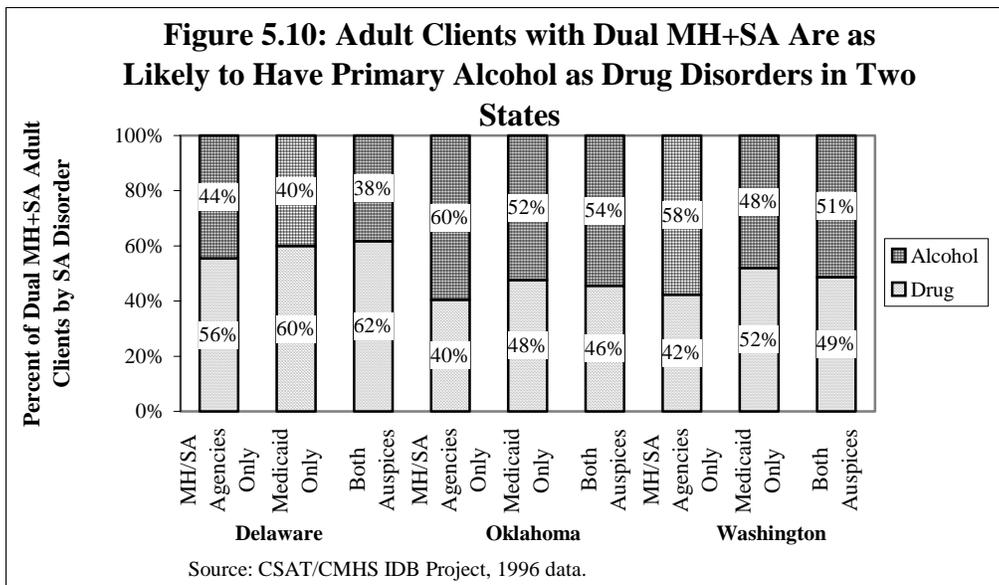
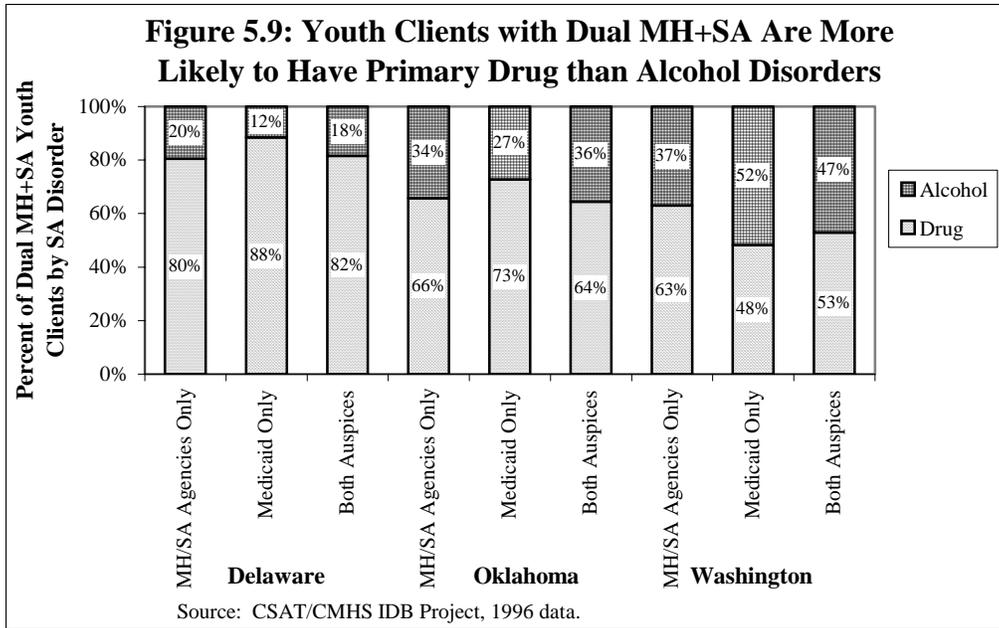
Figure 5.8: Adult Clients with Dual MH+SA Have Mainly Schizophrenia, Major Depression, and Psychoses



Type of Substance Use Differs by Age Group for Those with Dual MH+SA Disorders

Among young clients with dual MH+SA disorders, most of their substance use was with drugs rather than alcohol (Figure 5.9). In Washington State, however, alcohol disorders are a larger problem among such youth treated under Medicaid only and under both auspices.

Among MH+SA adults compared to MH+SA youth, alcohol disorders appear to be more prevalent (Figure 5.10). While between 12 and 36 percent of such youth have alcohol disorders in Delaware and Oklahoma depending on the source of support, 38 to 60 percent of such adults have alcohol disorders in those States. In Washington, the proportion with alcohol disorders is more similar between adults and youth with dual MH+SA disorders.



The Prevalence of MH Diagnoses by SA Diagnoses and Vice Versa

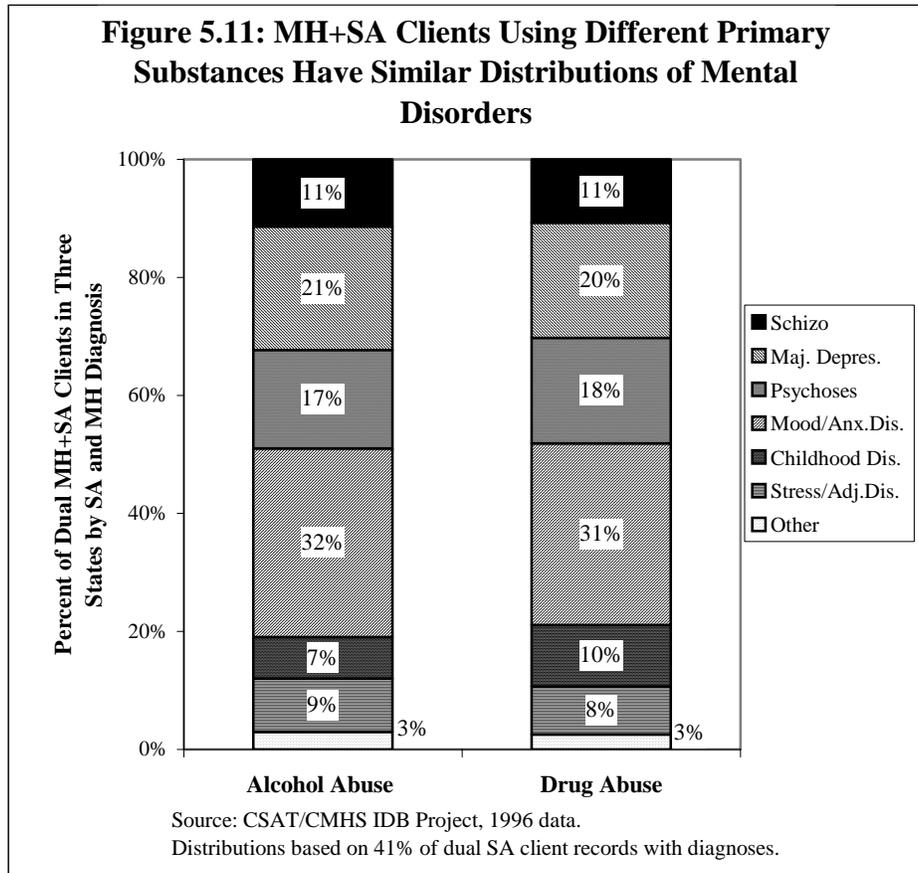
This data base provides a glimpse of the types of dual diagnoses that clients with one particular disorder might have. Caution is needed since a large proportion of clients are categorized in the MH+SA group because of particular services they receive under the State MH/SA agencies rather than because of explicit diagnoses. However, because of this unusual capability of the IDB, these diagnoses are presented whenever 30 percent or more of the clients have diagnoses, provided 30 or more cases are available. Appendix B shows the percent of clients with missing diagnostic detail by various analytic categories.

