

# BEHAVIORAL HEALTH IN OHIO CURRENT RESEARCH TRENDS

Volume 3 No. 1 ● August 2015



*Promoting Wellness and Recovery*

*Featured Research Topics:*

*Children and Psychiatric Care  
ADHD Care and African American Youth  
Treating Children with Post Traumatic Stress Disorder  
Mental Health Service Use by Young Adults  
African American Girls and ACE Indicators*

## BEHAVIORAL HEALTH IN OHIO ~ CURRENT RESEARCH TRENDS

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*Current Research Trends* or *CRT* is a service of the Office of Planning, Quality and Research (OQPR). Its purpose is to disseminate behavioral health research findings related to Ohio’s public mental health system.

*CRT* e-Journals are organized thematically to highlight a single critical topic. Most *CRT* articles focus on research funded, in whole or in part, by the Office of Quality, Planning and Research at OhioMHAS. However, manuscripts about behavioral health studies conducted in Ohio but not funded by OhioMHAS are also welcome for possible inclusion.

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# BEHAVIORAL HEALTH IN OHIO CURRENT RESEARCH TRENDS



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***Moving Research into Practice***

**Tracy J. Plouck**  
*Director, Ohio Department of Mental Health and Addiction Services*

I am pleased to present the fourth issue of Behavioral Health in Ohio – Current Research Trends (CRT). The focus of this issue of CRT addresses children’s behavioral health services and health disparities. Behavioral health disorders in childhood affect many children and families. Boys and girls from all socioeconomic strata, ethnic/racial backgrounds, and regions throughout Ohio experience behavioral health difficulties at high rates. It is currently estimated that between 13 to 20 % of children living in the United States ( up to 1 in 5 children) experience a mental disorder in any given year, with an estimated \$247 billion spent each year on these disorders. According to recent statistics, suicide, which can be a consequence of untreated mental disorder, is the second leading cause of death among children aged 12–17. Given the high prevalence of mental health issues in childhood and their long term consequences across the lifespan, child behavioral health prevention, promotion, and treatment is a significant priority for the state of Ohio’s system of behavioral health services.

Other articles in this edition of CRT focus on the experiences of disparities in behavioral health care within Ohio’s minority populations. In 2011, the U.S. Department of Health and Human Services found that individuals belonging to minority racial and ethnic groups experience adverse health outcomes to a greater extent than Caucasian Americans. These disparities involve social, economic, and environmental factors and have changed very little over the last decade. In response to these findings, Ohio and other states have prioritized efforts to close this health equity gap using various strategies, including the identification of underserved populations, workforce development, community collaboration, and a disparity-reducing research agenda. A few articles in this edition of CRT are a part of this emerging research agenda. One study shows how children of different ethnic groups receive disparate levels of treatment for a common behavioral health problem. Another study highlights the geographical disparities in children’s access to behavioral health treatment. Other articles focus specifically on African American girls, the unique mental health issues faced by Ohio’s Asian/Pacific Islander population, and the correlation of childhood trauma and dangerous behavior later in life.

Our Office of Quality, Planning and Research (QPR) works to provide real-time data, analysis, research, and evaluation in the areas of children’s behavioral health and healthcare disparities. The work produced by QPR assists policymakers to better understand the extent and consequences of behavioral health disorders and inform potential solutions. The systematic use of evaluation,

research, and monitoring of behavioral health disorders helps target resources and determine the most efficient and effective treatment and prevention efforts for all Ohio’s children, youth, and minority populations.

While, the burdens carried by some of Ohio’s most vulnerable youth are painful to think about, I believe the progress that Ohio behavioral health researchers are making in expanding our field’s base of clinical knowledge is very encouraging. I hope you will be able to use insights from these studies to enhance the availability and quality of services to meet the needs of all individuals with addiction and mental illness living and working in our state.

***On the Cover: “-Detail from Untitled Image below-”***



***Queen Brooks***

Queen Brooks is a staple in the creative arts community of Columbus, Ohio. A popular artist, Brooks can be found either working in her studio or with middle and high school students, designing and painting murals around Columbus.

Historically, Brooks is sometimes referred to as a “late bloomer.” She began her career in the 1980s when as a young adult she apprenticed with the accomplished Columbus photographer Kojo Kamau.

In national art circles, Brooks is best known for her skillful and colorful wood burning technique. This method, known as the art of pyrography, was used to produce the colorful image on the cover.

With B.F.A. and M.F.A. degrees in art in 1990 and 1992, respectively, Brooks is a graduate of The Ohio State University. In 1993, Brooks won the Lila Wallace, Reader’s Digest International Artist Award, which enabled her to pursue a residency in the French port city of Abidjan in the Republic of the Ivory Coast, West Africa. Upon her return, Brooks served as an adjunct professor in art instruction at Otterbein University (1995-2002) and at the Ohio Dominican University (2002 -2006). In 2008, Brooks was hired as the lead artist for the Greater Columbus Arts Council’s Art in the *House* program.

Brooks has exhibited locally, nationally, and internationally. She has been featured in *Essence* magazine and the *International Review of African American Art*. A visual storyteller, Brooks’ public works can be seen around Columbus at the Kwanzaa Playground, Ohio’s first African-centered playground and on murals in various neighborhoods, such as the Rosewind Center and the Krumm Park area. See Brooks art on Pages 1, 10, 62 & 76.





***Improving Access to Prevention,  
Treatment and Recovery  
Support Services: A Quality-Driven  
Research Agenda***

The consolidation of the Ohio Department of Mental Health and the Ohio Department of Alcohol and Drug Addiction Services in July 2013 enabled two research and evaluation teams to unite under the Ohio Department of Mental Health and Addiction Services' Office of Quality, Planning and Research. The Department is fortunate to have such an experienced team of social science researchers with a wide range of expertise in qualitative and quantitative methods. In addition to annual funding of a number of external studies relevant to the mission of the Department, the Bureau of Research and Evaluation leads and lends support to a host of internal evaluation, epidemiological, cost-effectiveness, disparities, and outcome studies. This range and depth of experience facilitates a data driven approach to service delivery that is critical in a changing landscape of new opportunities and challenges that are part and parcel of health care reform.

Within this context of healthcare reform, our Ohio behavioral health field is challenged to improve access to evidence-based prevention, treatment, and recovery support services that are trauma-informed, culturally and linguistically competent, and person-centered. Improved access to services must include a research and evaluation agenda that addresses issues of health disparities and promotes health equity. For example, what is the impact of various care integration models on behavioral healthcare access, especially for underserved and minority populations? Which cultural or ethnic populations demonstrate poorer treatment outcomes and what programs, practices, and strategies can be demonstrated effective in improving those outcomes? How do we prepare our behavioral health workforce to better address the needs of a culturally and linguistically diverse population?

A focus on improved access to behavioral health services also suggests the need to explore enhanced epidemiological activities to identify new and emerging populations in need of intervention. Surveillance systems like OhioMHAS' State Epidemiological Outcome Workgroup (SEOW) and the Ohio Substance Abuse Monitoring (OSAM) Network inform the behavioral health field of needed programs and policies. Over time, these systems can also provide evidence of regional and statewide impact of programs and policies implemented in response to emerging needs.

Improving access to behavioral health services also requires that we give attention to improving quality and reducing costs. For example, how do different service purchasing mechanisms affect

the provision, quality, and outcomes of behavioral health care? Which individual and system level outcome indicators are useful in guiding programs, practice, strategies, and policies to support a highly effective and efficient service system?

These questions related to improved access to quality behavioral health care are just some of the issues under consideration in establishing a research agenda moving forward within the Office of Quality, Planning and Research. Our efforts will be guided by our Office mission: to support high quality, cost effective public mental health and addiction services for consumers, families and communities by engaging in decision support, quality improvement and planning activities.

***Sanford Starr  
Deputy Director  
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**Guest Columnist**

**Angela Sausser**  
*Executive Director*  
*Public Children Services Association of Ohio*  
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As director of the Public Children Services Association of Ohio (PCSAO), I am reminded on a daily basis about the unmet behavioral health needs of Ohio's children. Childhood can be a challenging time, particularly when children have difficulties with their behavior, attention, mood or troubles at home or at school. If problems go unrecognized, children can develop low self-esteem, perform poorly at school, have troubling relationships with friends and family, and not live up to their fullest potential.

Current estimates suggest that 491,000 children and youth in Ohio (20% of all Ohio's youth) have some form of a diagnosable behavioral health disorder. The Youth Risk Behavior Survey (YRBS) surveys a representative sample of youth in Ohio every two years to monitor students' health risk and behaviors. According to YRBS findings, 30% of Ohio students surveyed reported feeling so sad and hopeless that they stopped doing usual activities. An additional 10% reported attempting suicide one or more times in the past year, and 20% reported purposely hurting themselves without wanting to die, such as cutting or burning themselves, during the past year. These statistics are even more alarming when accounting for racial and ethnic disparities. African Americans and Hispanic youth are more likely to be diagnosed with a behavioral health disorder than their White counterparts. These same youth are significantly less likely to receive necessary treatment because their parents, caretakers, and communities lack information about mental illness and behavioral health services and do not have access to appropriate evidence-based care.

The articles in this issue of Current Research Trends (CRT) shed light on some of the challenges associated with identifying and serving youth in Ohio communities where behavioral health disparities are the norm and not the exception. The Rise Sister Rise (RSR) research project is one such study that, due to the findings, has received a fair amount of attention and has led to some local community action. This research examined the prevalence of adverse childhood experiences and their association with risky behaviors in African American girls in four Ohio communities. Findings from the RSR study mirrored national statistics on depression in youth. Study findings indicate that: 1) 32% of the girls experienced depression and thoughts of suicide, 2) 18% reported using illicit drugs, 3) 15% mentioned alcohol use, 4) 19% admitted to driving while drinking alcohol, and 5) an alarming 50% engaged in physically violent behavior with another person.

One of the most striking RSR findings was concerned with the association between violent behavior in youth and their adverse experiences in the home. The girls that had a propensity toward violent behavior were far more likely to live in homes where there was, for instance, physical abuse (57%), sexual abuse (67%), physical neglect (58%), and an incarcerated household member (62%). This finding is significant because research to date has only shown that adverse events that occurred in childhood were associated with violence and other adverse consequences later in life. This study is the first one to show that adverse consequences take root much earlier than expected, during the person's childhood years rather than in adulthood. While clearly upsetting, these findings actually provide policymakers and interventionists the opportunity to reverse the effects of childhood adverse experiences through early identification, evidence-based behavioral health prevention and treatment, and local community-based prevention coalitions.

