



THE LOUIS DE LA PARTE FLORIDA MENTAL HEALTH INSTITUTE



Study of Women with Co-occurring Disorders and Lifetime Histories of Interpersonal Trauma

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Executive Summary

Policymakers have identified the treatment of co-occurring mental health and substance abuse disorders as a critical issue that needs to be addressed within addiction and mental health treatment settings. This study was completed under contract with the Florida Agency for Health Care Administration (AHCA). The current study links Medicaid administrative data and primary data collected by the Triad Project to examine the personal characteristics and pattern of service use and cost to Medicaid of Triad Project participants with co-occurring disorders that also have histories of interpersonal trauma. The Triad Project, located in Florida, was one of nine study sites participating in the Women, Co-occurring Disorders and Violence Study (WCDVS) that was nationally funded by the Substance Abuse and Mental Health Services Administration (SAMHSA). The WCDVS was the first large-scale federal initiative to address the significant lack of appropriate services for women with co-occurring disorders who have experienced trauma (i.e., physical and/or sexual abuse).

Key Findings

Study results document the fact that currently Medicaid administrative data files (fee-for-service claims (FFS) and managed care encounter data) grossly underreport co-occurring disorders when they are present. Of the 178 Triad participants enrolled in Medicaid, only 21% or 37 participants were correctly identified in the Medicaid files as having co-occurring disorders.

Medicaid expenditures for this population were significant. The majority (78%) of the Medicaid enrollees in the Triad Study used physical and/or behavioral health services during fiscal year 2002-03. The mean per user per month cost for these participants was \$287, and the mean annual per user expenditure was \$3,069. Total annual expenditures for the 140 service users was \$429,726.

Consistent with previous research findings the current analysis shows that women with co-occurring disorders that are engaged in treatment are a very vulnerable population. These women are frequently mandated to participate in treatment and subject to involuntary psychiatric or Baker Act examination. Within the Medicaid-enrolled Triad sample 74 participants or 42% of the sample were required to participate in treatment, according to their self-reported answers on the Triad interview protocol. In contrast to what was expected, participants who were mandated to treatment used proportionately fewer services and had lower cost of care than participants not mandated to treatment.

Of the 178 participants enrolled in Medicaid, 36 (20%) had at least one Baker Act examination. As was the case for participants mandated to treatment, participants in the study who had at least one Baker Act examination had lower mean per user per month total costs for physical and behavioral health services than participants without a Baker Act examination. These findings suggest that mandated treatment and involuntary psychiatric or Baker Act examination do not necessarily result in treatment engagement or retention.

Discussion and Recommendations

In order for AHCA to monitor the quality of care delivered to people with co-occurring disorders and to better meet the needs of women with co-occurring disorders they must first be correctly identified. Hence, we recommend the development of a Medicaid data system and/or procedures that can accurately identify persons with co-occurring disorders along with an examination of the incentives and disincentives for providers of Medicaid-funded services to report co-occurring disorders when they exist.

Other recommendations include:

- Training of behavioral health practitioners in the assessment of co-occurring disorders including trauma and assessment of co-occurring disorders at every point of entry to the service delivery system;
- Cross training for Medicaid-funded mental health and substance abuse service providers on evidence-based trauma-informed practice models of integrated treatment, and the multiple and complex service needs of women with co-occurring disorders and their children;
- Additional research on the antecedents and consequences of Baker Act examinations should be undertaken to better understand how the process is working for Medicaid enrollees who experience these involuntary psychiatric examinations;
- Studies using administrative data that also incorporates qualitative methods should be conducted to gain knowledge regarding the effect of coerced or mandatory participation in inpatient and outpatient treatment on women with co-occurring disorders and their children.

Lastly, to adequately meet the complex and multiple needs of the study population it is essential that flexible funding strategies to support needed services be developed and implemented. Enhancement of the service system to meet the needs of women with co-occurring disorders and their children would likely require collaborative restructuring across all levels and systems of care to encourage practice redesign. Reorganizing practice might better meet the needs of clients with co-occurring disorders by providing a broader array of services, less fragmentation, more outreach and closer follow-up. Ultimately, providing more effective services to this population could prove cost-effective considering the linkages of co-occurring disorders to physical illness, homelessness, risks for child abuse and criminal justice system involvement.

Study of Women with Co-occurring Disorders and Lifetime Histories of Interpersonal Trauma

Introduction

In recent years, increasing awareness of the strong associations between mental disorders, substance abuse disorders, exposure to traumatic events, and posttraumatic stress disorder (PTSD), has directed the attention of clinicians, researchers and policymakers to the complex and often unmet service needs of women with these conditions. Using Medicaid administrative data and primary data collected by the Triad Project this study examines the personal characteristics and pattern of service use and cost to Medicaid of women with co-occurring mental health and substance abuse disorders who also have histories of interpersonal trauma (i.e., physical and/or sexual abuse). The Triad Project, located in Florida, was one of nine study sites participating in the Women, Co-occurring Disorders and Violence Study (WCDVS) that was nationally funded by the Substance Abuse and Mental Health Services Administration (SAMHSA). The WCDVS is the first large-scale federal initiative that addresses the significant lack of appropriate services for women, with co-occurring disorders who have experienced trauma, and their children.