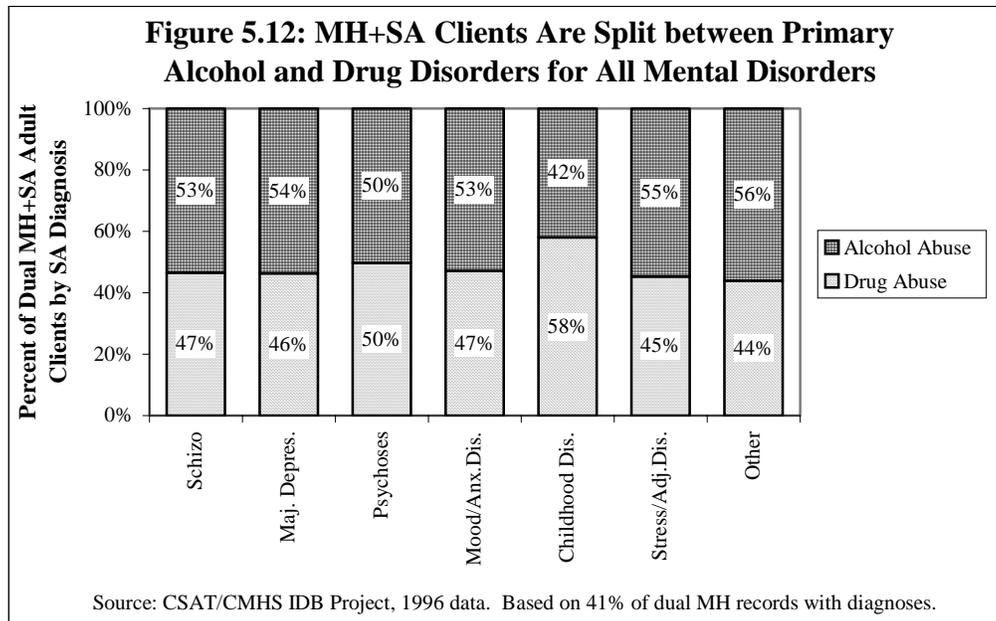
Figure 5.11 shows the proportion of the dual MH+SA clients with primary alcohol disorders or with primary drug disorders by the types of primary mental illness that they have or the diagnosis most frequently associated with their care in 1996. (Secondary

diagnoses were not allocated by type of diagnosis in this initial analysis of the IDB, and thus, the distribution for those with joint alcohol and drug disorders is not presented.) As noted in Chapter 4, the primary drug use reported by the client was used to differentiate between drug and alcohol when diagnosis was unavailable.

For youth and adults combined across three States and all sources of support, MH+SA clients with alcohol disorders and clients with drug abuse disorders have almost identical patterns of mental disorders (Figure 5.11). Most have mood/anxiety disorders, major depression, or psychoses.

Similarly for the converse view of individuals with specific mental disorders, the distribution of clients by primary alcohol or drug disorders is uniform (Figure 5.12). Between 42 and 56 percent had alcohol disorders, regardless of the primary mental illness, compared across seven mental disease categories.

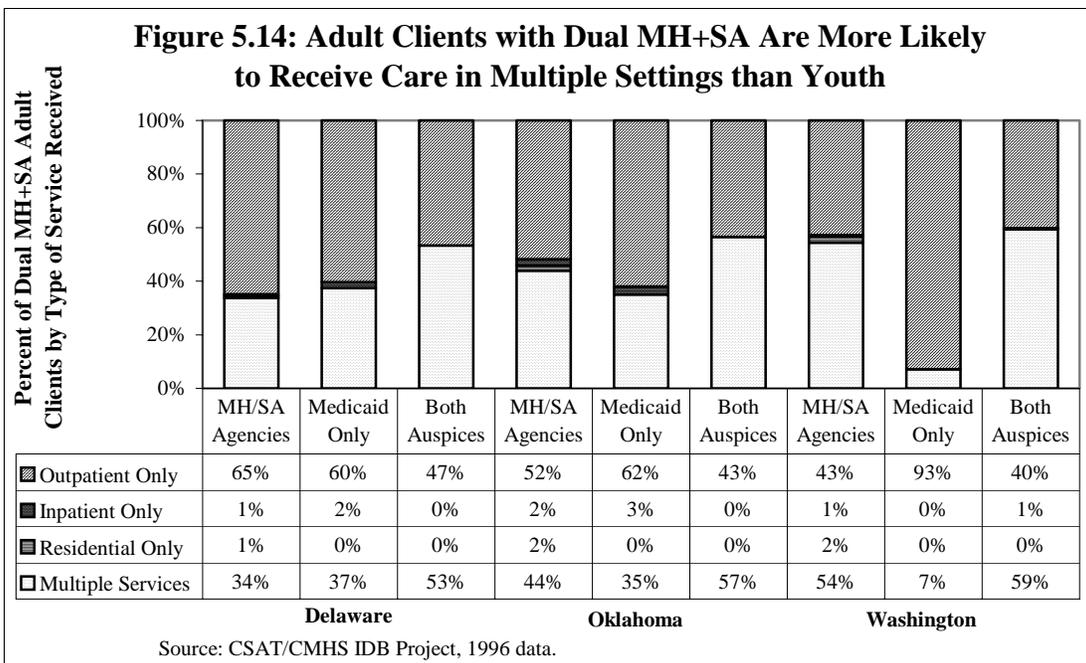
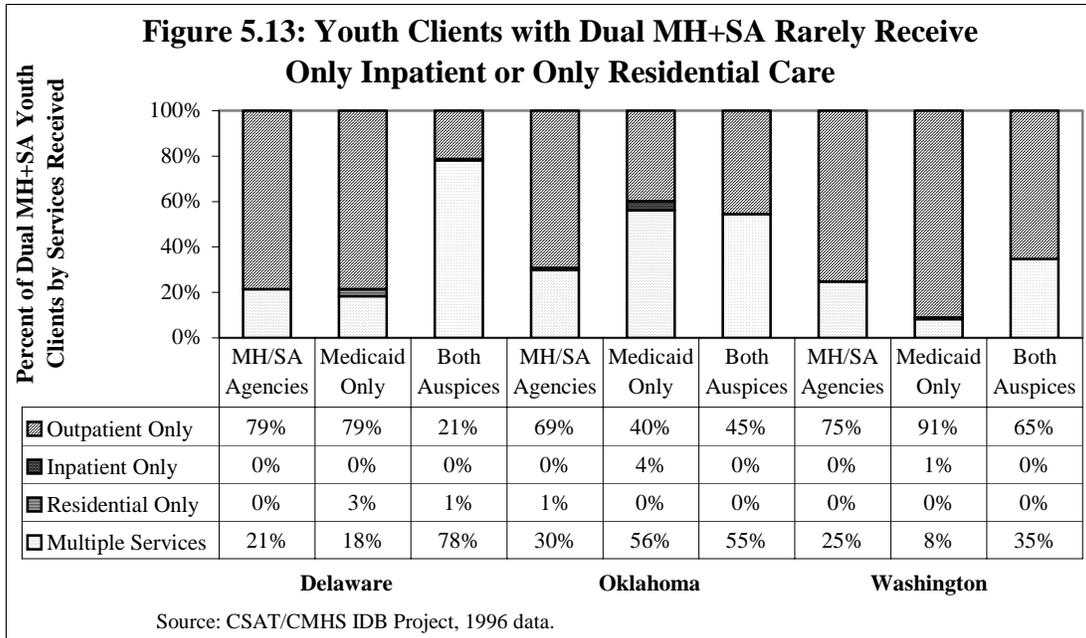




MH/SA Services: Clients with Dual Disorders Are Frequently Treated in Multiple Settings

This section examines the types of service that clients with dual MH+SA disorders receive. Youth and adult clients with dual MH+SA disorders are more likely to be treated in multiple settings (Figures 5.13 and 5.14) than are clients with single diagnoses (shown in Chapters 3 and 4). This is especially true for MH+SA clients receiving services under both auspices of MH/SA agencies and Medicaid. These MH+SA clients likely have more complicated disorders that require a complex array of services across multiple settings.

Nevertheless, many of these clients (often 65 percent or more of them) receive care in outpatient settings only. Very rarely do these clients receive care in inpatient or residential facilities only – less than 4 percent of either youth or adult clients – which is consistent with the currently accepted view that complex MH/SA clients require a continuum of care.