The PCSAO is all too familiar with the findings of the RSR research project. We, along with other system stakeholders, are active partners in implementing major reforms in the delivery of behavioral health services to children and youth. We have as our behavioral health transformation priorities:

- Ensuring access the Early and Periodic Screening, Diagnosis and Treatment (EPSDT) benefit for children within Medicaid and to needed behavioral health services for youth and their families.
- Implementation and dissemination of a tool kit for psychotropic medication management protocols and technical assistance to reduce the number of inappropriate prescribing practices for atypical psychotropic drugs for children in foster care.
- Trauma-informed care, including the effects of human trafficking, for early identification, unified screening, and treatment
- Ensuring Intensive Home Based Treatment (IHBT) is a Medicaid service
- Preparing county agency personnel, foster parents and children in foster care to move to some form of managed care for health care by January 2017, ensuring high-quality care coordination and a robust menu of integrated and behavioral health services.

To help children reach their potential and have a successful and happy life we must first understand the depth of the problems children face and evaluate current practices to ensure children and youth are receiving the very best care. To accomplish this, it is imperative to work across multiple child-serving systems with stakeholders at the local, state, and federal levels to affect positive changes that will enhance the lives of Ohio's children and youth. Continuing support for quality research and evaluation is critically important to the success of that mission.

# EVALUATION OF MENTAL HEALTH SERVICES FOR CHILDREN DIAGNOSED WITH PTSD AND ACTING OUT BEHAVIOR PROBLEMS

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The project, entitled, *Therapy and Outcomes for Children with Behavior Problems and Trauma*, (TOCD Project) provided information on mental health services for children with dual diagnoses, specifically a dual diagnoses of Post-Traumatic Stress Disorder (PTSD) and behavior problems (conduct disorder, ODD). The objective of this project was to describe services and determine change in child functioning. Results advanced knowledge about services for and clinical outcomes for children who were dually diagnosed with PTSD and behavior problems, and this is an area where literature documenting outcomes and interventions is needed.

## BACKGROUND INFORMATION

Children were recruited from school-based, outpatient, and in-home trauma treatment programs. All three of these programs served children with

### Abstract:

**Purpose of Study:** The objective of this project was to describe services and determine change in child functioning for children diagnosed with Post-Traumatic Stress Disorder and behavior problems who were receiving individual counseling or therapy services.

**Description of the Study:** Change in child functioning based on Ohio Scales completed by parents and therapists/counselors were assessed for a six-month period. Children and parents completed surveys to describe child functioning at home, school, and in the neighborhood. Parents or caregivers completed surveys assessing their satisfaction with treatment.

**Major Findings:** Child behavior at home could be problematic. When this occurred, child functioning was negatively impacted. Thus, continued interventions to improve child behavior at home and improve caregiver-child attachment and positive interactions are warranted. Children had fairly positive feelings of self-worth, a key resilience factor. Functioning over the six-month period remained unchanged, and more research is needed to uncover the reason that child symptoms and positive functioning did not improve.

**Implications:** Findings indicated that children were moving in and out of treatment, and case management could improve involvement of children in treatment. Gaining an understanding of what interventions work when and for whom they work will provide information to advance the field.

**Keywords:** Children with PTSD and Behavior Problems • Trauma and Child Functioning

dual diagnoses, specifically a dual diagnosis of behavior problems (conduct disorder, ODD) and trauma (PTSD). Children who received an intake for services across all three programs are referred by parents or guardians, community agencies, school administrators, and social service agencies. Children were identified at intake (i.e., received diagnoses at intake). The parent or guardian, therapists and children also participated in this project.

All three programs, outpatient, school based, and in-home trauma, have the ability to provide individual

therapy, community support services, family therapy, and psychiatric services. Mental health treatment focused on implementing trauma-informed interventions with ongoing clinician training, theory to practice mentoring and supervision for all staff.

Children can experience acute stress disorder and/or PTSD after traumatic experiences (Meiser-Stedman,

### Acknowledgment

This research was funded by a contract from the Ohio Department of Mental Health and Addiction Services.

Yule, Smith, Glucksman, & Dalgleish, 2005). Children who have been diagnosed with PTSD experience some symptoms that are consistent with those displayed by adults with this disorder, such as avoidance of stimuli associated with the traumatic event, hyperarousal, as well as repetitive play that re-enacts the trauma they have experienced (Caffo & Belaise, 2003). Children may experience co-morbid psychiatric problems, such as anxiety, depression, behavior, and conduct problems; difficulties maintaining attention; and learning problems (Caffo & Belaise). Children diagnosed with PTSD related to trauma may experience problems in behavioral and social functioning, which can linger long after the trauma experience (Lonigan, Phillips, & Richey, 2003). Moreover, exposure to trauma has the potential to negatively impact the development of the child's central nervous and neuroendocrine systems (Dyregrov & Yule, 2006). In spite of the difficulties in functioning and long-term sequelae related to the experience of trauma, young children display resilience and participation in therapy can enhance positive outcomes (Caffo & Belaise). Children who have been exposed to trauma often receive treatment in community mental health settings. Information about interventions that are used in these settings will provide valuable information for mental health providers and other health professionals (Kerig, Fedorowicz, Brown, & Warren, 2000).

Expanding knowledge about interventions for young children is essential to promoting their social and emotional development. This study also takes a creative approach by narrowing our area of interest to children who were diagnosed with PTSD and behavior problems, a very vulnerable group. The current evaluation project was a

longitudinal study, assessing change in child functioning over time. Surveys with clinicians and caregiver and child interviews and surveys were the primary methods for collecting data.

## METHODS

### *Participants*

This project was approved by the university-based institutional review board (at the University of Cincinnati). There were 92 children enrolled and their ages ranged from 3-18 years, with 73 boys and 17 females (gender was not provided for two participants). Seventy-three percent had a primary diagnosis of PTSD with a secondary diagnosis of behavior problems (Conduct Disorder, Oppositional Defiant Disorder, or Disruptive Behavior Disorder Not Otherwise Specified). Children resided were in 10 different school districts and were in families where the primary means of insurance was through Medicare/Medicaid.

### *Measures*

Therapists and parents rated their perceptions of the child's emotional and behavioral functioning on the *Ohio Scales*. The *Ohio Scales* are used by clinicians in the mental health programs. Clinicians received training on how to complete the forms. These instruments have been used extensively and translated into several languages. The measures have good psychometric properties (e.g., Ogles Melendez, Davis, & Lunnen, 2001) and are available at <https://sites.google.com/site/ohioscales>.

### *School, Neighborhood and Community Indicators Checklist*

This index, developed for this project, documented caregiver and child perceptions of child functioning in the neighborhood and community. Caregivers and the child rated their

perceptions of child functioning in neighborhood play, afterschool activities, sports and recreational activities, friendship skills, respect for the environment and respect for the community on 5 point Likert scales ranging from "1" very poor to "5" very good.

### *Procedures*

Both caregiver consent and therapist consent were required. Caregivers completed the well-being items; school, neighborhood and community functioning questions; and an *Ohio Scale*. Therapists completed the *Ohio Scale* (Agency Worker Rating Form). This information was provided at intake, three-, and six-months post-intake.

Parents provided information on child functioning at school and in the neighborhood or community on the Neighborhood, School, and Community Indicators checklist developed for this project, at the intake session for their child. Parents also rated their satisfaction with services provided by clinicians on a scale from "1" very poor to "5" very good. This information was provided at the end of the study. Clinicians provided information on child diagnoses at intake into the programs. Clinicians also provided their perceptions of parents' abilities to supervise and care for the child at home on 5-point Likert scales ranging "1" very poor to "5" very good after completing the intake. Children also provided ratings of their behaviors/functioning at school and in their neighborhood or community (on 5-point Likert scales ranging from very poor to very good). Data collection was challenging as children moved in and out of treatment and in and out of different home situations (foster care, guardianship, etc.).

### *Data Analyses*

Descriptive statistics were used to examine parent and child perceptions

of child functioning in the school and neighborhood/community as well as parent satisfaction with mental health services. A repeated measures analysis of variance was utilized to examine change over time in parent and clinician reports of child functioning using the *Ohio Scales*. Correlations were used to investigate the relationship between parent satisfaction with mental health services and child functioning.

## RESULTS

There were 52 children in our sample with *Ohio Scale Worker Problem Scores* at intake, three, and six months (all three time points for data collection). A repeated measures analysis of variance did not reveal significant differences in problem scores over time. There were 54 children with *Ohio Worker Scale* functioning scores at intake, three and six months and results of a repeated measures analysis for change were not significant. There were 42 children with parent problem scores on the *Ohio Scales* at intake, three, and six months and the repeated measures analysis for change over time were not significant. Also, the repeated measures analysis for parent ratings of positive child functioning on the *Ohio Scales* at the three time points did not reveal significant differences over time.

**Ratings by Clinicians.** The clinicians' report indicated that 37% of the parents were providing good or very good supervision for their child. Alternately, 20% of parents were rated by clinicians as providing poor or very poor supervision of the child. Clinician ratings indicated that 44% of parents had "good" capacity for caring for their child, while 14% had poor or very poor capacity for caring for their child.

**Ratings by Parents.** In terms of parents (parents is the term used for caregivers, parents, and guardians): 20% rated child functioning at school as "poor," while 42% said it was "good." Forty-two percent of the parents reported that their child's friendships were positive or "good," whereas 20% reported their child's relationships with friends were poor or very poor. Consistent with our report of parent ratings of child behavior at home being a concern, 51% of the parents rated child behavior at home as being poor or very poor, whereas only 23% of the parents rated child behavior at home as being good. On a more positive note, 56% of the parents rated child performance at school as good. In contrast, 20% of parents rated child functioning at school as poor.

**Satisfaction with Therapy Services.** Importantly, 72% of parents rated the mental health services that they were receiving as good or very good, while only 5% rated their services as poor. The rest reported that their services were OK and what they had expected. Thus, parents were satisfied with the therapeutic services their child was receiving.

**Ratings by Children.** In terms of views of themselves, the child report was fairly positive. Sixty-six percent of the children felt things were good at school. Seventy-six percent thought that their relationships with their friends were good, and only about 6% believed relationships with friends were poor or very poor. Seventy percent of the children thought relationships with others in their neighborhoods were good, while only 1.8% thought these relationships were poor and none reported that they were very poor. Only 40% reported that their behavior at home was good or very good. Forty percent said their behavior at home was "O. K.," and 18.3%

said behavior at home was poor or very poor. Thus, although children had a more positive view of behavior at home, there was some realization that this was an area of weakness. Approximately 66% of children reported that their behavior at school was good or very good, while 8.5% reported it was poor.