In this report co-occurring disorders is a term used to describe individuals who have a DSM-IV Axis I or II major mental disorder (e.g., psychotic, depressive, and bipolar disorders) and a substance abuse disorder. It is estimated that between 7 and 10 million people in the United States “have at least one mental disorder as well as an alcohol or drug abuse disorder” (Kessler, 1994; Kessler, Nelson, McGonagle, Edlund, Frank, & Leaf, 1996). Data also indicate that 3 million or 30% of persons with co-occurring disorders have at least three disorders and one million (10%) have four or more disorders (Hegner, 1998; National Advisory Council, 1997). Research indicates that co-occurring disorders are often under diagnosed and untreated (Milling, Faulkner, & Craig, 1994; Burgdorf, Chen, Walker, Porowski, & Herrell, 2004). Further, if one of the co-occurring disorders goes untreated, both usually get worse (Drake, Mercer-McFadden, Mueser, McHugo, & Bond, 1998). Co-occurring disorders can result in poor response to treatment and increased risk of other serious medical and social problems (e.g., HIV, Hepatitis B and C, cardiac and pulmonary diseases, suicide, unemployment, and homelessness) (Bartels, Drake, & Hugo, 1992; Bassuk, Buckner, Perloff, & Bassuk, 1998; National Mental Health Association (NMHA), 2003; Jans & Stoddard, 1999). Despite the treatment challenges posed by persons with co-occurring disorders, findings from recent intervention research demonstrate that treatment outcomes can be improved with proper diagnosis and integrated services (Mueser, Drake, & Miles, 1997; Najavits, Weiss, Shaw, & Muenz, 1998; Ridgely, Goldman, & Willenbring, 1990; Ridgely & Greenberg, 2002).

Prevalence of Co-occurring Disorders in the United States

While alcohol and drug co-morbidities were first identified and profiled in young, treatment resistant men, a body of literature documenting the prevalence and impact of co-occurring disorders on women and children is now accumulating. A number of studies have documented the prevalence rates of co-occurring disorders among the general United States population (Cusack, Frueh, Hiers, Suffoletta-Maierle, & Bennett, 2003; Kessler, 1994; Regier et al., 1990). The Epidemiology Catchment Area (ECA) Study conducted by Regier and colleagues (1990) sampled the general population between 1980 and 1984 and reported that 53% of illicit drug abusers and 36% of persons with an alcohol abuse disorder had a co-occurring mental disorder and 28% of persons with a mental disorder experienced a substance abuse problem. More recently, the National Co-Morbidity Survey (NCS) (Kessler, 1994; Kessler et al., 1996) reported that 51% of persons with a serious mental illness are also dependent or addicted to alcohol or illicit drugs. Of persons with a lifetime history of illicit drug abuse or dependence, 59% had a lifetime mental disorder and 71% also experienced a lifetime alcohol abuse disorder. The NCS results indicated that 79% of total reported disorders were co-occurring disorders. Approximately half of the persons reporting three or more disorders indicated they had never received any treatment and the majority of those getting services received only physical health services rather than mental health and/or substance abuse treatment (Kessler et al., 1994; Kessler et al., 1996).

Rates of co-morbidity will be lowest for general population studies and would be expected to be highest in studies conducted with young adults, inpatients, and in criminal justice settings. Greenbaum, Foster-Johnson, and Petrila (1996) report that “approximately half of all adolescents receiving mental health treatment have a substance abuse disorder”. Reported rates of co-occurring disorders in criminal justice and inpatient settings are generally over 50% (Felker, Yazel, & Short, 1996; Pepper & Massaro, 1992). Although prevalence rates vary depending on the setting in which the sample was studied, the method by which the disorder is defined, and the size of the sample, all published studies document the fact that co-morbidity is a common occurrence.

Prevalence of Co-occurring Disorders and Trauma

The strong associations among co-occurring disorders and trauma symptoms and/or traumatic experiences among women are well documented in recent research (Ouimette, Kimerling, Shaw & Moos, 2000; Perkonigg, Kessler, Storz, & Wittchen, 2000; Rogers & Norman, 2004). Research on rates of exposure to traumatic events among women with co-occurring disorders shows that from 48 to 90 percent of women with co-occurring disorders also have histories of interpersonal violence (Cusack et al., 2003; DiPalma, 1997; Hanson, Hesselbrock, Tworkowski & Swan, 2002; Lipschitz, Kaplan, Sorkenn, Faedda,

Chorney, & Asnis, 1996). As with co-occurring disorders, varying prevalence rates of traumatic experience for women are found depending on the setting from which the population sampled is drawn, the methods used to define and measure the experience and the size of the sample used to generate the rate (Brown & Anderson, 1991; Coccozza & Skowrya, 2000; Solomon, Bassuk, & Huntington, 2002)

Researchers have consistently observed high rates of substance abuse disorders and PTSD among treatment-seeking women who have a substantiated history of sexual and/or physical abuse. Reports on rates of post-traumatic stress disorder (PTSD) have varied from as little as 20% of people receiving psychiatric outpatient services to as much as 59% of people receiving inpatient services (Kessler et al., 1996; Mueser, Drake, & Wallach, 1998). While reported estimates of lifetime exposure to interpersonal violence and PTSD for women with co-occurring disorders vary, there is a general consensus that these women's needs are poorly served by the existing service system (Blanch, Nicholson, & Purcell, 1994; Najavits, Weis, Shaw, & Muenz, 1998).

Identification and Treatment

Over the past two decades along with increasing attention to co-occurring disorders have come remarkable advances in the definition of disorders and development of standardized screening and assessment instruments that can be used to evaluate the severity of mental health, substance abuse, and trauma symptoms (Derogatis, 1993; Fallot & Harris, 2001; Foa, Cashman, Jaycox, & Perry, 1997; Hodgins & el-Guebaly, 1992). Whenever possible, clinicians are encouraged to use standardized assessment instruments in their screening and client evaluation process. They should also complete an examination of the client's history, including an examination of their safety, the needs of children in the family, past and present exposure to trauma, psychiatric status, as well as the client's pattern of drug abuse, psychosocial development, and cultural history (Fallot & Harris, 2001; Frueh, Cousins, Hiers, Cavanaugh, Cusack, & Santos, 2002). Careful screening and assessment of the client and the needs of their children are the foundation for appropriate and effective treatment. The client assessment process should be viewed as an ongoing activity that can also be used to engage and educate.