Clients with Dual MH+SA Disorders Are Frequently Hospitalized

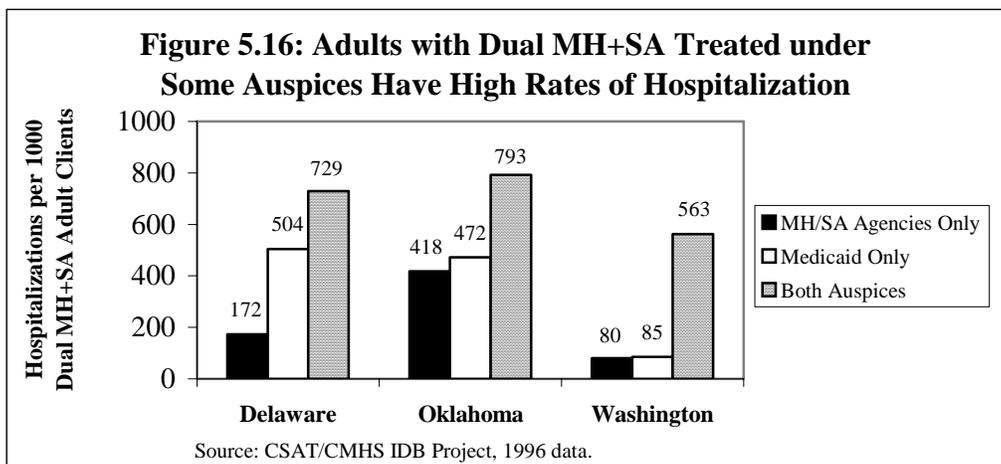
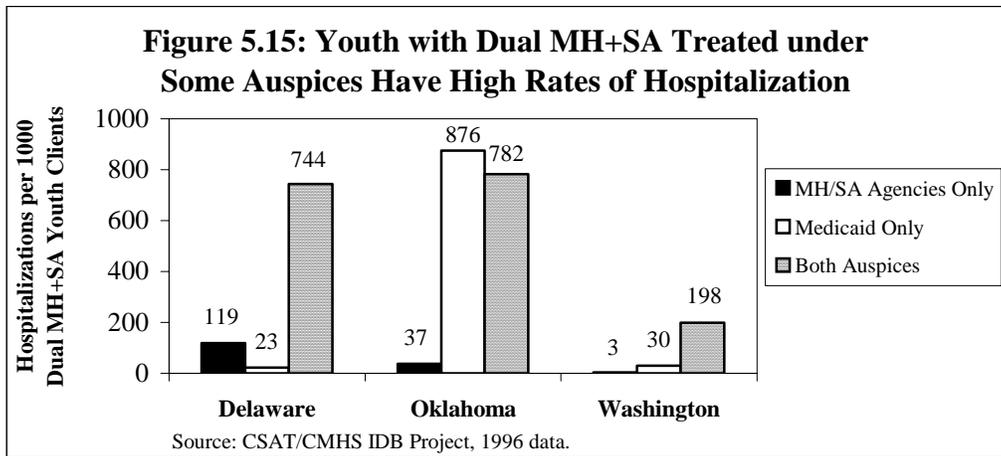
Generally in 1996, clients with dual MH+SA disorders who were supported under both Medicaid and State MH/SA agencies had higher rates of hospitalization relative to those treated only under separate agencies (Figures 5.15 and 5.16) or to those with single disorders (as shown in earlier chapters). Those under auspices of both types of organization had almost 800 hospitalizations per 1000 clients with MH+SA disorders.

Only for clients under one State program – the Medicaid only program in Oklahoma – was the rate higher and as high as 876 per 1000 MH+SH youth clients. However,

methodologically the Oklahoma rate is not comparable to the other two States. In Oklahoma, the hospitalization rate for Medicaid-covered youth includes residential treatment, which is billed as an inpatient service; thus, the two services could not be separated for Oklahoma in this analysis.

Ignoring Oklahoma Medicaid, the rates of hospitalization still varied considerably by State and organization. Washington had the lowest rates for youth and adults, regardless of type of organization providing the services. And clients under State MH/SA agencies only most often had the lowest rates of admission to a hospital. Across all three States, the high rates of hospital stays reflect a high percent of MH+SA clients hospitalized once during the year (71 percent) and some MH+SA clients (29 percent) who had multiple hospitalizations during the year (not shown in figures).

Averaged across the three States, State organizations, and age groups, the rate of hospitalizations for all clients with dual MH+SA disorders in this study was 456 per 1000 (not shown). This was over five times the rate for MH-only clients and 20 times the rate for SA-only clients.



Residential Care is one of the Multiple Settings Used for Clients with Dual Disorders

Even though 2 percent or less of clients with dual MH+SA disorders received care *exclusively* in residential facilities, these facilities are used frequently in conjunction with other settings of care for a much higher proportion of MH+SA clients. Except for one program, youth with MH+SA disorders had residential-stay rates from 68 per 1000 up to 556 per 1000 (Figure 5.17) – in rounded percentage terms 7 to 56 percent. The exception was Oklahoma Medicaid, which showed no admissions of MH+SA youth clients to residential care; recall that residential care under Medicaid in Oklahoma is billed as inpatient treatment.

For adults, except for Medicaid admitting virtually no MH+SA clients to residential care, the rate was comparable to youth, from 264 to 520 per 1000 adults (Figure 5.18) – 26 to 52 percent. The differences in use of residential services for youth and adults clearly is influenced by the Federal prohibition on use of Medicaid funds for treatment of those aged 22 to 64 in Institutions for Mental Diseases (IMDs) with 16 or more beds. Medicaid dollars may be used for treatment of youth (under age 22) in IMDs.

Compared to youth with a single disorder of mental illness especially, youth with dual MH+SA disorders were more likely to receive care in residential settings. Ignoring organizations that never admitted clients to residential care, youth with MH only disorders were in residential facilities at a rate of between 4 and 156 per 1000 (Figure 3.13), much lower than the 68 to 556 rate per 1000 for dual disorder clients (Figure 5.17). Youth with SA only disorders were in residential care at a rate of between 17 and 432 per 1000 (Figure 4.13), closer to, but still lower than, the MH+SA client rate. Likewise for adults, those with dual MH+SA disorders were more likely to be admitted to residential care than those with mental disorders only (Figure 3.14). Those with SA only disorders were admitted at comparable rates to those with dual disorders (Figure 4.14).

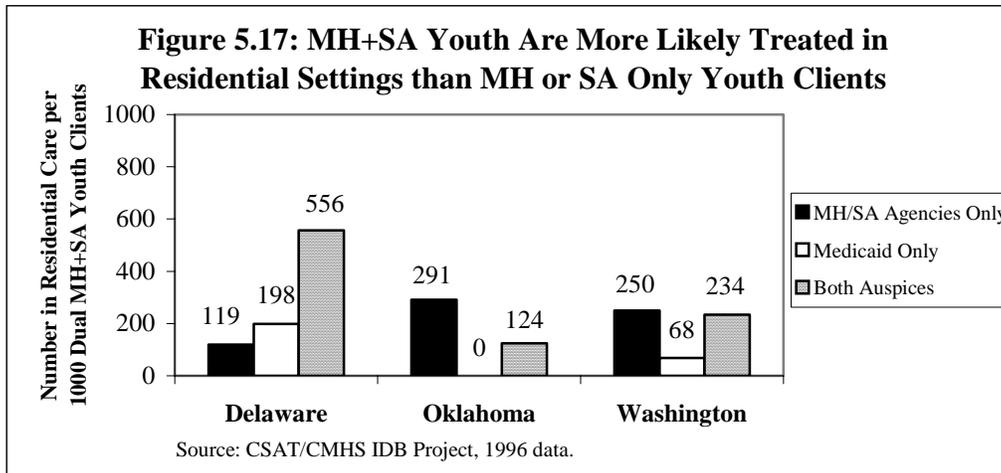
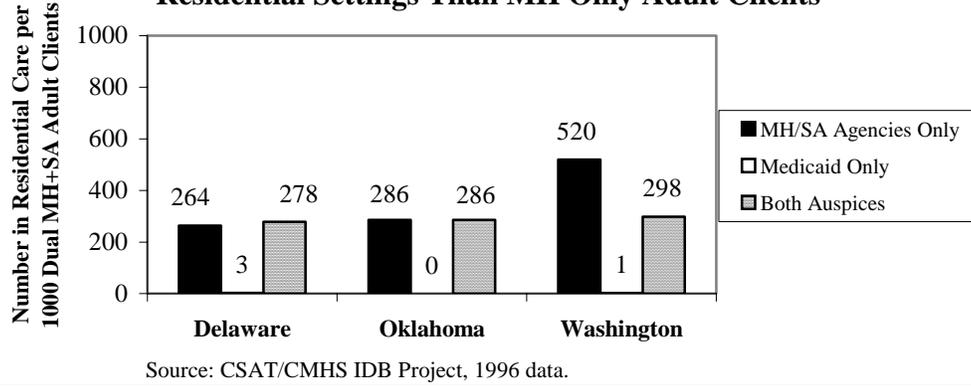