### **Caregiver Perspectives of Services and Child Functioning**

As stated, caregiver perspectives of mental health services were positive. Positive parental perceptions of mental health services were negatively related to clinician ratings of problem behaviors on the *Ohio Scales* ( $r = -.376, p = .04$ ). Thus, as perceptions were more positive, problem scores decreased. The opposite relationship was discovered for the relationship between parent perceptions of mental health services and mental health clinicians' ratings of positive behaviors for the child. Specifically, parents with more positive perceptions of mental health services had children who received higher scores for positive behavioral functioning via clinician ratings on the *Ohio Scales* ( $r = .471, p = .009$ ).

### **Implications and Significance of Findings for the Mental Health System**

Treatment of complex trauma in children involves a myriad of goals including reconnecting with safe adults and forming positive connections with adults, improving regulation of upsetting emotional reactions, increasing pleasurable activities, helping the child regain a sense of mastery and control, and improving the child's skills for engaging others in close relationships. Children can move through their experience and again become "grounded" and experience the "self" as being integrated. When healing occurs, the trauma experience is no

longer at the foreground of the child's life, and hence, the child can resume a more "normal" developmental trajectory, experiencing positive psychosocial functioning and attaining key developmental milestones in emotional, social, and psychological functioning.

Change was not observed in *Ohio Scale* Scores, when the six-month interval was considered. Perhaps this would have changed if the sample size were larger or if we had analyzed findings for individual items, rather than total scores, on the *Ohio Scales*. Although study findings did not reveal significant improvement at six months, there was some improvement in symptoms, and parents were satisfied with services. The support that families experience as the child processes trauma may have long-term implications for improving caregiver-child attachment, and this needs to be assessed in future studies. An ecological approach to treating children, to

assess, and then to apply interventions that impact home, school, and community functioning should be a focus of treatment for children with PTSD who also are experiencing significant behavior problems. Gaining an understanding of what interventions yielded what types of success also will provide more information about what works, when, and for whom. Increased study of behavioral interventions and how they are implemented at home and at school to help the child who is experiencing problems with behavioral functioning will provide ideas for expansion of therapy techniques to reduce problem behaviors.

## REFERENCES

- Caffo, E., & Belaise, C. (2003). Psychological aspects of traumatic injury in children and adolescents. *Child and Adolescent Psychiatric Clinics of North America*, 12(3), 493-535.
- Dyregrov, A., & Yule, W. (2006). A review of PTSD in children. *Child and Adolescent Mental Health*, 11(4), 176-184.
- Kerig, P. K., Fedorowicz, A. E., Brown, C. A., & Warren, M. (2000). Striving toward an ecological framework for interventions: A need for additional research and validated treatment programs. *Journal of Aggression, Maltreatment, and Trauma*, 3(1), 161-184.
- Lonigan, C. J., Phillips, B. M., & Richey, J. A. (2003). Post-traumatic stress disorder in children: Diagnosis, assessment, and associated features. *Child and Adolescent Psychiatric Clinics of North America*, 12(2), 171-194.
- Meiser-Stedman, R., Yule, W., Smith, P., Glucksman, E., & Dalgleish, T. (2005). Brief Report: Acute stress disorder and post-traumatic stress disorder in children and adolescents involved in assaults or motor vehicle accidents. *American Journal of Psychiatry*, 162(7), 1381-1383.
- Ogles, B. M., Melendez, G., Davis, D. C., & Lunnen, K. M. (2001). The Ohio Scales: Practical Outcome Assessment. *Journal of Child and Family Studies*, 10, 199-212.



Untitled • Queen Brooks

## ASSOCIATION BETWEEN ADVERSE CHILDHOOD EXPERIENCES AND RISKY BEHAVIOR AMONG AFRICAN AMERICAN GIRLS

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To assess the cumulative effect of traumas on a person's life, Felitti and colleagues (1998) conducted the groundbreaking Adverse Childhood Experiences (ACE) Study. Their work identified 10 childhood experiences that are risk factors for negative physical, mental, and behavioral health outcomes. These risk factors are as follows: emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect, violent treatment towards mother, household drug and alcohol abuse, household mental illness, divorce, and incarceration of a family member. Their work initiated multiple studies examining the effect of cumulative stressors during childhood.

Based on findings from the multiple studies examining the effect of cumulative stressors during childhood, ACEs have been shown to be a significant public health concern that jeopardizes healthy development and

### Abstract:

This study explores using the Adverse Childhood Experiences (ACEs) survey to identify traumatic exposure in adolescent African American girls. Employing the ACEs questionnaire, we explored the levels of ACEs and risk taking behavior among a convenience sample of 410 adolescent African American girls. Results suggest high levels of ACEs, particularly parental divorce, emotional abuse and neglect, and exposure to domestic violence in the participating adolescents. Forty percent of the girls had four or more ACEs, which has been found in previous research to be highly predictive of serious psychosocial and physical health problems later in life. There were a number of significant associations found between the cumulative number of adverse experiences and risky behavior patterns. Participants who had four or more ACEs were significantly more prone to risk behaviors such as suicide attempts, alcohol use, driving under the influence of alcohol, anti-social behavior, illicit drug abuse, tobacco use, and early sexual intercourse.

**Keywords:** Adverse Childhood Experiences (ACEs) • African American • Adolescent Female • Risky Behavior

functioning. High cumulative ACE scores are strong risk factors for chronic physical health conditions such as *heart disease* (Dong et al., 2004); *obstructive pulmonary disease* (Anda et al., 2008); *liver disease* (Dong, Anda, Dube, Felitti, & Giles, 2003; Corso, Edwards, Fang, Mercy, 2008); *auto-immune disorders* (Dube et al., 2009); and *obesity* (Williamson, Thompson, Anda, Dietz, & Felitti, 2002).

Research has also found a correlation between the number of ACEs a person experiences and mental health issues, particularly, *depression and suicide attempts* (Anda et al., 2007; Anda et al., 2002; Chapman et al., 2004;

Dube et al., 2001; Edwards, Dube, Felitti, & Anda, 2007; Edwards, Holden, Anda, & Felitti, 2003). Other behavioral health risk factors related to high ACE scores include *excessive alcohol use* (Dube, Anda, Felitti, Edwards, & Croft, 2002), *drug abuse* (Dube et al., 2003), *smoking* (Edwards, Anda, Dube, & Felitti, 2007), and *unintended pregnancy* (Dietz et al., 1999).

### Acknowledgment

The Rise Sister Rise project would not have been possible without the participation of an incredible team of women and men and the support of the Ohio Department of Mental Health.

Some ACE differences have been reported by race. The Philadelphia Urban ACE Survey studied about 1,700 Philadelphia residents who had participated in the Pennsylvania Household Health Survey. This survey asked residents about their health and well-being (The Research and Evaluation Group at Public Health Management Corporation, 2013). Respondents were over age 18; 40% male; 60% female; 44.1% White; 42.5% Black; 3.5% Latino; and 9.8% Asian, Biracial, or other. Compared with Whites, Black adults reported higher rates of being sexual abused (20.9% of Blacks); being physical neglected (21.9% of Blacks); having a household member that abused substances (37.8% of Blacks); witnessing domestic violence (20.7% of Blacks); and having a household member incarcerated (15.9% of Blacks) during childhood. In addition to the standard ACE questions, the Philadelphia Urban ACE study asked about additional stressors and found that in Philadelphia, compared with Whites, Black adults reported higher rates in childhood of witnessing violence (52.0% of Blacks), experiencing discrimination (49.5% of Blacks), adverse neighborhood experiences (29.2%), and living in foster care (4.1% of Blacks). Additional analyses by poverty and neighborhood also showed that adults living below 150% of the Federal Poverty Level (FPL) were more likely to have four or more ACEs (50.0% of respondents) compared to those living above 150% of the FPL (31.8% of respondents).

### ***Adverse Experiences and Youth***

The ACE questionnaire developed by Felitti and colleagues (1998) is a brief trauma screen that assesses the cumulative effect of childhood stressors. The ACE questionnaire is a proven brief trauma screen that has demonstrated relationships with negative health outcomes for adults. However, to date, the

majority of research studies have used the ACEs to study behavior retrospectively. Only a handful of studies have been published using the ACE survey with adolescents under age 18.

Schilling, Aseltine Jr., and Gore (2007) examined the relationship between ACEs reported by high school seniors and depressive symptoms, drug abuse, and antisocial behavior during young adulthood. In their sample, girls reported higher rates of sexual abuse, being physically abused, and serious neglect, while boys reported higher rates of witnessing violence, physical assault, and being threatened. There were also some differences by racial/ethnic group. White youth reported higher parent alcohol use; Black and Hispanic youth reported higher rates of witnessing violence, and Hispanic youth reported higher rates of being sexually abused and being threatened with a weapon.

Controlling for gender, race/ethnicity, and SES, depressive symptoms and antisocial behavior were related to eight ACEs, and nine ACEs were related to drug use. There were also cumulative effects of ACEs. As ACE frequency increased, depressive symptoms, drug use, and antisocial behaviors increased. Respondents who experienced four ACEs scored about one standard deviation higher on each outcome than persons with no ACEs. Their research supports that adverse childhood experiences contribute to mental health problems in young adulthood.

Two other studies examined ACEs with juvenile justice populations, one with adolescent girls, and another with young adults who had recently been incarcerated in the juvenile justice system. Matsuura, Hashimoto, and Toichi (2013) studied the relationship between adverse child-

hood experiences and aggression, depression, and self-esteem among female juvenile offenders, aged 15-18, in Japan. Most offenders were detained due to drug-related crimes and larceny. Compared with non-offender high school girls, offenders had multiple serious adverse experiences (ACE scores of four or more: 21.0% of the offenders, less than 1.0% of the non-offenders). A much higher percentage of offenders were depressed (48.1% offenders versus 30.0% comparison). Cumulative ACE scores were negatively correlated with self-esteem and positively correlated with aggression and depression. Path analyses results suggest that high ACE scores, high aggression, and high depression symptoms aggravate each other to negatively affect self-esteem.

Baglivio and colleagues (2014) studied ACEs with young adults who had been previously incarcerated in the juvenile justice system. Study staff used a risk and needs assessment called the Positive Achievement Change Tool (PACT) to calculate the ACEs. Participants were both male and female, were over the age of 18, and included several races (White, Black, Hispanic, and Other), although ACE scores were only compared by gender. Females had slightly higher rates for each individual ACE and had higher percentages of cumulative ACEs (45.1% of females reported 5+ total ACEs; 27.4% of males reported 5+ total ACEs). Compared to other published ACE studies with adults, the previous juvenile offenders reported higher rates of cumulative ACE scores.

ACE scores were also compared by risk for reoffending. There was a significant difference between each risk for reoffending level and the average ACE score. Higher risk for reoffending was associated with higher cumulative ACEs scores.