Integrated Services

There is a growing body of evidence showing that an integrated approach to treatment in which co-occurring disorders are assessed and treated in a coordinated way within a single treatment setting is more effective than treating each disorder separately (Drake et al., 2001; Ridgely, Lambert, Goodman, Chichester, & Ralph, 1998; Minkoff & Regner, 1999). Despite the known prevalence of co-occurring disorders and trauma in women there has been scant research on integrated services designed specifically for women. Even less research has been conducted on trauma-informed treatment that addresses the impact of interpersonal trauma in the lives of mothers and their children.

Data document the fact that over two-thirds of women with co-occurring disorders are mothers (Becker et al., 2004). Women who are mothers need treatment programs that provide a wide array of services including a focus on motherhood, parenting, and children (Finkelstein, 1996; Grella, 1996). Unfortunately, a review of existing literature shows that practitioners and researchers alike have paid little attention to motherhood or the needs of their clients' children within the context of co-occurring disorders and trauma (Fox, 1999; Mowbray et al., 2001). Striking in its absence is research on the issue of how parenting status affects treatment needs and treatment outcomes for women with children. It is known that in most treatment systems today, women often receive inappropriate, inadequate and uncoordinated treatment (Blanch, Nicholson, & Purcell, 1994). Further, when treatment services are available they rarely address the needs of the consumer's children unless the children have a DSM IV diagnosis.

Treatment Outcomes

Although there is ample evidence that outcomes for persons with co-occurring disorders improve when comprehensive and integrated care is provided, access to effective integrated services is rare. Numerous studies indicate that women and men with co-occurring disorders experience worse outcomes following treatment compared to persons with only one disorder (U.S. Department of Health & Human Services (US DHHS, 1999). The negative consequences of co-occurring disorders in women persist over time in part because less than half of them will receive treatment that addresses their co-occurring conditions. Additionally, for women who do get treatment, the dropout rate is extremely high (Timko & Moos, 2002). There is a growing recognition that women's primary responsibility for child rearing often compounds the effects of their alcohol and drug abuse as well as their ability to access and participate in treatment services (Finerman, 1995; Fox, 1999; Nicholson, Geller, Fisher, & Dion, 1993). There is now a beginning awareness that children of parents with co-occurring disorders and histories of violence/trauma have also been overlooked in behavioral health treatment systems (Becker et al., 2004; Blanch, Nicholson, & Purcell, 1994; Finerman, 1995).

Mandated Treatment

Policy and legal frameworks that surround the provision of behavioral healthcare increasingly include varieties of mandated services and a growing number of states are considering, or have adopted, outpatient commitment laws, drug courts, and mental health courts (Wild, Newton-Taylor, & Alleto, 1998; Monahan et al., 1999). This move toward increased mandatory treatment and the increasing incidence of involuntary psychiatric examination is of concern. The frequency and impact of mandatory treatment bears monitoring and careful research as required treatment may have both positive and negative impacts on women with co-occurring disorders and histories of abuse.

Research regarding the impact of mandated treatment has revealed mixed results and recent research by Cusack and colleagues (2003) documents that 91% of mental health clients surveyed reported experiencing at least one traumatic event within a psychiatric setting. Further, while there is some research supporting the effectiveness of mandated substance abuse treatment, clinicians concur that is not appropriate to “force” someone to deal with trauma issues if they choose not to, thus raising ethical issues that need further research and thought. At a bare minimum, procedures developed for implementing mandated treatment should include assessment for histories of abuse, the presence of co-occurring disorders, and the impact on parenting and children’s needs. In addition, a comprehensive assessment of the person’s treatment history and experiences with coercive treatment is recommended. Increasingly, best practices suggest integrating mental health, substance abuse, and trauma treatment (Clark et al., 2004).

Medicaid and Co-occurring Disorders

Using Medicaid administrative data to analyze prevalence rates of co-occurring disorders is difficult because co-occurring diagnoses, including post traumatic stress disorder (PTSD), are generally underreported. There are few incentives and significant disincentives for providers to code more than one diagnosis code. Providers would like to create an accurate assessment and treatment history of their clients and are therefore motivated to document co-occurring disorders when they exist. However, disincentives are created by the separation of services and the existence of separate funding mechanisms for mental health and substance abuse disorders. Both mental health and addiction service providers participating in the Triad Project were sometimes directed not to document a co-occurring disorder if the disorder was not one that was the specialty of the agency. Practitioners were least likely to document a co-occurring disorder if the documentation of the condition would result in referral of the client to another agency. Inconsistent use of diagnostic and procedural codes further complicates the task of identifying persons with co-occurring disorders in Medicaid claims data files. Thus, while currently little is known about the actual prevalence of persons with co-occurring disorders within the Medicaid population there is little reason to assume that prevalence rates for co-occurring disorders in the Medicaid population vary significantly from the general U.S. population or for general populations engaged in treatment.

Data from the recently completed WCDVS showed that despite high levels of illness among the total sample of 2,729 women with co-occurring disorders that were enrolled nationally, only two-thirds (68%) reported they currently had medical insurance. Of the group with insurance, 83% reported Medicaid enrollment, 10% reported Medicare, and 11% reported some type of private health insurance. Medicaid was clearly the major insurer for the WCDVS population (Becker et al., 2004). The rate of Medicaid enrollment for the study population is reflective of the fact that Medicaid has made an enormous contribution to expanding access to mental health services for low-income and

disabled individuals and is now the central component of the mental health care safety net for people with co-occurring disorders.