Figure 5.18: MH+SA Adults Are More Likely Treated in Residential Settings Than MH Only Adult Clients



Chapter 6. Summary and Conclusions

The Integrated Data Base (IDB) Project

The CSAT/CMHS Integrated Data Base (IDB) was designed to provide State and Federal policymakers access to comprehensive information on utilization and expenditures of mental health and substance abuse services for all clients treated under the major public organizations within three States. Uniform definitions and methods ensure that comparisons of mental health (MH) and substance abuse (SA) services across State agencies were the result of service differences rather than data processing methods. Constructing quality data bases for three participating States was an intensive process, requiring close collaboration of CSAT/CMHS and State staff.

The IDB project and this report demonstrate the feasibility and usefulness of linking data from multiple agencies within States that are involved in the delivery of MH and SA services. Although the current data base includes data for one calendar year, by the end of the project in September 2001, it will contain data for three consecutive years (1996, 1997, and 1998) for each of the three participating States. This three-year integrated data base will be used by the States, CSAT, and CMHS in the future to address important questions about the delivery of publicly financed mental health and substance abuse treatment services.

In addition to the value of the data for policy research, States may find the technical data base architecture a model for integrating other data systems. Although the three participating States had many and very different data structures, the IDB project showed that it was possible to design an architecture that articulates among many data base structures, that links records for the same clients across different data systems, and that does so consistently across States. The process also can be automated to reduce the costs of data processing. States interested in integrating their own MH/SA-related data can find the architecture and linking methods on the project Web site (<http://www.samhsa.gov/centers/csat/content/idbse/index.html>).

The advantages of such an undertaking are many. States would be able to use an IDB structure to analyze the delivery of services across organizations within the State, much as we have done here – who received services, through which agency, and for what purposes. States could assess the impact of initiatives, such as policy changes that affect managed care and other programs, and understand these impacts across State organizations. States could use their IDB to support joint case management and cost review for clients who receive care across health care agencies. States could share data more easily with other States to understand the strengths and weaknesses of different State programs and to identify the best practices.

In addition, with a uniform IDB-type structure, States could better coordinate data collection among themselves so that intra-State analyses are more defensible and conclusive. Currently, each State and each organization involved in supporting MH/SA services within a State has a history of almost complete separation. This analysis showed

the difficulty of making valid comparisons when data are incomplete or defined differently. For example, the incomplete availability of diagnoses affected several analyses. First, questions of which system (the MH or SA treatment system) was treating MH-only and SA-only clients could not be answered effectively because diagnoses frequently were not collected for agency data bases. The study had to assume MH or SA diagnoses for clients treated by some MH and SA agencies and this meant that the type of client condition and type of treatment system could not be identified independently of each other. Thus, the study could not always determine which diagnoses were being handled by which treatment system. Second, despite the fact that only Medicaid claims consistently collected diagnoses across all three States, diagnoses sometimes were missing on monthly Medicaid capitation claims. At least partly because Delaware provided diagnoses for monthly Medicaid managed care claims for jointly served Medicaid and DSCYF youth, many more Medicaid services related to MH and SA treatment for youth were identified in Delaware. With a coordinated State effort on data collection, such inconsistencies might be reduced and more conclusive analyses could be conducted.

In addition to these lessons, the IDB showed that considerable knowledge can be gained from analyzing MH and SA services across agencies within a State.

Results of the First Analysis of the IDB

The information presented in this report begins to answer important questions about public MH/SA services. This study focuses on organizational or departmental differences – MH and SA agencies and the Medicaid program – differences *within* each State rather than State-level or other types of comparisons. Sometimes generalizations were made *across* States when patterns were similar. Other non-participating States might use these results as benchmarks against which to compare their own data.

To stimulate discussion about State organizations delivering services to MH/SA clients, several questions about these entities were addressed:

- Which State organizations (MH/SA agencies versus the Medicaid program) support which MH/SA clients?
- What are the characteristics of clients who receive treatment under State organizations, including age, race/ethnicity, gender, and types of clinical conditions?
- Where – in what settings – do clients receive services? Do the settings differ by the State organization managing the care?
- How many types of services are provided to clients under different State entities?

Which State Organizations Support Which MH/SA Clients?

A significant proportion (26 to 52 percent) of MH-only clients received care only under the Medicaid program across the three States. SA-only clients were treated predominantly under State SA agencies – 65 to 97 percent of those SA clients. Only in one State did Medicaid alone cover a quarter of the clients with dual MH+SA disorders,

the most complicated and costly to treat. Both Medicaid and MH/SA agencies of the States jointly served from 22 to 75 percent of those with dual disorders.

For clients with dual MH+SA disorders, use of services under the State MH as opposed to the State SA agency could be compared. A substantial proportion of dual MH+SA clients (41 to 52 percent across the States) received services under both the MH and the SA agency. A small proportion (6 to 17 percent across the States) received treatment only under the SA agency. The remainder (31 to 48 percent) received care only in the State MH agency.

What are the Characteristics of Clients Receiving MH/SA Treatment under State Auspices?

About 70 percent or more of SA-only clients in each State are adults, as are clients with dual MH+SA. However, a high proportion of MH-only clients (close to 70 percent) in one State system are young. Youth clients are predominantly males, whether they have MH, SA, or dual MH+SA disorders. Adult clients are more equally split between female and male if they have SA or dual MH+SA disorders and are treated outside of the State MH or SA agency. However, adult clients in the State SA agencies are much more likely to be male than female, and adult MH-only clients are much more likely to be female. Finally, the proportion of minorities (that is, clients of other than non-Hispanic white origins) among young clients who have MH-only, SA-only, or dual MH+SA disorders generally is larger than the proportion of minorities in the total youth population of each State. For adults, the minority proportions are more similar to the State populations, except for the SA-only clients who include proportionately more minorities than the general population, although the results vary by State.

What MH/SA Disorders Are Treated across State Organizations?

For the total study population, 68 percent received services for a mental disorder only, 21 percent were treated for a substance disorder only and 11 percent received services for both a mental and substance disorder. Because missing diagnoses were a significant problem in this study, the following are tentative findings related to diagnostic distributions.

As expected, youth with MH-only disorders are most likely to be diagnosed with childhood disorders. In comparison to adults, youth are much less likely to be diagnosed with serious mental disorders, such as schizophrenia, major depression, and psychoses. Adults with MH-only disorders are most likely to be diagnosed with those serious disorders, reflecting the age at onset of such disorders.

Of those with SA-only disorders or dual MH+SA disorders, youth are more likely to use illicit drugs, while adults are more likely to use alcohol as a primary substance. However, adults with dual MH+SA disorders generally are equally as likely to have a primary drug disorder as a primary alcohol disorder. The exception is in Delaware where adults with dual disorders are more likely to use illicit drugs than alcohol.

The IDB also enabled the study of distributions of primary diagnoses among clients with dual MH+SA disorders and identified in the data base. Of clients with dual MH+SA disorders who have primary alcohol disorders, they have the same distribution of mental disorders as those diagnosed with a primary drug abuse disorders. Regardless of mental disorder, whether it be schizophrenia, psychoses, or some other mental illness, the group with dual MH+SA diagnoses have nearly the same propensity to primary drug abuse as to primary alcohol abuse.

Do settings of Service for MH/SA Clients Differ by State Organization?

A substantial portion of MH-only clients is treated in outpatient settings only. SA-only clients also are treated predominantly in outpatient settings only, but a larger proportion of those clients is treated in multiple settings (compared to MH-only clients). Clients with dual MH+SA disorders are frequently treated in multiple settings, attesting to their need for a more complete spectrum of care. Few clients of either diagnostic type are treated exclusively in inpatient or residential facilities.