Two studies with youth calculated ACE scores using other questionnaires. Duke and colleagues (2010) studied the relationship between six ACEs and adolescent violence using the Minnesota Student Survey of 6th, 9th, and 12th grade public school students. Girls and older adolescents were more likely to report adverse experiences. Bullying, physical fighting, suicidal ideation, and self-injury were the most common types of violence reported. For adolescent girls, the risk of violence perpetration increased significantly with reporting an adverse experience. The risk of violence increased from 38% to 88% for each increase in the adverse events score. Adolescent girls with four or more adverse experiences perpetrated bullying two times more and attempted suicide seven times more compared to those with no adverse experiences.

Kaess and colleagues (2013) examined the relationship between ACEs and self-injury with youth and young adults (ages 13-26) in psychiatric inpatient units using the Childhood Experiences of Care and Abuse Questionnaire. ACEs were highly inter-correlated. Parental antipathy, neglect, and physical abuse showed higher numbers of correlations while sexual abuse showed fewer correlations. Patients engaging in self-injury were generally younger, less likely to have delusional disorders, and had higher ACE scores.

Two studies examined historical ACEs use chart reviews and medical records. Burke and colleagues (2011) examined ACEs in an urban pediatric population (mean age of the patients was eight years). Children who experienced four or more ACEs had increased risk for learning/behavior problems, such as low academic achievement, history of violent behavior, and obesity. Their implications

called for screening of ACEs among youth in urban areas and the need to develop effective prevention and interventions.

Jamora and colleagues (2009) compared ACEs of children in treatment foster care versus standard foster care using medical records. Children in both types of foster care experienced neglect, physical abuse, sexual abuse, and abandonment. However, children in treatment were 2.5 times more likely to experience physical abuse or neglect, twice as likely to experience abandonment and domestic violence, and 20 times more likely to witness community violence than children in standard foster care. About one third of biological mothers of both groups had a history of alcohol abuse, and one fifth of biological mothers had a history of mental health disorders. Children whose biological mothers were incarcerated were more likely to be in treatment foster care than standard foster care. Together there was a positive correlation between the number of ACEs and the number of psychiatric disorders ( $r = .38$ ). Children in foster care are likely to have multiple ACEs which may place children at risk for physical and mental health disorders in adulthood.

Together these studies with youth show that the ACE questionnaire shows some promise for utilization with youth, not just adults. The cumulative risk factors approach may also be valid for youth in predicting more proximal negative outcomes as well as the delayed outcomes reported in the research with adults. However, additional research needs to support these limited findings and examine these relationships with additional behavioral outcomes.

### ***Adolescent Trauma Research by Race and Gender***

Although there have been limited studies using the ACEs questionnaire with adolescents to date, other childhood stress and trauma studies have been conducted with youth participants. Recent studies suggest that more than 60% of children and adolescents have been exposed to some form of violence (Finkelhor, Turner, Hamby, & Omrod, 2011; U.S. Department of Justice, 2012); 40% experience divorce before reaching adulthood (Hetherington, & Elmore, 2003); 28% are victims of sexual abuse (Finkelhor, 2008); 22% reside in households with incomes below the FPL (Wight, & Chau, 2009); and 12% live with a substance abusing adult (HHS Substance Abuse and Mental Health Services Administration Office of Applied Studies, 2009).

Compared with other racial and ethnic groups in the United States, the rates of adverse experiences are the highest for African American youth. African American youth ages 12 to 19 are victims of violent crime at significantly higher rates than whites (U.S. Department of Justice, 2006; Black et al., 2011). African American youth are three times more likely to be victims of reported child abuse or neglect and five times more likely to be victims of homicide than their white counterparts (Baum, 2005). Currently, homicide is the leading cause of death among African American youth ages 15 to 24 (Voisin, 2007). Further, 67% of African American children are being reared in single parent households compared to 25% in non-Hispanic white households (Maruschak, Glaze and Mumola, 2010). One in nine African American children (11.4%), one in 28 Hispanic children (3.5%), and one in 57 white children (1.8%) in the United States have an incarcerated parent (Pew Char-

itable Trusts, 2010). African Americans tend to live in urban areas. Residing in urban areas also increases the risk of exposure to violence and other adverse events (Center for Intersectionality and Social Policy Studies, 2015). For instance, in a study of low-income, urban youth, 75% had heard gunshots; 60% had seen drug deals; 18% had seen a dead body outside, and 10% had witnessed a shooting or stabbing in their own home (Buka, 2001). Adding to these stark statistics is the fact that much of the community violence witnessed by African American youth is recurrent and committed by known persons, adding to the trauma experienced (Voisin, 2007).

While exposure to violence is common for African American youth, limited research has focused on African American girls' trauma exposure (Triffleman & Pole, 2010). Likewise, research on the 'school-to-prison pipeline' has focused more on boys even though black girls receive more severe sentences and are the fastest growing population in the juvenile justice system (Crenshaw, Nanda, & Ocen, 2015). Compared with white girls, suspension and expulsion rates were much higher (10-12 times) for African American girls than their white counterparts in Boston and New York and increase their likelihood of dropping out of school (Crenshaw et al., 2015). Some research has shown that African American girls report higher rates of sexual victimization and intimate partner violence (Kennedy, 2008).

The majority of studies on African American girls have looked at correlations of risky behaviors. These studies may examine mental health problems but have examined the role of trauma or adverse experiences. They have shown that risky behaviors in African American girls may be more problematic than for their white counterparts.

Alcohol usage has been associated with substance use, risky sexual behaviors and truancy (Guthrie, & Low, 2000). Substance use problems have been associated with risky sexual behavior (Woods-Jaeger, Jaeger, Donenberg, & Wilson, 2013). Even though some research has begun examining patterns of gender, victimization, trauma, and juvenile justice involvement, there is a serious need for more studies investigating gender, race, and behaviors associated with victimization and criminalization to inform policy makers, stakeholders, and advocates working to reduce negative consequences for these youth. The African American Policy Forum calls for additional research on girls of color (Crenshaw et al., 2015).

### *The Rise Sister Rise Project*

The Rise Sister Rise Project was implemented to explore the ways in which urban adolescent African American girls experience their world and are affected by these experiences. Rise Sister Rise examined the ways African American girls experience and articulate self-care and resiliency, social relationships, school performance, self-image, and the ways they perceive other girls in relation to themselves. Barriers to wellbeing were identified to determine what prevention programs and services are necessary for making healthier life choices and outcomes.

Rise Sister Rise was undertaken to heighten community awareness of and engagement with the special challenges facing African American girls. Women leaders and representatives of organizations that serve adolescent African American girls were invited to serve as conveners for this project. In each of the four cities these leaders were invited to form steering committees. Committee responsibilities included recruiting girls for focus

groups and surveys, organizing a girls' resiliency conference, participating in a community dialogue about the collected data, present their local results to stakeholders, and creating action plans about future programming and funding to sustain long-term resiliency in African American girls.

The study focus on African American girls is due to the

“... financial disadvantage, uncertain economic conditions, and low prospects for achievement [that] negatively impact the ability of Black girls to make a healthy transition to adulthood. Particularly among Black girls residing in an urban context, structural factors such as poverty, social immobility, increased likelihood of victimization, limited access to resources, and both real and perceived lack of opportunities regarding education, employment, and the possibility for forming loving, long-term romantic relationships that result in marriage, all work together to become critical factors impacting Black girls' development during the adolescent years” [Black Women for Black Girls Giving Circle (BWBGC), 2009].

Nevertheless, African American girls have a number of strength-promoting resources available to help overcome these risks. While resiliency themes may be common across ethnicities and cultures, their expression of these resources is unique within each culture (BWBGC, 2009; American Psychological Association Task Force on Resilience and Strength in Black Children and Adolescents, 2008). African American girls and women rely on strong family ties of biological and non-biological kinship networks, i.e., fictive kin, that provide emotional support and the sharing of resources, childcare, and information.

Table 1. Demographic Information by City

	All Cities Combined		City 1		City 2		City 3		City 4		F or $\chi^2$
	M	SD	M	SD	M	SD	M	SD	M	SD	
Number of participants	(N = 409)		(N = 25)		(N = 101)		(N = 109)		(N = 74)		
Grade	8.92	2.09	8.94	2.08	8.92	1.92	9.53	2.04	8.01	2.12	8.08*** <sup>1</sup>
	N	%	N	%	N	%	N	%	N	%	$\chi^2$
Live with both parents	73	18.0	24	19.4	22	22.0	14	13.0	13	17.6	
Live with adoptive parents	7	1.7	2	1.6	0	0.0	5	4.3	0	0.0	
Alternate between mom and dad	21	5.2	5	4.0	6	6.0	3	2.8	7	9.5	
Live with one parent	174	42.9	51	41.1	49	49.0	42	38.9	32	43.2	
Live with one birth parent and stepparent or adoptive parent	60	14.8	21	16.9	16	16.0	13	12.0	10	13.5	40.2** <sup>2</sup>
Live with foster parents	9	2.2	5	4.0	0	0.0	4	3.7	0	0.0	
Live with grandparents or other adult relatives	37	9.1	7	5.6	7	7.0	15	13.9	8	10.8	
Other	25	6.2	9	7.3	0	0.0	12	11.1	4	5.4	

Note. ANOVAs (*F*) tested whether the differences between the means (averages) for the cities were statistically significant; Chi-squares ( $\chi^2$ ) tested whether the differences between the percentages for the cities were statistically significant. Significant differences are noted by: \**p* < .05, \*\**p* < .01, \*\*\**p* < .001. <sup>1</sup>Respondents from City 4 had a lower average grade level than the three other cities. <sup>2</sup>Respondents from City 2 had a lower percent of participants who lived with adoptive parents than City 3. Respondents from City 2 had a lower percent of participants who lived with foster parents than City 1; respondents from City 1 had a lower percent of participants who lived with grandparents or another adult than City 3. Respondents from City 2 had a lower percent of participants who marked other living situation than all of the other cities.

These family ties also socialize girls about their culture. Their racial identity can serve as a psychological buffer against oppression and racism. The strong emphasis on social bonds and responsibility to the community can create a sense of interdependence and collective well-being that fosters involvement in community and service activities.

Also, African American girls tend to be involved in their religious communities. Religion can be a social support between women and girls and helps integrate and involve the girls more deeply within the community. In some cases church can also operate as an extended family. Involvement in religion can lead to a focus on inner versus outer beauty and delayed sexual activity and less risky sexual behavior.

### The Current Study

In order to build our understanding of the ways in which urban adolescent African American girls experience their world, the current study was conducted in four Ohio cities. The selected cities have a higher percentage of African American girls than statewide, and were medium to large urban-type cities. Each of the four counties in which these cities are located have higher percentages of children living in poverty and adolescents adjudicated for felonies. The counties also had high rates of children receiving food stamps or reduced lunch, high rates of births to adolescents, and high rates of students not graduating from high school.