Medicaid pays for a broad range of mental health services from acute hospital services to long-term mental health care, including outpatient, psychosocial rehabilitation and pharmacy services. Total Medicaid expenditures in fiscal year 2002 including federal and state dollars were \$221 billion (National Association of State Budget Officers (NASBO), 2002). Recent data suggest that expenditures for services provided to persons with mental disorders are using an increasingly large portion of Medicaid resources (Frank, Goldman, & Hogan, 2003). In response to increasing expenditures for mental health services within Medicaid many states are trying to reign in mental health spending and are looking for budget savings by making cuts in Medicaid eligibility, benefits, reimbursement rates and delegating mental health services to managed care to achieve necessary savings (Boyd, 2003; NASBO, 2002).

Medicaid has traditionally addressed the needs of special populations (such as persons with co-occurring disorders) through targeted program expansions. However, providing for the complex and multiple service needs of women with co-occurring disorders and their children will be especially difficult in the current context of slowing revenue growth and rapidly increasing Medicaid expenditures. Pressures to reduce Medicaid costs will likely increase over the next several years as states face the challenge of paying for rising costs of Medicaid-funded services and increased resource needs for K-12 and higher education. It is clear that creative solutions and a blending of funding mechanisms will likely be required to finance the services needed by individuals with co-occurring disorders (Ridgely, Goldman, & Willenbring, 1990; Konrad, 1996; Huntington, Moses, & Veysey, 2004). This population also requires attention and additional research because of the linkages of co-occurring disorders in adults with associated physical illnesses, homelessness, increased risks for child abuse and criminal justice system involvement (NMHA, 2002; Institute of Medicine (IOM), 1999; Larson et al., 2004, Rinehart et al., 2004).

Improving Services for Persons with Co-Occurring Disorders

Several initiatives to improve services for persons with co-occurring disorders are being implemented. For example, in recognition of the need to improve services for persons with co-occurring disorders in part, the State of Florida enacted legislation in 2001 to integrate the State's publicly funded mental health and substance abuse systems (Senate Bill 1258). This legislation called for district-level managing entities over both general revenue-funded mental health and substance abuse services and Medicaid-funded behavioral health services, so service providers would have increased flexibility to deliver integrated treatment services. This legislation also supported the development of a web-based data system that hopefully will more accurately capture service utilization data and diagnoses, which should and improve the identification of persons with co-occurring disorders. In response to a growing recognition at the national level that services designed specifically for women with co-occurring disorders and histories of trauma were needed, SAMHSA initiated the WCDVS, which took

place between 1998 and 2003. Efforts to disseminate the knowledge gained by the WCDVS are on-going and will also hopefully contribute to the improvement of services to the study population. These exciting initiatives compliment state and national activities to promote and disseminate best practices and the cross training of mental health and addiction professionals.

The Women, Co-occurring Disorders and Violence Study (WCDVS)

For the investigators in this study the opportunity to examine the relationship between exposure to trauma and co-occurring disorders and to generate new knowledge on how services for trauma-surviving women with co-occurring disorders could be improved arose in 1998 when SAMHSA-funded the WCDVS. The WCDVS was funded to develop, implement and evaluate integrated, trauma-informed, gender-sensitive treatment modalities for women with co-occurring disorders.

SAMHSA funded nine sites nationally to complete the research. The WCDVS sites each had experimental and comparison groups and evaluated the effectiveness of new treatment models developed specifically for women with co-occurring disorders and histories of interpersonal violence. The new service models developed for the WCDVS research and outcomes of the study are described elsewhere and are not part of the current study (Clark et al., 2004; Giard et al., 2004). A detailed description of the health status and personal characteristics of women participating in the WCDVS is forthcoming (Becker et al., 2004) and are found in Appendix A.

Research Design

Purpose of the Current Study

This current investigation builds on the five-year WCDVS and extends our research on the 350 women enrolled in the Florida site as participants in the Triad Project. The Triad Project took place in DCF Districts 13 and 14 during 1998-2003. The specific aims of the current research were to examine the behavioral health care service use and costs to Medicaid for women with documented co-occurring disorders and histories of trauma who were enrolled in the WCDVS Florida site. The current study examined the proportion of women who were accurately identified in the Medicaid data set as having a co-occurring disorder. Additionally, this investigation examined the frequency of, and Medicaid service use and costs associated with, involuntary or mandated treatment and involuntary (Baker Act) examination for women enrolled in the Triad study.

Research Questions

The study was designed to answer the following questions:

1. What is the proportion of women in the Triad Study who are found in the Medicaid eligibility file?
2. Of those in the Medicaid fee-for-service (FFS) claims or managed care encounter data sets, how many are identifiable as having a co-occurring disorder?
3. What are the behavioral health service use and cost outcomes for the study population?
4. What is the impact of mandated treatment on the participants' service use and cost of care?
5. What is the impact of Baker Act examinations on the participants' service use and cost of care?

Methods

A variety of data sets were used to answer the study research questions. These data included: demographic information from the Triad Project interview data; Medicaid enrollment information, FFS claims, managed care encounter data (i.e., FHP/Florida Health Partners and District 14 Medicaid HMOs), and Baker Act data for FY2000-2003. The Triad Project took place in DCF Districts 13 and 14. Medicaid managed mental health care began in AHCA Area 6 (which includes DCF District 14) in 1996, therefore to examine the cost of services for the study population we had to include encounter data from the multiple managed care organizations in that district, in addition to Medicaid FFS claims from AHCA.

To be eligible for the WCDVS, women at each of the nine study sites were required to be 18 years old or older, have a DSM IV Axis I and /or Axis II psychiatric diagnosis, have a DSM IV substance abuse disorder (one diagnosis had to be current, but the other could be a past diagnosis in the last 5 years), recent symptoms, a history of physical and/or sexual abuse, and two or more previous service episodes. Participants in the WCDVS were enrolled into the study between January 2001 and March 2002.