How Many Services Are Provided to Clients under Different State Organizations?

The number of hospitalizations for every 1000 State MH-only clients in 1996 varied considerably across the States, State organizations supporting treatment, and age of clients. The rates were as low as 3 per 1000 Washington Medicaid-only youth clients to as high as 503 per 1000 Delaware youth clients who received services under both the State MH agency and Medicaid auspices. Adult hospitalization rates were more uniform across the States with a relatively consistent pattern by State organization.

State youth clients with SA-only disorders were rarely hospitalized, regardless of the State or organization supporting the treatment. State adult clients with SA-only disorders were much more likely (than such youth) to be hospitalized, but the rate varied considerably by organization managing the care, and in several instances the rate was lower than for MH-only clients.

State clients with dual MH+SA were frequently hospitalized, especially when treated under joint auspices of the State MH/SA agency and Medicaid – often in the range of 700 to 800 hospitalization per 1000 clients per year, depending on the State and organization. Most of these clients had only one hospitalization during the year (71 percent), but the remainder had multiple hospitalizations during the year.

Comparing the overall hospitalization rate averaged by type of client, shows that clients with dual MH+SA disorders were the most likely to be hospitalized by far – 456 per 1000 MH+SA clients had hospital stays during 1996 – regardless of State, organization, or age group. Clients with MH-only disorders had a rate of 87 stays per 1000 clients. In contrast, clients with SA-only disorders were least likely to be hospitalized - at a rate of 23 stays per 1000 clients.

Few clients with MH-only disorders received residential services in 1996. Clients with SA only were more likely to be in residential treatment – in the range of 200 to 600 stays per 1000 clients depending on the organization and State. Clients with dual MH+SA

disorders were as likely as clients with SA only to be in residential facilities. The Federal prohibition on Medicaid spending for treatment in Institutions for Mental Diseases is evident in the analyses, especially for adult clients. Virtually no adults under Medicaid-only auspices received residential services in these data, although States differed in how they accounted for residential treatment – two States counted it as inpatient care under some auspices. Despite that, those two States did not have higher hospitalization rates, suggesting that residential treatment was relatively rare in 1996.

Limitations

Some conclusions should be considered tentatively given limitations of the data. Availability of diagnoses and classification of residential care are two such data problems.

While diagnoses from Medicaid claims were generally available for analysis, diagnoses on State MH or SA agency data were sometimes not available for an entire organization. When that organization treated one type of client (MH or SA), all clients under that organization were assigned to the appropriate general category of MH or SA. Finally, the highly variable rate of missing diagnoses across States, organizations supporting treatment, and types of clients could lead to biased conclusions.

Because of the diagnosis problem, some conclusions of this study affected by that problem should be considered carefully. For example:

- Analyses of specific diagnostic detail (e.g., drug versus alcohol disorders) are tentative because not all MH/SA clients could be included due to missing detailed diagnoses.
- Clients with dual disorders were likely underestimated and their distribution between State MH and SA agencies distorted, because some State agencies did not collect diagnoses.

Because of differences in labeling and classification of residential treatment, the counts of residential services are not comparable across the States. Because two of the States count residential stays as inpatient stays, the hospitalization rates also are potentially affected. However, this does not invalidate comparison of these rates across organizations within the States.

A complex probabilistic linking methodology was used in the IDB development which resulted in the identification of more links than other methods might have (see Whalen et al., 2001) and enabled identification of clients receiving services across and within systems. Even so, such algorithms are never as accurate as having unique identifiers within and across systems of record keeping. Rarely did the States have unique identifiers for clients across programs. None of the States had unique identifiers across all systems of care. As a result, the process of matching individuals across organizations probably missed some clients who received services from multiple sources.

The type of data available also limits the understanding of the differences observed between organizations and States. For example, even when diagnoses were available,

little information on the clinical severity of the client was available, and thus, some variations across States, organizations, and client subgroups may be due to unknown clinical severity or underlying epidemiology. Results of the National Household Survey on Drug Abuse, which has estimated illicit substance use suggests that this may be the case across the three States studied here.

Future Directions

The analyses presented in this report answered some questions and raise others. The analyses presented a view of the clients using publicly supported MH/SA care managed by the States and the services those clients used in 1996. This was examined in the context of State MH and/or SA systems, Medicaid, and shared clients across systems. Additional issues can be studied with these data and the soon-to-be-added data for 1997 and 1998. One priority is the analysis of expenditures across organizations, because the identification of duplicate records for this project provides a unique opportunity to examine costs in a way that avoids multiple accounting of spending across organizations. In addition, perspectives other than the State-organization view can be taken to design studies. For example, the providers' points of view can be taken to design more in-depth studies of particular settings of care.

Some of the questions that are likely to be addressed in the future with the IDB are:

- What are the costs of services provided under the State MH/SA systems and the Medicaid program? How much of the spending accounted for by separate State organizations is “shared spending” that would overestimate the total cost of MH/SA spending if simply added together?
- How do State MH/SA agency and Medicaid expenses compare for clients with similar disorders and complexities? How does this spending differ by type of service provided? For example, how does the cost of psychotropic drugs influence the overall spending on MH services?
- What are the patterns of outpatient services for clients who were hospitalized during the year under the State MH/SA agencies and Medicaid? Is hospitalization preceded and followed with outpatient treatment? Or does hospitalization serve as an entry point for State MH/SA services? What is the Medicaid role in outpatient versus hospital-based treatment?
- What is the pattern of residential treatment over the course of a year or three years? Are residential services combined with outpatient services? Is residential treatment associated with less acute inpatient care?
- How is SA detoxification as preparation for treatment handled in State MH/SA agencies versus Medicaid? How many detoxification services are provided in acute inpatient, residential, and/or outpatient settings? What are the patterns of follow-up treatment for different settings under State MH/SA agencies and Medicaid?

- How do patterns of treatment, volume of services, and expenses differ by type and severity of mental illness, substance of abuse, and classes of comorbidities?
- What are the effects of SA comorbidities on service utilization and costs for MH and medical services? For what other conditions are clients with MH/SA disorders likely to require treatment? For example, are trauma and HIV/AIDS costly and/or frequent problems associated with substance abuse? What are the most frequent and costly?
- What are the patterns of Medicaid eligibility over one, two, and three years for patients with MH/SA disorders who, at some time during the period, are under the care of the State MH/SA agencies? Does use of State MH/SA agency services occur primarily when Medicaid eligibility vanishes or when Medicaid benefits are exhausted? Or do those Medicaid events trigger first use of State MH/SA services?
- To what extent are SA clients served by MH care providers? If persons with SA disorders are served by MH providers, what services and volume of services are provided, compared to treatment by SA providers? How does the cost of care provided by MH providers compare to similar care given by specialized SA providers?
- Conversely, to what extent do SA providers treat clients with mental illness? What types of treatment do those clients receive and at what cost, compared to services in the MH care system?

Certainly, these and many other questions could be explored in future studies. The IDB with its uniformity of data across three different States provides an opportunity for these issues to be explored more accurately than they have been able to be in the past. The IDB-architecture also is a framework for linking State MH/SA data to other data systems, such as the State criminal justice or school systems. Such investments in integrated information would enable the States to answer questions about other shared services and clients and to better manage the broad issues of costs and effective delivery of State social services in an environment of complex funding streams from Federal, State, county and municipal budgets.

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Appendix A. Advisory Panel

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Appendix B. Detailed Methods of Data Development for this Study

Selection of Clients for the Integrated Data Base (IDB)

To understand the criteria for selecting clients into the analyses of this report, the reader should first understand the selection criteria for the IDB. The criteria are shown in Table B.1. For clients without a diagnosis, those from the State substance abuse (SA) agency were assigned a general designation of SA (service without diagnosis) and those from the State mental health (MH) agency were assigned a general category of MH (service without diagnosis). In addition, all records (medical or MH/SA-related) for Medicaid clients with at least one MH/SA diagnosis-related indication were included in the IDB.