The current study extends the Rise Sister Rise Project 1) examining the feasibility of using the ACE as a screening tool to identify at-risk adolescent girls;

2) studying the prevalence of ACEs with adolescents, specifically African American girls; 3) examining the prevalence of risky behaviors, e.g., alcohol/drug use, sexual intercourse of African American girls; and 4) studying the relationship between ACEs and risky behaviors in African American girls. Communities can potentially use this study to help identify gender-specific interventions to reduce the consequences of ACE stressors. Having completed Rise Sister Rise, the current task is to review and analyze the findings with an eye on future policy and program implications for African American girls.

## METHOD

### Sample and Participant Selection

The study population included 410 girls ranging in age from 10 to 20 (*M* = 14.41, *sd* = 2.24) in four Ohio cities. Sample sizes were as follows:

City 1,  $n = 125$ ; City 2,  $n = 101$ ; City 3,  $n = 110$ ; and City 4,  $n = 74$ . These cities have a higher percentage of African American girls than statewide and were medium to large urban-type cities. All four counties in which these cities are located have higher percentages of children living in poverty and adolescents adjudicated for felonies. Some of the counties had higher rates of children receiving food stamps or reduced lunch, higher rates of births to adolescents, and higher rates of students not graduating from high school than statewide.

Girls were recruited through the local steering committee members' social networks. Surveys took approximately two hours to complete. Girls took a break midway through the survey and were offered a variety of activities such as games to relieve question fatigue. No monetary incentives were provided for participation, but food and beverages were provided. Girls kept a decorative folder that contained their surveys. Parental consent and youth assent forms were collected from all participants. Surveys were anonymous; ID numbers were used on the surveys and were not associated with any sign-in or consent forms. An Institutional Review Board approved protocols and consent and assent forms.

**Measures**

Adverse Childhood Experiences Survey (ACE). The ACE survey is a retrospective survey including exposure to 10 categories of adverse childhood experiences. These categories include emotional abuse, physical abuse, sexual abuse, physical neglect, emotional neglect, a battered mother, parental separation or divorce, household member abusing alcohol or drugs, household member who is mentally ill, and an incarcerated household member. The survey asks participants

to endorse whether or not they lived in a household with one of these adverse childhood environments; responses were “yes,” “no,” or don’t know (Felitti, et al., 1998).

The ACE questionnaire has been found to have good reliability. The kappa coefficient for emotional abuse was .66 (95% CI, .55-.76); for physical abuse, it was .55 (95% CI, .47-.63). For sexual abuse, it was .69 (95% CI, .61-.77). The kappa coefficient for growing up in a household with substance abuse was .75 (95% CI, .68-.81) and for growing up witnessing violence was .77 (95% CI, .68-.85), both representing high reliability. The weighted kappa-coefficient for the ACE score (range: 0-8) was .64.

In terms of convergent validity, the ACE questionnaire was correlated with previous self-reports of child sexual abuse. One study by Edwards et al. (2001) asked individuals who indicated a past history of sexual abuse to answer ACE questions. The prevalence of child sexual abuse in the sample was 6.1%. Those that answered affirmatively to the ACE question on child sexual abuse was 5.9%. The findings support the validity of the instrument in measuring adverse childhood experiences.

Search Institute Profiles of Student Life: Attitudes and Behaviors. The Search Institute (2010) measure includes a 166 items; the survey also includes items about risky behaviors. The Search Institute calculates whether an individual has each of 10 high-risk behavior patterns based on the pattern of responses, which are “yes” and “no.” The 10 high-risk behavior dichotomous scales measure the following:

- Alcohol use -- two items, used alcohol three or more times in the last 30 days or got drunk once or

more in the last two weeks ( $\alpha = .77$ ),

- Driving and alcohol -- two items, driven after drinking or ridden with a drinking driver three or more times in the last year ( $\alpha = .33$ );
- Tobacco use -- two items, (smokes one or more cigarettes daily or using chewing tobacco frequently ( $\alpha = .16$ );
- Illicit drug use -- four items used an illicit drug three or more times in the last year ( $\alpha = .05$ );
- Sexual intercourse -- one item, has had sexual intercourse three or more times in lifetime;
- Depression and suicide -- two items, is frequently depressed and/or has attempted suicide ( $\alpha = .43$ );
- Anti-social behavior -- three items, has been involved in three or more incidents of shoplifting, trouble with police, or vandalism in the last year ( $\alpha = .62$ );
- Violence -- six items, has engaged in three or more acts of fighting, hitting, injuring a person, carrying or using a weapon, or threatening physical harm in the last year ( $\alpha = .61$ );
- School problems -- two items, skipped school two or more days in the last four weeks and/or has below a C average ( $\alpha = .38$ );
- Gambling -- one item, gambled three or more times in the last year.

The formula for calculating the high-risk behaviors is proprietary. Cronbach alphas, which are the reliability coefficients, for this sample, were adequate for alcohol use, anti-social behavior, and violence. Reli-

**Table 2. Percent of Adolescent African American Females Reporting Adverse Childhood Experiences**

	Total N	% with ACE
Emotional Abuse	221	53.9
Physical Abuse	109	26.6
Sexual Abuse	64	15.6
Emotional Neglect	196	47.8
Physical Neglect	46	11.2
Parental Discord/Divorce	231	56.3
Battered Mother	119	29.0
Substance Abuse In Home	88	21.5
Mentally Ill Household Member	71	17.3
Incarcerated Household Member	129	31.5

*Note.* There were between N=22 and N=25 participants that did not respond to individual ACE questions, the percent displayed is based on the total number of respondents for each individual ACE.

ability coefficients were inadequate for the scales with smaller numbers of items that include tobacco use, illicit drug use, depression and suicide, school problems, and driving and alcohol. Reliability coefficients are not able to be calculated for single-items, which include sexual intercourse and gambling.

## RESULTS

### *Adverse Childhood Experiences*

Table 2 presents the number and percentage of study participants who reported experiencing an ACE. The most common abuse indicator was emotional abuse, with 53.9% of participants reporting this ACE. A little more than one-quarter reported physical abuse (26.6%), and 15.6% reported sexual abuse. Similarly, the most common neglect indicator reported was emotional neglect (47.8%) with some of the participants reporting physical neglect (11.2%). The most common household dysfunction reported was parental discord/divorce, which 56.3% of the participants reported. Almost one third of the participants reported they have an incarcerated household member

(31.5%) or that their mother was battered or treated violently (29.0%).

Table 3 reports the number and percentages of summed ACEs by participants. About 10% of the participants did not report any ACEs. More than half of the adolescent females in this study reported an ACE score of three or more (57.1%). Over 17% reported one ACE; 16.3% reported two ACEs; 16.5% reported three ACEs; and 10% reported four and five ACEs. Six or more ACEs was reported by 16.6% of the participants.

**Table 3. Percent of Adolescent African American Females with ACE scores summed**

	Total N	%
0 ACEs	37	9.3
1 ACE	69	17.3
2 ACEs	65	16.3
3 ACEs	66	16.5
4 ACEs	48	12.0
5 ACEs	48	12.0
6+ ACEs	66	16.6

*Note.* There were n=27 participants that did not indicate a response for all of the ACE questions, the percent displayed is based on the total number of participants that had a calculable ACE score.

Table 4 examines the co-occurrence of ACE variables. In other words, if a participant experienced one ACE, which other ACEs are they likely to experience? Contingency tables were calculated, and chi-square ( $\chi^2$ ) tests for homogeneity using Fisher's Exact test was used to determine if there were significant relationships between the ACE variables. Both emotional abuse and physical abuse showed a significant association with all of the other ACEs, except for parental discord/divorce. Sexual abuse also showed a significant association with the other abuse and neglect ACEs but only showed a significant association with two of the household dysfunction ACEs, which are battered mother and household substance abuse. Both emotional neglect and physical neglect showed a significant association with all of the other ACEs except for parental discord/divorce. The only significant associations for parental discord/divorce were the four other household dysfunction ACEs. Household substance abuse was significantly associated with all of the other ACEs. Mental illness in household and incarcerated household member were significantly associated with all other ACEs, except sexual abuse. In this sample of adolescent female African Americans, ACEs are significantly associated with many other ACEs. Additionally, there does not appear to be a unique pattern of association between most ACEs.

### *Risk-Taking Behaviors*

Table 5 presents the percentages of risk-taking for the total sample of African American adolescent females by grade. Table 5 also shows significant effects by grade. Chi-square ( $\chi^2$ ) tested whether there were differences between the percentages for the grades.

**Table 4. Percent of Adolescent African American Females Reporting Co-occurring Adverse Childhood Experiences**

		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Emotional Abuse	%		43.3	25.4	65.4	15.2	65.7	45.6	34.0	28.3	40.7
	$\chi^2$		59.09***	23.46***	37.56***	6.49*	1.10	26.34***	33.02***	21.22***	9.94**
2. Physical Abuse	%	88.6		46.0	68.6	23.6	60.6	50.5	35.2	28.9	41.3
	$\chi^2$			13.92***	16.61***	18.91***	0.29	17.84***	14.25***	8.16**	4.39*
3. Sexual Abuse	%	84.4	46.0		66.7	20.7	70.2	51.7	45.2	29.1	44.3
	$\chi^2$				6.73*	5.84*	1.43	10.86**	22.43***	3.71	4.08
4. Emotional Neglect	%	72.6	37.7	21.4		16.5	68.6	42.9	30.3	27.7	41.0
	$\chi^2$					9.45**	3.08	13.36***	11.87**	16.27***	6.55*
5. Physical Neglect	%	74.4	55.6	27.9	73.8		70.3	63.9	61.4	32.5	50.0
	$\chi^2$						0.85	17.59***	44.72***	5.57*	6.50*
6. Parental Discord/Divorce	%	58.0	25.4	17.9	53.4	11.6		39.7	27.0	51.6	40.7
	$\chi^2$							12.85***	8.45**	5.31*	14.02***
7. Battered Mother	%	76.1	41.7	27.0	64.6	20.5	76.4		36.0	29.6	47.4
	$\chi^2$								19.06***	10.14**	15.65***
8. Substance Abuse In Home	%	83.9	44.0	33.3	67.9	32.5	77.2	53.9		44.6	63.9
	$\chi^2$									39.95***	43.35***
9. Mentally Ill Household Member	%	80.0	40.6	22.9	73.1	19.4	75.4	49.2	48.5		58.0
	$\chi^2$										26.07***
10. Incarcerated Household Member	%	69.6	35.2	22.3	61.6	17.1	76.9	47.8	42.7	35.1	
	$\chi^2$										

Note. If the ACE listed at left was reported, the percent/statistic shown is for co-occurring (co-reported) ACEs listed across the top.  $\chi^2$  values are italicized, and significance is noted by \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  based on two-sided significance for Fisher's Exact test.