The first step in this analysis was the identification of the Triad sample in the Medicaid claims/encounter data and Baker Act data sets. All Medicaid FFS claims and managed care encounter data for Medicaid-enrolled participants in the sample were examined to determine the mental health diagnoses assigned to study participants. This diagnostic information was then used to determine the proportion of participants who were correctly diagnosed as having co-occurring diagnoses. Because of our confidence in the diagnostic verification process

developed by the WCDVS the assignment of participants' co-occurring diagnoses by the Triad Project is used as the "gold standard" in this analysis. It is accepted that all 350 participants in this study have co-occurring disorders and history of physical and/or sexual abuse.

In addition to verifying participants' past treatment history, all participants in the WCDVS were interviewed about their substance abuse problems using selected items from the Addiction Severity Index (McLellan et al., 1992), mental health symptoms were measured with the Brief Symptom Index (BSI: Derogatis, 1993) and selected items from the Posttraumatic Stress Diagnostic Scale (PDS) (Foa, 1995) were used. The results of baseline testing show that WCDVS participants had extensive histories of abuse and significant physical, mental and substance abuse service needs. Results of baseline testing are reported in detail in the paper included in Appendix A.

The service use and cost analyses compares total and category-specific, behavioral and physical health service use and costs for the 178 participants identified in the Medicaid claims/encounter data sets. Categories of services used to compare utilization and cost rates for the Triad participants found in the Medicaid database are shown below in Table 1.

Table 1
Definition of Categories of Services Used in the Analyses

| Category Description | Catcaid Codes* Used to Define Service Category |
|--|--|
| Other outpatient behavioral health service use | <50.00; not including 01.00, 02.00, 03.00 |
| Inpatient behavioral health service use | 01.00, 02.00, 03.00 <3.99 |
| Individual or family counseling | 08.00 10.00 |
| Intensive outpatient treatment | 04.00-04.50 |
| Day treatment/ partial hospitalization | 12.00 |
| Home-based services, ITOS/ HBRS | 11, 11.50, 16.00 |
| Case management services | 13.00 |
| Total Behavioral Health | <50.00 |

*For documentation and a complete list of Catcaid codes and their descriptions, refer to http://psrdc.fmhi.usf.edu/Documents/PSRDC_Catcaids.pdf

Research Question 1:

What is the proportion of women in the Triad Study who are found in the Medicaid enrollment file and what are their demographics?

A total of 178 participants or roughly half (50.8%) of the 350 participants enrolled in the Triad Project were found in the Medicaid enrollment files. Demographic information for all Triad participants, those enrolled in Medicaid and not enrolled in Medicaid, are presented in Table 2. In general, demographic and diagnostic data for the participants in this study indicate that the majority of them were poor, minimally educated, and under employed. There were demographic differences between participants enrolled and not enrolled in Medicaid. On average, participants enrolled in Medicaid were slightly younger (33.5 years) than those not enrolled in Medicaid (37.6 years). The youngest enrollee in both groups was 18 and the oldest was 56 years for the Medicaid-enrolled sample and 73 years for the non-Medicaid group.

The racial/ethnic characteristics of Medicaid enrollees and non-enrolled study participants show that the vast majority of participants in both groups (74% and 82%) were white. Although the proportion of participants with minority status was small overall, it is noteworthy that the proportion of Medicaid enrollees with minority status differed from that of participants not enrolled in Medicaid. There were more minorities in the Medicaid-enrolled group. A total of 45 (25.6%) participants enrolled in Medicaid compared to 30 (17.5%) participants not enrolled in Medicaid were from a minority group (i.e., Black, Hispanic, American Indian). With regard to relationship status, review of Table 2 indicates that Medicaid enrollees were slightly less likely to be married (15.7% vs. 18.0%) or living with a significant other (18.5% vs. 24.4%) and they were more likely to never have been married (28.0% vs. 16.9%) than non-Medicaid participants.

There were differences in employment status between participants enrolled and not enrolled in Medicaid. A total of 65 (37.7%) participants not enrolled in Medicaid worked either full time (44 participants/25.5%) or part time (21 participants/12.2%) and only 35 (19.6%) Medicaid enrollees worked either full time (15 participants/8.4%) or part time (20 participants/11.2%). While all the participants in the study were poor, Medicaid-enrolled participants had less monthly income. On average, monthly income for Medicaid-enrolled participants from all sources was \$740 compared to a monthly income of \$862 for participants not enrolled in Medicaid. Triad data show that the majority of participants (87.7%) enrolled in the WCDVS Triad site reported they had children. In this study, in the Medicaid-enrolled sample 165 participants (93%) reported they had children and 138 participants (80%) in the non-enrolled group reported they had children.