Table B.1: Diagnoses Used as Selection Criteria for the IDB

Major Category	Description
Mental Health Diagnoses:*	
Serious Mental Illness	Schizophrenia (295)
	Major depression (296.2, 296.3)
	Other Affective Psychoses (296.0, 296.1, 296.4-296.99)
	Other Psychoses (297, 298, 299)
Other Mental Illness	Stress and Adjustment Disorders (308, 309)
	Personality Disorders (301, excluding 301.13)
	Childhood Disorders (307, 312-314)
	Other Mood Disorders and Anxiety (300, 301.13, 311)
	Other Mental Disorders (302, 306, 310, 648.4-648.49)
Substance Abuse Diagnoses:*	
Alcohol Diagnosis	Alcoholic Psychoses (291)
	Alcohol Dependence/ Nondependent Abuse (303, 305.0)
Drug Diagnosis	Drug Psychoses and Mood Disorders (292)
	Drug Dependence/ Nondependent Abuse (304, 305.2-305.9)
	Other Alcohol and Drug Related Disorders and Conditions (265.2, 357.5, 357.6, 425.5, 535.3, 571.0-571.3, 648.3, 655.4, 655.5, 760.7, 779.5, 962.0, 965.0, 967-969, 977.0, 977.3, 980)
Special Conditions of interest:	
Other Substance Abuse Diagnosis	Tobacco Use Disorder (305.1)

*Note: This table clarifies the use of diagnosis only. All clients from State SA and MH agencies are included in the IDB. Lacking a diagnosis, records from the State SA agency were assigned a category of SA and records from the State MH agency were assigned a category of MH.

Selection of Study Population from the IDB

To be included in the study population, clients had to have at least one service record for a primary MH and/or SA service at some time during 1996. A primary MH/SA service record was defined as one with one of eight primary MH diagnostic categories or one of two primary SA diagnostic categories as classified in Table B.2. These categories were selected because they are definitive MH or SA disorders rather than possibly related to a MH or SA disorder. For example, cirrhosis of the liver, which is one of the “other alcohol and drug related disorders and conditions” in Table B.1, may or may not indicate

a SA problem. Therefore, such diagnoses are excluded from the selection criteria (Table B.2) for the study population. A primary MH/SA client also was defined by a service record from a provider that only provides MH and/or SA services.

Table B.2: Diagnosis Categories Used as Inclusion Criteria for the Study

Major Category	Description
Mental Health Diagnoses:*	
Schizophrenia	Schizophrenia (295)
Major Depression	Major Depression (296.2, 296.3)
Psychoses	Psychoses
	Other Affective Psychoses (296.0, 296.1, 296.4-296.99)
	Other Psychoses (297, 298, 299)
Stress Disorders	Stress and Adjustment Disorders (308, 309)
Childhood Disorders	Childhood Disorders
Childhood Disorders, ADD	Childhood disorders, ADD (314.0, 314.00, 314.01)
Childhood Disorders, Other	Childhood disorders, Other 307, (312-313, 314, 314.02-314.99)
Mood Disorders	Other Mood Disorders and Anxiety (300, 301.13, 311)
All Other Disorders	Other Mental Disorders (302, 306, 310)
	Personality Disorders (301, excl. 301.13)
Substance Abuse Diagnoses:*	
Alcohol	Alcoholic Psychoses (291)
	Alcohol Dependence/ Nondependent Abuse (303, 305.0)
Drug	Drug Psychoses and Mood Disorders (292)
	Drug Dependence/ Nondependent Abuse (304, 305.2-305.9)

*Note: This table clarifies the use of diagnosis only. All clients from State SA and MH agencies were included in the IDB. Lacking a diagnosis, records from the State SA agency were assigned a category of SA and records from the State MH agency were assigned a category of MH.

Each service or admission record for each client in the IDB was examined for whether or not it contained codes for a primary MH or SA diagnosis/service category. If so, the client was included in the first cut of the study population. Age restrictions were then applied so that all clients of unknown age and of age 65 or older by the end of 1996 were dropped from the study group. The numbers of records dropped because of diagnosis and age exclusions are shown in Table 2.1 in Chapter 2.

Diagnostic Categorization

Each client in the study sample, based on the inclusion criteria, had at least a MH condition or a SA condition, or possibly both conditions. If a client had any MH condition(s), he/she was assigned to one of eight MH diagnosis categories or one MH service category, otherwise the MH category of “none” was assigned. If a client had any SA condition(s), he/she was likewise assigned to one of two SA diagnosis categories, one SA service category, or to “none.”

In situations where clients had services that fell into more than one MH condition category or more than one SA condition category, an algorithm was applied to select one of the categories to represent the main or most significant condition for the client. For each client, the algorithm compiled counts, costs, and dates (admission date or start of

service date) for service records or admission records, which had a primary diagnosis for MH or SA. These counts were partitioned into each of the distinct diagnosis groupings of Table B.2 and were further split into levels of acute care and non-acute care. Inpatient and inpatient psychiatric services were considered acute care; all other services were considered non-acute.

The algorithm selected diagnostic evidence related to any acute care over that for non-acute care. This was done for two reasons. First, acute care usually relates to more serious conditions, and second, more accurate diagnosis is likely when a client is under 24-hour observation by highly trained staff. If a client had any acute-care, primary diagnosis-related evidence for MH, then it was used to determine the client's "main" condition category, and diagnostic evidence related to non-acute care was ignored. This same logic was applied to evidence of SA condition(s).

The algorithm also checked for the MH category that had the highest record count, which was then assigned as the "main" MH condition for the client. If there were two or more diagnosis category that tied for most frequent count, then the algorithm selected between them based on the highest reported costs. If costs were tied, the algorithm selected the diagnosis category having the earliest date. The same logic was applied independently to SA categories, and a "main" SA condition was selected, if appropriate. Some clients had records with primary diagnoses that fell into more than one MH category, or into more than one SA category. In these cases, in addition to selecting one 'main' category, the patient was flagged as having multiple MH and/or multiple SA conditions.

Some clients may have service records for MH or SA services from a MH or SA agency, respectively, that always lack primary diagnosis. It is assumed that these clients do have a MH condition and/or SA condition, but cannot be categorized further. Such clients were assigned to a category of "MH service without diagnosis" and/or "SA service without diagnosis."

After each client, based on primary diagnoses or primary service, was assigned to either one MH category or "none," or assigned to one SA category or "none," then an algorithm examined all records for the client to determine if any of the available secondary diagnosis codes fell into one of the MH categories or into one of the SA categories. Then, each client's reason for treatment (MH, SA, or MH+SA) was assigned as follows. If a client had been assigned to both 1) a MH category (other than "none") or had any evidence of secondary MH diagnosis and 2) a SA category (other than "none") or had any evidence of any secondary SA diagnosis, then the client's reason for treatment was assigned as "MH+SA." This was a client with dual MH and SA disorders. Otherwise, the client's reason for treatment was assigned to either "MH only" or "SA only," based on the client's assignment to a MH category only or a SA category only.

Number in the Study Population

The number of clients in the study after the exclusions and diagnostic classifications are shown in Table B.3. The table is organized by the categories analyzed in the main text of this report and contains the denominators of clients for the rates presented in the report. The report examines measures by clients' reason for treatment (MH only, SA only, or

MH+SA), age group, State, and organization supporting the treatment (State MH/SA agency only, Medicaid, or both auspices). MH only clients are 68 percent of the study population, SA only clients are 21 percent, and MH+SA clients are 11 percent. Youth represent 30 percent of the study and adults 70 percent. Delaware clients are 6 percent of the study population, Oklahoma's are 42 percent, and Washington's 52 percent. Clients treated only under State MH/SA agencies are 58 percent of the study population, clients treated only under Medicaid are 22 percent, and those under both a State MH/SA agency and Medicaid are 20 percent.

Number in the Study Population without Detailed Diagnoses

Lack of diagnostic detail at the level of specific type of mental illness or specific type of substance abused creates potential for bias in other results that cannot be determined easily. For example, meaningful interpretation of differences in services, such as the hospitalization rate, across organizations or States depends on the underlying epidemiology and severity of the cases treated by each organization.