**Substance Abuse**

Alcohol. Of those mentioning risky behaviors about alcohol 42.9% of participants reported attending parties with alcohol, while 21.0% of the participants also had used alcohol at least once in the last month. For *attended one or more drinking parties last year*, the percentage for 12th grade was statistically higher than the percentages for 5th-6th through 8th grades. Likewise the percentages for 8th and 9th grades were statistically higher than the percentages for 5th-6th and 7th grades ( $\chi^2 = 114.28, p < .001$ ). For *alcohol use one or more times in the last month*, the percentages for girls enrolled in the 10th through the 12th grades was

statistically higher than the percentages of the 7th graders ( $\chi^2 = 23.23, p < .001$ ). The percentage of 11th and 12th grade respondents reporting *getting drunk within the last two weeks* were statistically higher than the percentage for 7th graders ( $\chi^2 = 15.60, p < .05$ ). Also, the percentages of 10th through 12th grades indicating *alcohol use three or more times during the last month or drunk within the last two weeks* were statistically higher than the percentage for the 7th grade respondents, ( $\chi^2 = 17.18, p < .05$ ).

Driving and alcohol. For the entire sample, participants (40.2%) most frequently reported having ridden at least once with a drunk driver in the

last year. Less than 10% of the participants (8.2%) reported driving after drinking at least once last year. There were statistical differences among grades for driving and alcohol behavior. The percentages for 11th through 12th grade reporting that *they drove once or more times after drinking* was statistically higher than the percentages of responses for 7th and 8th graders, ( $\chi^2 = 14.56, p < .05$ ). Also, the percentage of 9th grade participants reporting that *they had ridden with a drunk driver one or more times in the last year* was statistically higher than those participants in the 5th-6th grades through the 8th grade ( $\chi^2 = 14.50, p < .05$ ).

**Cigarettes and Tobacco.** Overall, 6.7% of the participants reported smoking a cigarette at least once last month. Also, 5.0% indicated that they had smoked a cigarette daily or frequently chewed tobacco. There were no statistical differences among grades.

**Illicit Drugs.** Of those reporting illicit drug use 23.2% of participants had used marijuana at least once in the last year. A number of participants (17.7%) reported using illicit drugs three or more times in the last year. For *using marijuana one or more times in the past year*, the percentages for 9th through 12th grades is statistically higher than the percentages for 5th-6th and 7th grades ( $\chi^2 = 56.69, p = .001$ ). The percentages of the 12th grade participants who reported *using an illicit drug three or more times in the last year* was higher than percentages for participants in the 5th-6th grade through 8th grades, ( $\chi^2 = 43.10, p < .001$ ).

### **Anti-Social and Violent Behaviors**

**Anti-Social Behavior.** More than one-quarter (28.5%) of participants said they had shoplifted at least once in the last year. About one fifth (20.5%) of the participants said they had gotten into trouble with the police at least once in the last year. The only significant effect by grade was for *police trouble* in earlier grades. The percentage of 11th and 12th grade responses was higher than for those in the 7th grade, ( $\chi^2 = 23.37, p < .001$ ).

**Violence.** Self-reported violence percentages were quite high. More than half (55.9%) of the participants reported they had hit or beat someone up at least once last year, while 41.9% of participants said that they had threatened someone with harm at least once in the last year. A little over one quarter (27.9%) of participants re-

ported participating in a group fight at least once last year. One fifth (20.0%) of participants said they had hurt someone at least once in the last year. Some participants also reported carrying a weapon for protection at least once last year (10.3%) or using a weapon to get something from a person at least once last year (5.5%). About half (50.2%) of the participants reported engaging in three or more acts of fighting, hitting, injuring a person, carrying or using a weapon, or threatening physical harm in the last year. The only significant effect by grade was for *threatening harm one or more times in a year* with the percentage of 10th grade responses being statistically higher than the percentage for 5th-6th grade ( $\chi^2 = 16.49, p < .05$ ).

### **Additional Risky Behaviors**

**Sexual Intercourse.** More than one third (35.7%) of participants said that they had sexual intercourse at least once in the last year. About one quarter (25.8%) of the participants reported having intercourse three or more times in their life. As expected, the percentages for later grades were statistically higher than the percentages for earlier grades. The percentage of 10th grade through 12th grade respondents indicating that they had either *sexual intercourse ever or has sexual intercourse three or more times* was statistically higher than the percentages for 5th-6th grades through 8th grade (respectively,  $\chi^2 = 126.5, p < .001$ ;  $\chi^2 = 115.59, p < .001$ ).

**School problems.** Of those reporting school problems, 26.7% of participants reported they had skipped school at least once last month. The percentage for 12th grade was statistically higher than the percentages for 5th-6th and 7th grades, ( $\chi^2 = 20.45, p < .01$ ). Also, 22.8% of participants reported skipping school at least twice in the

last month or having below a C average.

**Gambling.** Several participants reported gambling at least once within the last year (14.8%). A few participants (5.7%) reported gambling three or more times within the last year. There was no statistical difference among grades for either item.

**Disordered eating.** Almost one fifth (18.6%) of the participants said they had disordered eating habits, which involved binge eating, purging, and starving.

**Depression and Suicide.** About one fifth (20.7%) of the participants said they had felt sad or depressed most or all of the time in the last month. Almost one-fifth (19.7%) of the participants had reported ever attempting suicide. About one-third (32.1%) of the participants reported being frequently depressed or have ever attempted suicide. The percent of 11th graders who indicated that *they had been depressed most of the time last month* was statistically higher than the percent of 5th-6th and 7th graders, ( $\chi^2 = 25.27, p < .001$ ). A statistically higher percent of 10th and 12th grade respondents reported that *they had attempted suicide* than those in the 5th-6th and 7th grades ( $\chi^2 = 14.45, p < .05$ ). For those reporting that they were *frequently depressed or had ever attempted suicide*, the percentages of 11th and 12th grades was statistically higher, ( $\chi^2 = 24.18, p < .001$ ).

### **Associations between Adverse Childhood Experiences High Risk Behavior Patterns**

Tables 6 and 7 examine the association between risky behaviors and cumulative ACE scores. ACE scores were categorized into 0-1 ACEs, 2-3 ACEs, and four or more ACEs because much of the previous work shows a relationship between 4 or more ACEs and negative outcomes. Also, for these

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Table 5. Percentage of Risky Behaviors by Grade

		Total	5th – 6th grade	7th grade	8th grade	9th grade	10th grade	11th grade	12th grade	$\chi^2$
Alcohol	Attended 1+ drinking party last year	42.9	11.3	12.9	20.4	46.4	60.0	70.7	79.6	114.28***
	Alcohol use 1+ last month	21.0	14.8	6.5	10.2	25.5	27.7	27.6	35.2	23.23***
	Get drunk within last 2 weeks	13.6	13.1	1.6	10.2	12.7	13.8	20.7	24.1	15.60*
	Alcohol use 3+ last month or drunk last 2 weeks	15.6	14.8	1.6	10.2	16.4	18.5	22.4	25.9	17.18*
Drinking & Driving	Driving after drinking 1+ last year	8.2	4.9	1.6	2.0	8.9	9.4	13.8	16.7	14.56*
	Ridden with drunk driver 1+ last year	40.2	32.8	31.1	32.7	41.1	53.1	43.1	46.3	10.14
	Drunk driving or ridden with drunk driver 3+ last yr	19.1	9.8	13.1	10.2	28.6	26.6	19.0	25.9	14.50*
Cigarettes/ Tobacco	Cigarettes 1+ last month	6.7	1.6	1.6	4.1	5.4	10.8	12.1	11.1	11.90
	Other tobacco 1+ last year	0.7	1.6	0.0	0.0	1.8	0.0	1.7	0.0	3.93
	Cigarettes daily or frequently chew tobacco	5.0	0.0	0.0	6.4	3.6	7.7	10.3	7.4	11.97
Drugs	Marijuana 1+ last year	23.2	3.3	3.3	12.5	29.6	37.5	32.1	46.2	56.69***
	Inhalants 1+ last year	4.0	3.3	4.9	6.1	3.6	4.6	3.4	1.9	1.58
	Other illicit drugs 1+ last year	1.0	0.0	0.0	0.0	0.0	1.6	3.6	1.9	6.63
	Illicit drugs 3+ last year	17.7	1.8	1.7	8.5	20.4	28.6	27.8	35.3	43.10***
Anti-Social Behavior	Shoplifted 1+ last year	28.5	22.6	27.4	30.6	30.9	25.0	25.9	38.9	4.81
	Vandalism 1+ last year	12.2	15.0	6.5	10.4	16.1	9.2	14.0	14.8	4.34
	Police trouble 1+ last year	20.5	9.7	4.8	18.4	30.9	23.1	29.3	29.6	23.37***
	Anti-social behavior 3+ last year	14.5	13.3	8.1	12.5	16.7	15.6	15.8	20.4	4.13
Violence	Hit or beat up someone 1+ last year	55.9	50.0	58.1	55.1	53.6	56.9	60.3	57.4	1.67
	Hurt someone 1+ last year	20.0	16.4	17.7	16.7	25.0	29.2	17.2	16.7	6.00
	Used weapon to get something 1+ last yr	5.5	1.7	1.6	2.1	3.6	10.8	8.6	9.3	11.02
	Group fight 1+ last year	27.9	32.3	22.6	22.9	37.5	27.7	25.9	25.9	4.84
	Carried weapon for protection 1+ last yr	10.3	3.2	9.7	6.1	14.3	16.9	8.6	13.0	8.92
	Threatened harm 1+ last year	41.9	29.0	33.9	40.8	44.6	56.9	34.5	53.7	16.49*
	Violence 3+ last year	50.2	36.7	45.2	50.0	56.4	60.0	44.8	59.3	10.80
Sexual Intercourse	Sexual intercourse ever	35.7	1.6	4.9	16.3	36.4	58.5	58.6	74.1	126.57***
	Sexual intercourse 3+ times	25.8	0.0	0.0	4.1	25.5	40.0	48.3	63.0	115.59***
School Attendance	Skipped school 1+ last month	26.7	17.7	11.3	26.5	25.5	30.8	32.8	44.4	20.45**
	Skipped school 2+ last month or < C avg.	22.8	17.7	17.7	20.4	20.0	26.2	29.8	27.8	4.98
Gambling	Gambled 1+ last year	14.8	9.7	9.7	12.2	10.7	24.6	20.7	14.8	10.15
	Gambled 3+ last year	5.7	1.6	4.8	2.0	5.4	12.3	6.9	5.6	8.73
Eating	Disordered eating ever	18.6	29.0	14.8	10.4	12.7	18.5	20.7	22.2	9.07
Depression	Depression most of the time last month	20.7	12.9	9.7	14.3	25.5	15.4	39.7	29.6	25.27***
	Attempted suicide ever	19.7	11.3	11.3	16.3	16.1	27.7	24.1	31.5	14.45*
	Frequently depressed or ever attempted suicide	32.1	22.6	16.1	26.5	30.9	33.8	50.0	46.3	24.18***

Note. Chi-squares ( $\chi^2$ ) tested whether the differences between the percentages for the risky behaviors were statistically significant; significant differences are noted by: \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

analyses, High-Risk Behaviors were used (where the behaviors occurred three or more times last year). Testing the relationship using High-Risk is more rigorous as it requires a higher level of participation in the risky behaviors. Contingency tables were calculated, and chi-square ( $\chi^2$ ) Fisher's Exact test was used to determine if the variables were related.