Table 2
Demographic Information

| Demography information | | Total | | Medicaid (Yes / No) | | | |
|---------------------------|-----------------|----------|--------|---------------------|--------|----------|--------|
| | | | | No | | Yes | |
| | | N (352) | % | N (172) | % | N (178) | % |
| Race | White | 272 | 77.71% | 141 | 81.98% | 131 | 73.60% |
| | Black | 50 | 14.29% | 21 | 12.21% | 29 | 16.29% |
| | Hispanic | 18 | 5.14% | 5 | 2.91% | 13 | 7.30% |
| | American Indian | 7 | 2.00% | 4 | 2.33% | 3 | 1.69% |
| | Missing | 3 | 0.86% | 1 | 0.58% | 2 | 1.12% |
| Age (years) | Mean: | 35.5 | | 37.57 | | 33.49 | |
| | Std Dev | 9.3 | | 9 | | 9.14 | |
| | Min | 18 | | 18 | | 18 | |
| | Max | 73 | | 56 | | 56 | |
| Marriage | Married | 59 | 16.86% | 31 | 18.02% | 28 | 15.73% |
| | Sig. Other | 75 | 21.43% | 42 | 24.42% | 33 | 18.54% |
| | Widowed | 10 | 2.86% | 7 | 4.07% | 3 | 1.69% |
| | Divorced | 81 | 23.14% | 46 | 26.74% | 35 | 19.66% |
| | Separated | 46 | 13.14% | 17 | 9.88% | 29 | 16.29% |
| | Never married | 79 | 22.57% | 29 | 16.86% | 50 | 28.09% |
| Current employment status | Employed, FT | 59 | 16.86% | 44 | 25.58% | 15 | 8.43% |
| | Employed, PT | 41 | 11.71% | 21 | 12.21% | 20 | 11.24% |
| | Looking | 69 | 19.71% | 36 | 20.93% | 33 | 18.54% |
| | Disabled | 95 | 27.14% | 26 | 15.12% | 69 | 38.76% |
| | Volunteer | 8 | 2.29% | 3 | 1.74% | 5 | 2.81% |
| | Retired | 1 | 0.29% | 1 | 0.58% | 0 | 0.00% |
| | Student | 4 | 1.14% | 1 | 0.58% | 3 | 1.69% |
| | Homemaker | 19 | 5.43% | 8 | 4.65% | 11 | 6.18% |
| | In MHSA Tx* | 42 | 12.00% | 26 | 15.12% | 16 | 8.99% |
| Other | 12 | 3.43% | 6 | 3.49% | 6 | 3.37% | |
| Monthly Income | Mean: | \$804 | | \$862 | | \$740 | |
| | Std Dev | \$1,163 | | \$1,310 | | \$1,001 | |
| | Median | \$559 | | \$586 | | \$520 | |
| | Min | \$0 | | \$0 | | \$0 | |
| | Max | \$11,320 | | \$11,320 | | \$10,000 | |
| Have children or not | No | 47 | 13.43% | 34 | 19.77% | 13 | 7.30% |
| | Yes | 303 | 86.57% | 138 | 80.23% | 165 | 92.70% |

*Note: This includes all types of MHSA treatment; the question to participants did not specify types of treatment.

Research Question 2:

Of the Medicaid-enrolled women with claims in the Medicaid FFS claims or managed care encounter data sets, how many are identifiable as having a co-occurring disorder?

Of the 178 Triad participants enrolled in Medicaid, only 21% or 37 participants were identified as having co-occurring disorders based on ICD-9-CM codes between 290 and 316 (see Table 3). ICD-9 codes rather than DSM IV codes were used in this analysis because beginning in FY01/02 Medicaid service providers assigned diagnoses using ICD-9 primary and optional secondary diagnosis codes. A description of the DSM-IV classification of disorders using ICD-9 codes is found in Appendix H of the DSM-IV-TR 4th Edition (APA, 2003). Actual verification of the accuracy of particular diagnoses assigned to participants in the Medicaid files is beyond the scope of this study. People were identified as having co-occurring disorders in two ways: 1) Claims/encounters for an individual could have both a psychiatric and a substance abuse diagnosis or 2) there could be multiple claims for the same person, some with a psychiatric diagnosis and some with a substance abuse diagnosis.

Table 3
Diagnosis Information

| | Number of Participants | Percent |
|--------------------------------|------------------------|---------|
| Only mental health diagnosis | 122 | 68.5% |
| Only substance abuse diagnosis | 19 | 10.7% |
| Dual diagnoses | 37 | 20.8% |

Given that participants were required to have a co-occurring disorder to be enrolled in the Triad project and diagnoses were verified with clinicians and/or clinical records, the conclusion here is that the diagnosis of co-occurring disorders for study participants is accurate and that Medicaid data grossly underreported co-occurring disorders for participants in this study when they actually existed. The underreporting of diagnoses found in this study is in keeping with previous reports and is not surprising because, as discussed above in the literature section of this report, there are currently few incentives and many disincentives for mental health and addiction service providers to provide concurrent diagnoses even when they are known to exist.

Research Question 3:

What are the behavioral health service use and cost outcomes for the study's co-occurring population?

Table 4 provides information on the FY02-03 Medicaid expenditures for behavioral and physical health services provided to the 178 participants with co-occurring disorders in Medicaid. Some of the participants in the study were in managed care, so both Medicaid FFS claims and managed care encounter data were used in this cost analysis in order to get as complete a picture as possible. Since some of the managed care arrangements with providers were capitated, there were no FFS cost data to use. Therefore, service costs were calculated according to the following procedure.

The cost estimates used for services provided under managed care capitation arrangements were computed by dividing services into the seven service categories of interest. We then calculated the number of days of service for each category of service across all managed care service recipients. The total number of days of service for each service category was then divided into the total FFS cost for that category of service to compute the per day cost of the service category in managed care. Then per user per month (PUPM) and annual total costs could be calculated for all service recipients.

Table 4
Service use and cost data for Medicaid enrollees with co-occurring disorders during fiscal year 2002-03

| Services | Total (n=178) | | | |
|--|---------------|-----------------|------------------|------------------------|
| | PUPM (mean) | Number of users | Penetration rate | Annual total cost (\$) |
| Inpatient behavioral health service use | \$256 | 16 | 8.99% | \$47,058 |
| Individual or family counseling | \$40 | 70 | 39.33% | \$32,127 |
| Intensive outpatient treatment | \$124 | 30 | 16.85% | \$41,762 |
| Day treatment/partial hospitalization | \$144 | 14 | 7.87% | \$21,832 |
| Case management services | \$68 | 20 | 11.24% | \$15,865 |
| Other outpatient behavioral health service | \$16 | 68 | 38.20% | \$11,706 |
| Total behavioral health | \$164 | 94 | 52.81% | \$170,350 |
| Physical health | \$181 | 132 | 74.16% | \$259,376 |
| Total cost | \$287 | 140 | 78.65% | \$429,726 |

Seventy nine percent or 140 of these participants with co-occurring disorders in Medicaid used physical and/or behavioral health services during fiscal year 2002-03. The mean per user per month cost for these participants was \$287, the total annual cost for this group was \$429,726 and the mean annual per user expenditure was \$3,069.