The rate of missing detailed diagnoses by State and organization and by client characteristics is shown in Table B.4. The rate of missing diagnostic detail varies considerably across organizations. Medicaid records almost always included diagnostic detail because it is required for payment. In contrast, the State MH organization in Washington had virtually no clients with detailed diagnoses in 1996; in Oklahoma the same type of organization had about 60 percent of clients without such diagnoses whether adult or youth clients. In Delaware, nearly all MH-only and SA-only youth had diagnostic detail, as well as nearly all SA-only adults; for MH-only adults, almost 80 percent of records had diagnostic detail. The available diagnostic information on records of clients with a mix of State agency and Medicaid records varies markedly.

Service Categorization

Each service record was assigned to a "service category" during the data development of the IDB based on selected claim type, service codes, procedure codes, revenue codes, type of provider codes, and other information available on a record (see Table B.5). The information used for service category varied by State and the type of record.

Service records were partitioned into one of three categories: MH records, SA records, or other "medical" records (available only for Medicaid clients). This partition was based on the primary diagnosis, if available. Occasionally, State-specific procedure codes, which were specific to MH or SA service programs, were used in lieu of primary diagnosis. Service records that lacked both primary diagnosis and selected procedure codes, were assigned as MH or SA records if they were from an agency that only provided MH or SA services, respectively. Finally, Medicaid service records that had not been assigned to MH or SA categories were assigned as medical records.

MH and SA records (see above) were used to develop two levels of service provider profiles for each client. An agency-level profile was set based on whether Medicaid

Table B.3: Number of Client Records for Analysis of MH/SA Services by Type of Client, State, and Organization Supporting Treatment

Client	Delaware				Oklahoma				Washington				Three States
	MH/SA Agency only	Medi-caid only	Both	Total	MH/SA Agency only	Medi-caid only	Both	Total	MH/SA Agency only	Medi-caid only	Both	Total	Total
MH Only:													
Youth	539	3,719	723	4,981	14,760	11,914	4,093	30,767	20,143	9,017	5,661	34,821	70,569
Adult	2,622	1,656	995	5,273	32,115	10,841	5,897	48,853	30,348	16,734	16,422	63,504	117,630
Total MH Only	3,161	5,375	1,718	10,254	46,875	22,755	9,990	79,620	50,491	25,751	22,083	98,325	188,199
SA Only:													
Youth	302	96	81	479	2122	94	3	2,219	2,754	1,130	1,022	4,906	7,604
Adult	4,436	322	189	4,947	17,221	535	62	17,818	18,567	2,565	6,849	27,981	50,746
Total SA Only	4,738	418	270	5,426	19,343	629	65	20,037	21,321	3,695	7,871	32,887	58,350
MH+SA:													
Youth	42	131	160	333	1,043	442	629	2,114	292	133	1,179	1,604	4,051
Adult	690	351	575	1,616	11,033	904	3,221	15,158	1,608	962	8,046	10,616	27,390
Total MH+SA	732	482	735	1,949	12,076	1,346	3,850	17,272	1,900	1,095	9,225	12,220	31,441
Total Sample	8,631	6,275	2,723	17,629	78,294	24,730	13,905	116,929	73,712	30,541	39,179	143,432	277,990

Table B.4: Percent of MH/SA Client Records with Missing Detailed Diagnosis-Related Data,* by Type of Client, State, and Organization Supporting Treatment

Client	Delaware			Both	Oklahoma			Washington	
	MH/SA Agency only	Medicaid only			MH/SA Agency only	Medicaid only	Both	MH/SA Agency only	Medicaid only
MH Only:									
Youth									
Total N	539	3,719	723	14,760	11,914	4,093	20,143	9,017	5,661
Missing N	5	0	0	9,806	0	3	20,057	0	50
Missing %	1%	0%	0%	66%	0%	0%	100%	0%	1%
Adult									
Total N	2,622	1,656	995	32,115	10,841	5,897	30,348	16,734	16,422
Missing N	322	0	77	18,980	0	59	29,372	0	367
Missing %	12%	0%	8%	59%	0%	1%	97%	0%	2%
SA Only:									
Youth									
Total N	302	96	81	2,122	94	3	2,754	1,130	1,022
Missing N	2	0	1	1,447	0	1	17	0	0
Missing %	1%	0%	1%	68%	0%	33%	1%	0%	0%
Adult									
Total N	4,436	322	189	17,221	535	62	18,567	2,565	6,849
Missing N	126	0	0	7,583	0	1	45	0	0
Missing %	3%	0%	0%	44%	0%	2%	0%	0%	0%
MH+SA:									
Youth									
Total N	42	131	160	1,043	442	629	292	133	1,179
MH Dx									
Missing N	5	4	2	555	18	17	291	11	531
Missing %	12%	3%	1%	53%	4%	3%	100%	8%	45%
SA Dx									
Missing N	1	79	19	731	273	414	11	15	53
Missing %	2%	60%	12%	70%	62%	66%	4%	11%	4%
MH or SA Dx**									
Missing N**	5	83	21	906	291	430	292	26	584
Missing %**	12%	63%	14%	87%	66%	68%	100%	20%	50%
Adult									
Total N	690	351	575	11,033	904	3,221	1,608	962	8,046
MH Dx									
Missing N	306	72	88	3,728	123	358	1,531	55	1,629
Missing %	44%	21%	15%	34%	14%	11%	95%	6%	20%
SA Dx									
Missing N	211	161	168	4,414	404	1,549	151	368	1,390
Missing %	31%	46%	29%	40%	45%	48%	9%	38%	17%
MH or SA Dx**									
Missing N**	494	233	251	7,470	527	1,907	1,533	423	2,978
Missing %**	72%	66%	44%	68%	58%	59%	95%	44%	37%
Total Missing N**	954	316	350	46,192	818	2,401	51,316	449	3,979
Grand Total N	8,631	6,275	2,723	78,294	24,730	13,905	73,712	30,541	39,179
Total Percent Missing**	11%	5%	13%	59%	3%	17%	70%	1%	10%

Source: CSAT/CMHS IDB Project, 1996 data. *Based on primary diagnosis or primary substance used (a field on MH/SA Agency admission records). **Counted as missing for MH+SA persons if either MH or SA diagnosis-related data are missing, which shows the unique number of clients with a missing diagnosis of either type.

and/or State MH/SA agencies provided any MH or SA services to the client. The categories were: “Medicaid Only,” “State MH/SA Agency Only,” or “Both Auspices” (Medicaid and State MH/SA Agency).

A service setting profile was based on the permutations of settings where a client received MH or SA services in 1996 (Table B.5). Service setting were:

I = inpatient care at a general or community inpatient facility or care at an inpatient psychiatric facility,

R = care at a residential facility (non-Medicaid only), or care at a long-term-care facility (which existed under Medicaid only), and

O = care in outpatient settings or any other service such as transportation.

In counting hospitalizations over time, over-lapping or split service records had to be reconciled. Billing for some hospitalizations can occur in separate claims or patients can be discharged for a home visit with a scheduled return for treatment a day later. When the dates of service for seemingly separate hospital stays overlap or occur on adjacent dates, then those hospitalizations are counted as one stay.

Identification and Flagging of Duplicate Services

The IDB combines service data from multiple sources: Medicaid and State MH/SA agencies. Records of these services are collected independently by separate agencies. Sometimes the same service is captured by more than one agency. As a result, the IDB contains duplicate service records, duplicates that are difficult to identify because the agencies collect data in different ways for unique purposes. Without some mechanism for linking services, analysis of the IDB would overstate service counts because of this duplication.

In general, service linking identified overlaps between State agency MH/SA service files and the Medicaid service files. (See Chapter 1 for a description of the files.) For example, the services from the Outpatient MH Service File, the SA Service File, and the Medicaid Outpatient and Other Services File (ignoring any dental, transportation, or DME Medicaid services) were compared against each other. This was done for the institutional files as well. The criteria for identifying duplicate services were specific to each State and often to specific data sources within each State, as noted below.