Table 6 reports the percentages for each High-Risk Behavior by categorized cumulative ACE scores. All of the High-Risk Behaviors were associated with higher ACE scores except school problems and gambling. In general, participants that report each high-risk behavior report more ACEs. Less than 20% of the girls that reported risk behavior had an ACE score of none or one. Of the girls that reported tobacco use, 80% had an ACE score of four or more. Of the girls that reported illicit drug use, 71% reported an ACE score of four or more. More than half of the girls that reported the high-risk behavior patterns of alcohol use, driving and alcohol, sexual intercourse, depression and suicide, and anti-social behavior had ACE scores of four or more. Almost half of the girls that reported the high risk pattern of violence reported ACE scores of four or more.

Table 7 reports the percentages and chi-square results for each High-Risk Behavior by individual ACE. In other words, if participants experienced one ACE, which High-Risk Behaviors are they likely to participate in?

Abuse. Emotional abuse, physical abuse, and battered mother were significantly associated with driving and alcohol, illicit drug use, and depression/suicide. Physical abuse was also associated with anti-social behavior. Sexual abuse was associated

with all of the high-risk behaviors except school problems and gambling.

Neglect. Emotional neglect was associated with depression/suicide, anti-social behavior, and violence. Physical neglect was associated with alcohol use, driving and alcohol, depression/suicide, and anti-social behavior.

Household Dysfunction. Parental discord/divorce was only associated with anti-social behavior. Household members with mental illness and incarceration showed similar association patterns. They were related to alcohol use, driving and alcohol, tobacco use, illicit drug use, and depression/suicide, with incarcerated family member also being related to anti-social behavior, violence, and school problems.

High-Risk Behaviors. The four high-risk behaviors that showed the most significant associations with the ACEs were depression/suicide, driving and alcohol, illicit drug use, and anti-social behavior. Sexual intercourse was only positively associated with sexual abuse and household substance abuse. Tobacco was only positively associated with sexual abuse, mental illness in household, and incarcerated household member. Violence was associated with sexual abuse, emotional neglect, and incarcerated household member. School problems were only associated with household substance abuse and incarcerated household member.

## DISCUSSION

Most ACE research has been conducted retrospectively. However, this study shows that the ACE questionnaire is not limited to retrospective use and can be utilized with adolescents while adverse events may be oc-

curing. The African American girls in this study reported high percentages of adverse experiences compared to the original ACE sample (Fellitti, et al., 1998). A much higher percentage of adolescent females in this study reported being emotionally abused (+42%), being emotionally neglected (+33%), and having a battered mother (+16%). A slightly higher percentage of participants than the original sample reported having an incarcerated family member, and about the same number of participants reported physical abuse and mental illness in household.

The research has shown that the cumulative effects of trauma are better predictors of problems than individual trauma issues. Only 25.8% of girls in this study experienced none or one trauma. Twenty-two percent of girls reported experiencing two to three ACEs, and 40.6% reported four or more ACEs. When compared with Fellitti's original sample, which found that people with scores of four or more likely to have adverse consequences in adulthood, 40.6% of girls in this study had ACE scores of four or more. They are, therefore, at risk for attempting suicide, smoking, alcoholism, absenteeism, serious financial or job problems, teen pregnancy, and having serious medical problems.

African American girls in this study reported many risky behaviors. When exploring participant behaviors during the prior 12 months, more than one third of the girls attended a drinking party, rode with a drunk driver, hit or beat someone up, threatened harm, participated in violence at least three times, and had sexual intercourse. More than one quarter of the girls shoplifted, participated in a group fight, had sex at least three times, skipped school the previous month, or reported they were frequently depressed or

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**Table 6. High Risk Behavior Patterns by Number of Adverse Childhood Experiences**

	Reporting Risky Behavior		0-1 ACEs	2-3 ACEs	4+ ACEs	$\chi^2$
	N	% of Total	% of RB	% of RB	% of RB	
Alcohol use	61	15.5	19.7	21.3	59.0	10.58**
Driving and alcohol	75	19.1	18.7	17.3	64.0	21.77***
Tobacco use	20	5.1	15.0	5.0	80.0	14.46***
Illicit drug use	66	17.6	10.6	18.2	71.2	31.69***
Sexual intercourse	101	25.7	16.8	32.7	50.5	8.36*
Depression/suicide	125	31.6	12.8	25.6	61.6	36.93***
Anti-social behavior	58	14.8	15.5	25.9	58.6	10.36**
Violence	198	50.5	20.7	33.3	46.0	8.71*
School problems	89	22.6	20.2	32.6	47.2	3.12
Gambling	22	5.6	18.2	18.2	63.6	5.29

Note. Percents by ACE category are within those that reported high-risk behaviors. Significant chi-square ( $\chi^2$ ) values are noted by \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  based on two-sided significance for Fisher's Exact test.

**Table 7. Percent of Adolescent African American Females Reporting Co-occurring High Risk Behavior Patterns**

	Alcohol use	Driving and alcohol	Tobacco Use	Illicit drug use	Sexual intercourse	Depression/suicide	Anti-social behavior	Violence	School problems	Gambling
Emotional Abuse	% 16.1	24.3	6.5	22.0	28.1	41.0	16.7	54.9	22.9	5.5
	$\chi^2$ 0.78	10.49**	2.13	5.64*	1.34	18.73***	1.47	2.92	0.03	0.06
Physical Abuse	% 21.5	25.9	7.5	29.4	29.0	46.3	21.9	56.6	22.2	8.3
	$\chi^2$ 4.23	4.53*	2.57	13.02**	0.86	14.63***	6.55*	1.90	0.09	1.91
Sexual Abuse	% 27.0	31.3	14.8	35.6	40.3	58.7	30.6	66.7	31.7	9.4
	$\chi^2$ 7.63*	6.81*	13.0**	16.35***	8.53**	26.75***	16.21***	7.62**	3.18	1.87
Emotional Neglect	% 17.6	21.4	8.3	21.9	29.0	46.4	18.4	56.5	23.4	4.6
	$\chi^2$ 1.57	0.91	6.44	3.45	1.63	37.06***	4.41*	4.96**	0.14	1.15
Physical Neglect	% 31.1	35.6	6.7	26.7	26.7	57.8	26.7	57.8	33.3	6.7
	$\chi^2$ 10.39**	9.10**	0.19	3.18	0.03	18.56***	7.12*	1.28	3.34	0.08
Parental Discord/Divorce	% 17.0	18.9	6.2	19.6	26.3	31.0	17.2	52.2	21.8	7.0
	$\chi^2$ 1.56	1.55	1.77	2.52	0.19	0.35	5.45*	1.36	0.20	2.48
Battered Mother	% 17.9	25.9	6.8	26.5	29.9	44.4	19.5	51.3	28.2	6.8
	$\chi^2$ 0.80	4.89*	0.63	7.20*	0.34	11.10**	2.93	0.04	2.40	0.07
Household Substance Abuse	% 26.1	34.5	9.2	33.7	34.5	48.9	24.1	55.2	34.9	9.1
	$\chi^2$ 9.40**	16.35***	4.15	21.35***	4.53*	17.47***	8.51**	0.97	9.25**	2.39
Mental Illness in Household	% 22.9	31.4	11.6	29.9	34.8	57.1	17.4	55.7	25.7	8.6
	$\chi^2$ 5.2*	7.85**	7.91**	8.55**	2.82	30.77***	1.49	1.03	0.60	2.01
Incarcerated Household Mbr	% 22.7	25.8	9.4	28.0	29.9	40.3	23.2	62.2	30.2	8.5
	$\chi^2$ 8.09**	5.16*	7.33*	13.75***	1.43	6.42*	11.10**	10.05**	6.72**	3.15

Note. If the ACE listed at left was reported, the percent shown is for co-occurring (co-reported) high risk behavior patterns listed across the top. Chi-square ( $\chi^2$ ) values are italicized, and significance is noted by \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$  based on two-sided significance for Fisher's Exact test.

had attempted suicide. When these behaviors were categorized into high-risk behavior patterns, about one fifth of the girls had driven or ridden with a drunk driver more than three times the previous year. About one-quarter of the girls skipped school at least two days in the last month or had below a C average.

Over half of the girls reported they had engaged in three or more acts of fighting, hitting, injuring a person, carrying of using a weapon, or threatening physical harm in the previous year. Compared to the Search Institute studies of other African American youth in 6th to 12th grade (both male and female; Benson, Scales, Leffert, & Roehlkepartain, 1999), a higher percentage of girls in this sample reported depression and suicide. Girls in this study reported about the same percentages for driving and alcohol and violence. Also, girls participating in this study reported lower percentages of alcohol use, tobacco use, illicit drug use, sexual intercourse, antisocial behavior, school problems, and gambling.

Compared to the Search Institute studies, including girls from all racial backgrounds, the girls in this study reported higher percentages of sexual intercourse, violence, depression/suicide, and school problems. The girls in this study reported about the same percentages of illicit drug use and anti-social behavior. Fewer girls in this study reported alcohol use, tobacco use, and gambling.

We also examined the co-occurrence of adverse experiences with other risky behaviors. Having been sexually abused and having an incarcerated family member was significantly related to eight of the 10 risky behavior patterns. Household substance abuse was related to seven of the 10. Both emo-

tional and physical abuse were significantly related to the risky behavior patterns of driving and alcohol, illicit drug use, and depression. Depression and suicide attempts were related to nine of the 10 ACE categories. While examining the relationship between individual ACEs and risky behaviors in adolescents needs more investigation, much of the research on ACEs suggests that it is the cumulative number of ACEs that leads to negative behavioral and physical health outcomes. This study confirms these findings with an understudied group, with adverse experiences more proximal to outcomes. For girls that reported each of the high-risk behavior patterns, almost half had high cumulative ACEs scores and scores of four or more adverse experiences. Because of the concurrent methodology, we cannot with certainty conclude that adverse experiences predict risky behaviors. However, based on the nature of the ACE questions, we may infer that ACEs are predictive. Additional research on the predictive nature of cumulative trauma, as assessed by the ACE, risky behaviors, and other risk and protective factors is needed.