Research Question 4:

What is the impact of mandated treatment on the women's service use and cost of care?

The argument in favor of mandating treatment for persons with behavioral health disorders posits that required treatment (e.g., court-ordered or required by DCF/Child Protection) will increase compliance with treatment and ultimately improve client outcomes (Monahan et al., 2001). Self-report interview data show that within the entire Triad sample 138 or 39.4% of the 350 participants enrolled were required to participate in mental health treatment by a court or the Department of Children and Families (DCF). Within this Medicaid-enrolled sample 74 participants (42%) were required to participate in treatment.

The pattern of service use and expenditures for Medicaid enrollees who were and were not mandated to participate in treatment are presented in Table 5 on the next page. In contrast to what was expected, participants who were mandated to treatment used proportionately fewer services and had lower cost of care than participants not mandated to treatment. As shown in Table 5, 52 (70%) of the Medicaid enrollees who were mandated to treatment and 88 (85%) of participants not mandated to treatment used physical and/or behavioral health services during fiscal year 2002-03. The mean per user per month cost (PUPM) cost to Medicaid for all Medicaid services provided for mandated participants was \$228 PUPM, which is lower than the \$319 PUPM cost for persons not mandated to treatment. There are also differences in the pattern of service use for mandated and non-mandated individuals. For example, 26% of participants mandated to treatment received individual or family counseling compared to 49% of non-mandated participants and only 7% of mandated individuals compared to 14% of non-mandated participants received case management services.

Table 5
Service use and cost of care for mandated and non-mandated
Medicaid enrollees during fiscal year 2002-03

| Service | Non-Mandatory (104) | | | | Mandatory (74) | | | |
|---------------------------------|---------------------|------------|------------------|------------------------|----------------|------------|------------------|------------------------|
| | PUPM (mean) | # of users | Penetration rate | Annual total cost (\$) | PUPM (mean) | # of users | Penetration rate | Annual total cost (\$) |
| Inpatient behavioral health | \$310 | 12 | 11.54% | \$43,341 | \$84 | 4 | 5.41% | \$3,717 |
| Individual or family counseling | \$41 | 51 | 49.04% | \$23,662 | \$38 | 19 | 25.68% | \$8,465 |
| Intensive outpatient treatment | \$146 | 20 | 19.23% | \$33,240 | \$78 | 10 | 13.51% | \$8,522 |
| Day treatment/partial hosp. | \$147 | 9 | 8.65% | \$13,841 | \$140 | 5 | 6.76% | \$7,991 |
| Case management services | \$63 | 15 | 14.42% | \$11,045 | \$84 | 5 | 6.76% | \$4,820 |

| Service | Non-Mandatory (104) | | | | Mandatory (74) | | | |
|------------------------------------|---------------------|------------|------------------|------------------------|----------------|------------|------------------|------------------------|
| | PUPM (mean) | # of users | Penetration rate | Annual total cost (\$) | PUPM (mean) | # of users | Penetration rate | Annual total cost (\$) |
| Other outpatient behavioral health | \$16 | 46 | 44.23% | \$8,051 | \$15 | 22 | 29.73% | \$3,655 |
| Total behavioral health | \$200 | 60 | 57.69% | \$133,180 | \$99 | 34 | 45.95% | \$37,170 |
| Physical health | \$192 | 82 | 78.85% | \$174,173 | \$163 | 50 | 67.57% | \$85,203 |
| Total cost | \$319 | 88 | 84.62% | \$307,353 | \$228 | 52 | 70.27% | \$122,373 |

Research Question 5:

What is the impact of Baker Act examinations on the participants' service use and cost of care?

Data from the WCDVS were merged with statewide short-term, involuntary psychiatric examination or “Baker Act” data. Twenty-six percent or 90 participants of the 341 participants in the Triad study with a valid social security number had at least one Baker Act examination during the two years of the study (fiscal years 2001-03). Of the 178 participants in Medicaid, 36 (20%) had at least one Baker Act examination.

The pattern of service use and expenditures for Medicaid enrollees who had and did not have a Baker Act exam are presented in Table 6. As shown in Table 6, 31 (86%) of the Medicaid enrollees who had a Baker Act exam and 109 (77%) of participants without a Baker Act exam used physical and/or behavioral health services during fiscal year 2002-03. Participants who had at least one Baker Act examination had lower mean per user per month (PUPM) total Medicaid costs for physical and behavioral health services (\$106 PUPM) relative to those without Baker Act examinations (\$233 PUPM). There were also differences in the pattern of service use for those with and without Baker Act exams. Proportionately more participants with Baker Act exams received all types of services (relative to those without Baker Act exams). However, the mean PUPM costs for the Baker Act group across all of the service categories, except inpatient behavioral health, were less relative to the non-Baker Act group. So, for example, more people in the Baker Act group used outpatient services, but they used less of them than the non-Baker Act group. The increase in inpatient behavioral health costs for persons with a Baker Act examination may be a direct consequence of the examination process itself for the participants that were sent to an inpatient facility for her Baker Act examination.