Delaware: Identification of duplicate services required a match on client and an overlap of service dates. Other criteria for overlapping records varied by organization and service setting:

Adult Institutional:

- 1) When a service from the Institutional MH Service File (or from the SA Service File) overlapped with a service on the Medicaid Long-Term-Care File *and* providers matched, or

Table B.5: Service Categories

Setting of Service		MH/SA Service Categorization		
Service Setting	Label	Service Category	MH, SA Agency or Medicaid	Description
I	Acute Care Inpatient	01	All	Inpatient Hospital Services, NEC
		51	SA	Hospital Based Detoxification
	Inpatient Psychiatric	02	All	Inpatient Psychiatric Services
		65	MH	Other MH Inpatient Treatment
		Any	M	Any other inpatient hospital record
R	Residential	52	SA	Detoxification, Freestanding, Residential
		54	SA	SA Rehab, Short Term Residential (30 days or less)
		55	SA	SA Rehab, Long Term Residential (more than 30 days)
		66	MH	Residential MH
		03	M	Long-Term-Care Psychiatric Services
		04	M	Nursing Facility Services
		05	M	Intermediate Care Facility for the Mentally Retarded Services
		06	M	Religious Non-Medical Health Care Institutional Services
		Any	All	Local procedure code indicating residential care
O	Outpatient/ Other Services	07	M	Physician Services, NEC
		08	M	Dental Services
		09	M	Other Practitioner Services, NEC
		10	M	Ambulatory Facility Services, NEC
		11	M	Rehabilitation Services
		12	M	Physical, Occupational, Speech, Hearing, and Language Services
		13	M	Home Health Services
		14	M	Hospice Services
		15	M	Personal Care Services
		16	M	Family Planning Services
		17	M	EPSDT Services
		18	M	Laboratory and X-ray Services
		19	M	Prescribed Drugs
		20	M	Transportation Services
		21	M	Durable Medical Equipment (DME)
		22	M	Waiver Services
		23	M	Targeted Case Management Services
		24	M	Capitated Services
		25	M	Other Care Services
		56	SA	Intensive SA outpatient treatment
		57	SA	SA outpatient treatment
		58	SA	Detoxification, ambulatory
		59	SA	Other SA treatment, NEC
		61	MH	Partial day treatment (MH)
		62	MH	MH diagnosis and assessment
		63	MH	MH consultation and education
		67	MH	MH crisis stabilization/intervention
		68	MH	MH counseling services
		69	MH	Center-based MH outpatient services
		70	MH	Medication monitoring/administration (MH)
		71	MH	MH therapy, psycho/social
72	MH	MH rehabilitation services		
73	MH	Administrative services		
74	MH	Support services		
75	MH	Case Management/Clinical Coordination		
76	MH	Other MH treatment, NEC		
97	All	Unknown		
98	All	Unavailable		
99	All	Invalid		

NEC = Not Elsewhere Classified. EPSDT = Early, Periodic, Screening, Detection, and Treatment.

When a service from the Institutional MH Services File (or from the SA Service File) overlapped with a service on the Medicaid Inpatient File *and* providers matched, then the MH (or SA) service was flagged as duplicate.

Adult Outpatient:

1) When a service from the Medicaid Outpatient Service File had a specified service code (Delaware-specific SA or MH service codes of WW401-WW404 or WW660-WW663) that overlapped with a service from the Outpatient MH (or SA) Service File *and* service quantities agreed, then the MH (or SA) service was flagged as a duplicate.

Adult Managed Care:

1) When a fee-for-service record from the Medicaid Outpatient and Other Service File had a specified service code (Delaware-specific MH or SA service codes of WW664 or WW665) that overlapped with a managed-care record from the Medicaid Outpatient and Other Service File or the MH Outpatient Service File, *and* providers matched, or

2) When a service from the SA Service File had a specified service code (WW401-WW404) that overlapped with the Medicaid Outpatient and Other Service File *and* providers matched, then the MH (or SA) service was flagged as a duplicate.

Youth Services:

1) When a record from the Department of Services for Children, Youth, and Their Families (DSCYF) from the MH Outpatient Service File (or SA Service File) with a monthly capitation amount of \$4239 overlapped with a service from the Medicaid Outpatient and Other Service File with an amount paid of \$4239, then the MH (or SA) record and the Medicaid record were flagged as duplicates. DSCYF service detail records with service dates within the timeframe of the capitation payment were not flagged as duplicates.

Oklahoma: Identification of duplicate services required a match on client and provider, and an overlap of service dates. Also, a Medicaid service had to contain a MH or SA diagnosis to link with a State MH or SA agency service record. When such overlaps were found, the MH (or SA) service was flagged as a duplicate.

Washington: Identification of duplicate services required a match on client and an overlap of service dates. Additional criteria varied by type of service:

1) When a “MH counseling” service from the MH Outpatient Service File *and* a service of a “medical doctor” or “psychologist” provider from the Medicaid Outpatient and Other Service File also had a MH (or SA) diagnosis,

2) When a service from the Institutional MH Service File overlapped with a service from the Medicaid Long-Term-Care File *and* providers matched, or

3) A service from the SA Service file overlapped with a service from any Medicaid services where providers match, then the MH (or SA) service was flagged as a duplicate.

Medicaid Enrollment

Medicaid eligibility for MH/SA clients (as for any clients) can change during the course of a year as people move on and off Medicaid enrollment. For this study, all Medicaid MH/SA recipients who sought care under Medicaid were included in the study. Table B.6 shows the distribution of clients by whether they were continuously or discontinuously enrolled and by their length of continuous enrollment in Medicaid. Only about 8 percent or fewer (depending on the State) of Medicaid clients in this study went on and off Medicaid rolls during the period of 1996. Most Medicaid MH/SA clients (66 percent or more) were enrolled for 12 months continuously. Another 16-to-19 percent of these clients were enrolled for a period of from 6 to 11 months without interruption and without any other period of enrollment. Another 6-to-9 percent were enrolled for 2 to 5 months without interruption or re-enrollment and 1.5 percent or less were enrolled for only one month. Thus, discontinuous enrollment in Medicaid is not a significant problem for the MH/SA client population in the three States. This pattern of enrollment does not vary much by State.

Table B.6: Enrollment in Medicaid for Clients Receiving Medicaid MH/SA Services, by State

	Delaware		Oklahoma		Washington	
	N	Percent of Medicaid Clients	N	Percent of Medicaid Clients	N	Percent of Medicaid Clients
Total Medicaid Clients	8,998	100.0%	38,635	100.0%	69,720	100.0%
Continuous versus Discontinuous Enrollment:						
Enrolled without interruption for 2 or more months	8,548	95.0%	35,381	91.6%	65,421	93.8%
Enrolled discontinuously	415	4.6%	2,956	7.7%	4,299	6.2%
Continuous Enrollment for Different Intervals:						
Enrolled continuously for 12 months	6,286	69.9%	25,528	66.1%	47,839	68.6%
Enrolled continuously for 6-11 months	1,699	18.9%	6,583	17.0%	10,826	15.5%
Enrolled continuously for 2-5 months	563	6.3%	3,270	8.5%	5,745	8.2%
Enrolled for 1 month	35	0.4%	298	0.8%	1,011	1.5%

Source: CSAT/CMHS IDB Project, 1996 data.

Other Statistical Issues Specific to This Study

Minimum Cell Sizes. A few categories of clients had so few patients in them that statistics could not report reliably. Whenever a rate or proportion was based on a denominator of fewer than 30 cases, the rate was not reported. Thirty cases is the number of cases appropriate for performing the standard t-test of differences and a general rule of thumb for minimum cell sizes for reporting results. Also, using 30 or more observations to derive every statistic protects the privacy of individuals, who then cannot be identified even with outside information.

Missing Values. Whenever less than 10 percent of records in a category contains values for a variable of interest (for example, when only 5% of State MH agency records contains race/ethnicity), then the statistic for the category is not reported. A statistic is reported whenever 10 percent or more of the records have values (except for diagnosis for which a stricter standard was set that 30 percent of records must have values). This could be thought of as a 10 percent sample of information. However, the 10 percent available could be a biased view of the group because the 10 percent may not occur randomly in the database. Both the 10%-of-values rule and the 30-cell-size rule must be satisfied before results are presented here.

Statistical Tests. Statistical tests are not used in this analysis because the study is based on the complete set (the census) of people with MH and/or SA disorders who are treated under the auspices of the State MH and SA agencies and/or Medicaid. Statistical tests are not necessary to account for sampling variability because there is no sample.

Further Methods Detail Available

Detailed methods also can be found at <http://www.samhsa.gov/centers/csat/csat.html>.