Table 6
Service use and cost of care for Medicaid enrollees with and without Baker Act examinations during fiscal year 2002-03

| Service | Non-Baker Act (142) (80%) | | | | Baker Act (36) (20%) | | | |
|------------------------------------|---------------------------|------------|------------------|------------------------|----------------------|------------|------------------|------------------------|
| | PUPM (mean) | # of users | Penetration rate | Annual total cost (\$) | PUPM (mean) | # of users | Penetration rate | Annual total cost (\$) |
| Inpatient behavioral health | \$131 | 7 | 4.93% | \$10,493 | \$199 | 9 | 25.00% | \$36,565 |
| Individual or family counseling | \$34 | 47 | 33.10% | \$18,303 | \$17 | 23 | 63.89% | \$13,825 |
| Intensive outpatient treatment | \$108 | 18 | 12.68% | \$20,941 | \$62 | 12 | 33.33% | \$20,801 |
| Day treatment/partial hosp. | \$149 | 11 | 7.75% | \$17,136 | \$31 | 3 | 8.33% | \$4,697 |
| Case management services | \$61 | 10 | 7.04% | \$7,199 | \$37 | 10 | 27.78% | \$8,666 |
| Other outpatient behavioral health | \$17 | 46 | 32.39% | \$8,698 | \$4 | 22 | 61.11% | \$3,009 |
| Total behavioral health | \$111 | 67 | 47.18% | \$82,770 | \$84 | 27 | 75.00% | \$87,562 |
| Physical health | \$169 | 104 | 73.24% | \$187,565 | \$50 | 28 | 77.78% | \$71,811 |
| Total cost | \$233 | 109 | 76.76% | \$270,335 | \$106 | 31 | 86.11% | \$159,373 |

Limitations

There are a number of important limitations associated with this study. First, the research was constrained by its small sample size that was the result of restricting analysis to women enrolled in the Triad Project and Medicaid. The examination of Medicaid service use, expenditures and diagnoses relies solely on Medicaid FFS claims data and managed care encounter data that may contain some inaccuracies and can be subject to coding errors. These data only reflect the service experiences and diagnosis codes of individuals as captured in these Medicaid files and thus results may underestimate services and expenditures for some services (e.g., services reimbursed under capitation arrangements are often underreported).

We believe that any inaccuracies that exist in these data are not differentially biased relative to the comparisons reported here. Data regarding out-of-pocket expenditures and services provided outside the Medicaid system would of course be of help in understanding the total resources utilized by women with co-occurring disorders. Despite limitations of the information available for this report this analysis contributes to the knowledge about the characteristics, service use and costs of women enrolled in Medicaid with co-occurring disorders and histories of trauma.

Discussion and Implications for Public Policy

Policymakers have identified the treatment of co-occurring disorders as a critical issue that needs to be addressed within addiction and mental health treatment settings. Consistent with previous research, findings from the current analysis and the larger WCDVS show that women with co-occurring disorders are a very vulnerable population that is frequently mandated to participate in treatment and subject to involuntary psychiatric care (Baker Act examination). It is well known from previous research, and WCDVS data, that women with co-occurring disorders are likely to be mothers and that they have extensive physical and behavioral health service needs. Further, the Triad Project data document that study participants also had extensive histories of early and repeated abuse, a situation that is not uncommon for women with co-occurring disorders. Victims of abuse are likely to be the least able subpopulation of persons with co-occurring disorders to navigate a fragmented non-integrated system of care.

Study results document that currently Medicaid administrative data files (FFS claims and managed care encounter data) grossly underreport co-occurring disorders when they are present. Because of the magnitude of underreporting for co-occurring disorders that currently exists within the Medicaid administrative data files, AHCA is unable to accurately identify Medicaid beneficiaries with co-occurring diagnoses,

monitor service utilization, or costs of care for this population. Due to the small sample of women available for this study and study eligibility criteria that required Triad Project participants to be high service users with histories

of interpersonal violence and trauma, generalizations from these data presented in this report are quite limited. Nonetheless, study findings provide important preliminary information that contributes to understanding the variation in service use of women with co-occurring disorders. Results point toward the need for additional research on the relationship between diagnoses, service utilization, costs, mandated status, and the interface with the Baker Act system for Medicaid enrollees with co-occurring disorders. Further, due to the fact that all the subjects in this study were women who volunteered to participate in the Triad Project they may vary in some systematic way and not be representative of typical Medicaid enrollees with co-occurring disorders. Thus, future research with larger and more representative samples is recommended to evaluate the service needs and costs of care for both women and men with co-occurring disorders.

Other recommendations include:

- Development of a Medicaid data system or data procedures that can accurately identify persons with co-occurring disorders. In order for AHCA to monitor the quality of care delivered to people with co-occurring disorders, they must be identifiable in the claims and managed care encounter data files;
- Examination of the incentives and disincentives for providers of Medicaid-funded services to report co-occurring disorders when they exist and provide integrated treatment when it is needed;
- Training of behavioral health practitioners in the assessment of co-occurring disorders, including trauma, and assessment of all these conditions at every point of entry to the service delivery system;
- Cross training for Medicaid-funded mental health and substance abuse service providers on evidence-based practice models of integrated treatment and the multiple and complex service needs of women with co-occurring disorders and their children;
- Additional research on the antecedents and consequences of Baker Act examinations should be undertaken to better understand how the process is working for Medicaid enrollees who experience these involuntary psychiatric examinations;
- To understand the effect of coerced or mandatory participation in inpatient and outpatient treatment on women with co-occurring disorders and their children should be conducted.

Lastly, to adequately meet the complex and multiple needs of the study population it is essential that flexible funding strategies to support needed services be developed and implemented. Enhancement of the service system to meet the needs of women with co-occurring disorders and their children would likely require collaborative restructuring across all levels and systems of care to encourage practice redesign. Reorganizing practice might better meet the needs of clients with co-occurring disorders by providing a broader array of services, less fragmentation, more outreach and closer follow-up. Ultimately, providing more effective services to this population could prove cost-effective considering the linkages of co-occurring disorders to physical illness, homelessness, risks for child abuse and criminal justice system involvement.

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