## POLICY AND PRACTICE IMPLICATIONS

The current research suggests that if African American girls are exhibiting negative behavioral outcomes, these outcomes may be occurring because of trauma exposure in their homes, schools, or communities. The findings further indicate a need for a policy shift in community and educational settings, moving away from a punitive approach and toward prosocial, preventative measures. The presence of a negative behavior is an opportunity for schools and communities to act proactively, assessing for trauma and intervening earlier to prevent further short and long-

term consequences in the adolescent's life. Furthermore, the ACEs appear to be a good, brief screen that could be help assess for problems and lead to referrals for services and treatment. Anecdotally, the girls recruited for this study were from the community and not targeted through behavioral health intervention programs. It is likely that the majority of these participants were not receiving behavioral health treatment although their ACE scores and risky behaviors indicate there may be a need. Additional analyses are needed to examine the mental health symptomology related to ACEs and risky behavior patterns.

Because there are multiple ACEs linked to risks and negative outcomes, multiple pathways need to be considered when designing secondary and tertiary prevention. However, research on resiliency has recognized that developing interventions focused on changing the risks may not be effective because risk factors such as abuse or neighborhood disadvantage are not easily amenable to change and that research ought to examine protective factors that moderate risk to better understand why youth with similar risk factors may or may not have the same negative outcomes (American Psychological Association, Task Force on Resilience and Strength in Black Children and Adolescents, 2008; Hawkins, Graham, Williams, & Zahn, 2009).

Research on African American girls is just beginning. We reiterate the call for additional studies on girls of color by The African American Policy Forum (Crenshaw et al., 2015). A unique contribution of this study was its use of local leaders to assist in the recruitment, data collection, and subsequent implementation of empowerment-oriented interventions for African American girls in participating

communities. We found that the direct involvement of the community in the research, as opposed to being passive recipients, engendered a renewed sense of community pride and ownership that continues to bring new empowerment programming to girls throughout Ohio long past the study's completion. Our experience suggests that funders, stakeholders, and advocates should support community leaders and partner with prevention, intervention and treatment programs to support youth in need.

## LIMITATIONS

The current study is among the first to examine adverse childhood experiences and risk taking behavior in African American girls. The results support the emerging empirical literature that adverse experiences in childhood are associated with increased rates of risk taking behavior in adolescence and adulthood. That said, the study has limitations that warrant mention, most notably the absence of a comparison group and the use of a convenience sample. The use of a comparison group that include both African American girls and girls from other ethnicities, races, and socioeconomic backgrounds may yield further support for interventions that are geared toward empowering adolescent girls and ameliorating the effects of childhood adverse experiences. While the study developers knew this to be a limitation from the outset, the goal of the study was to provide local community leaders with tools to identify needs and take action. Therefore, compromises were made in the design due to budget and local needs. Generalizability is further limited because of the use of a convenient sample. Future studies should use a randomized sample and comparison groups to in-

crease the reliability and applicability of the findings.

## REFERENCES

- American Psychological Association Task Force on Resilience and Strength in Black Children and Adolescents. (2008). *Resilience in African American children and adolescents: A vision for optimal development*. Washington, DC: Author. Retrieved from <http://www.apa.org/pi/cyf/resilience.html>
- Anda R. F., Brown, D. W., Dube, S. R., Bremner, J. D., Felitti, V. J., & Giles, W. H. (2008). Adverse childhood experiences and chronic obstructive pulmonary disease in adults. *American Journal of Preventive Medicine, 34*(5), 396-403.
- Anda, R. F., Brown, D. W., Felitti, V. J., Bremner, J. D., Dube, S. R., & Giles, W. H. (2007). Adverse childhood experiences and prescribed psychotropic medications in adults. *American Journal of Preventive Medicine, 32*(5), 389-94.
- Anda, R. F., Whitfield, C. L., Felitti, V. J., Chapman, D., Edwards, V. J., Dube, S. R., & Williamson, D. F. (2002). Adverse childhood experiences, alcoholic parents, and later risk of alcoholism and depression. *Psychiatric Services, 53*(8), 1001-1009.
- Anda, R. F., & Felitti, V. J. (2003). Origins and essence of the study. *The Ace Reporter, 1*(1), 1-3.
- Baglivio, M. T., Epps, N., Swartz, K., Huq, S., Sheer, A., & Hardt, N. (2014). The prevalence of Adverse Childhood Experiences (ACE) in the lives of juvenile offenders. *Journal of Juvenile Justice, 3*(2), 1-23.
- Benson, P. L., Scales, P. C., Leffert, N., & Roehlkepartain, E. C. (1999). *A fragile foundation: The state of developmental assets among American youth*. Minneapolis, MN: The Search Institute. (Also Available on ERIC).
- Baum, K. (2005). *Juvenile Victimization and Offending, 1993-2003*. Washington, DC: Bureau of Justice Statistics Special Report. Retrieved from: <http://www.bjs.gov/content/pub/pdf/jvo03.pdf>
- Beauvais, F., & Oetting, E. R. (2002). Variations in the etiology of drug use among ethnic groups of adolescents. *Public Health Reports, 117*, S8-S14.
- Black, M.C., Basile, K.C., Breiding, M.J., Smith, S.G., Walters, M.L., Merrick, M.T., Chen, J., & Stevens, M.R. (2011). The National Intimate Partner and Sexual Violence Survey: 2010 Summary Report. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.
- Black Women for Black Girls Giving Circle (BWBGC). (2009). *Black girls in New York City: Untold strength and resilience*. Institute for Women's Policy Research and the Twenty-First Century Foundation. Retrieved from: <http://www.blackwomenforblackgirls.org/index.php?page=report>
- Buka, S. L., Stichick, T. L., Birdthistle, I., & Earls, F. J. (2001) Youth Exposure to Violence: Prevalence, Risk, and Consequences. *American Journal of Orthopsychiatry 71*(3), 298-310.
- Burke, N.J., Hellman, J.L., Scott, B.G., Weems, C. F., & Carrion, V. G., (2011). The impact of Adverse Childhood Experiences on an urban pediatric population. *Child Abuse & Neglect, 35*(6), 408-413.
- Burstein, M., Ginsburg, G. S., Petras, H., & Ialongo, N. (2010). Parent psychopathology and youth internalizing symptoms in an urban community: A latent growth model analysis. *Child Psychiatry & Human Development, 41*(1), 61-87.
- Busby, D., Lambert, S., & Ialongo, N. (2013). Psychological symptoms linking exposure to community violence and academic functioning in African American adolescents. *Journal of Youth & Adolescence, 42*(2), 250-262.
- Center for Intersectionality and Social Policy Studies, African American Policy Forum. (2015). Black Girls Matter: Pushed Out, Overpoliced and Underprotected.

- Chapman, D. P., Anda, R. F., Felitti, V. J., Dube, S. R., Edwards, V. J., & Whitfield, C. L. (2004). Adverse childhood experiences and the risk of depressive disorders in adulthood. *Journal of Affective Disorders, 82*, 217–225.
- Chen, W. (2009). Adolescents' internalizing behaviors after extreme violence exposure: A comparison of race and gender for African-American and Asian American youth. *Families in Society: The Journal of Contemporary Social Services, 90*, 145–152.
- Coker, K. (2007). *Role of trauma in social-cognitive adjustment strategies and moral disengagement among African-American urban youth*. Dissertation Abstracts International, 82 pages, 3368970.
- Corso, P. S., Edwards, V. J., Fang, X., & Mercy, J. A. (2008). Health-related quality of life among adults who experienced maltreatment during childhood. *American Journal of Public Health, 98*, 1094–1100.
- Crenshaw, K. W., Ocen, P., & Nanda, J. (2015). *Black girls matter: Pushed out, overpoliced, and underprotected*. Retrieved from The African American Policy Forum website: [http://static1.squarespace.com/static/53f20d90e4b0b80451158d8c/t/54dccc1e4b001c03e323448/1423753708557/AAPF\\_BlackGirlsMatterReport.pdf](http://static1.squarespace.com/static/53f20d90e4b0b80451158d8c/t/54dccc1e4b001c03e323448/1423753708557/AAPF_BlackGirlsMatterReport.pdf)
- Dietz, P. M., Spitz, A. M., Anda, R. F., Williamson, D. F., McMahon, P. M., Santelli, J. S., Nordenberg, D. F., Felitti, V. J., & Kendrick, J. S. (1999). Unintended pregnancy among adult women exposed to abuse or household dysfunction during their childhood. *Journal of the American Medical Association, 282*, 1359–1364.
- Dong, M., Anda, R. F., Dube, S. R., Felitti, V. J., & Giles, W. H. (2003). Adverse Childhood Experiences and self-reported liver disease: New insights into a causal pathway. *Archives of Internal Medicine, 163*, 1949–1956.
- Dong, M., Giles, W. H., Felitti, V. J., Dube, S. R., Williams, J. E., Chapman, D. P., & Anda, R. F. (2004). Insights into causal pathways for ischemic heart disease: Adverse Childhood Experiences Study. *Circulation, 110*, 1761–1766.
- Dube, S. R., Anda, R. F., Felitti, V. J., Chapman, D., Williamson, D. F., & Giles, W. H. (2001). Childhood abuse, household dysfunction and the risk of attempted suicide throughout the life span: Findings from Adverse Childhood Experiences Study. *Journal of the American Medical Association, 286*, 3089–3096.
- Dube, S. R., Anda, R. F., Felitti, V. J., Edwards, V. J., & Croft, J. B. (2002). Adverse Childhood Experiences and personal alcohol abuse as an adult. *Addictive Behaviors, 27*(5), 713–725.
- Dube, S. R., Fairweather, D., Pearson, W. S., Felitti, V. J., Anda, R. F., & Croft, J. B. (2009). Cumulative childhood stress and autoimmune disease. *Psychosomatic Medicine, 71*, 243–250.
- Dube, S. R., Felitti, V. J., Dong, M., Chapman, D. P., Giles, W. H., & Anda, R. F. (2003). Childhood abuse, neglect and household dysfunction and the risk of illicit drug use: *The Adverse Childhood Experience Study*. *Pediatrics, 111*(3), 564–572.
- Duke, N. N., Pettingell, S. L., McMorris, B. J., & Borowsky, I. W. (2010). Adolescent violence perpetration: Associations with multiple types of adverse childhood experiences. *Pediatrics, 125*(4), 778–786.
- Edwards, V. J., Anda, R. F., Gu, D., Dube, S. R., & Felitti, V. J. (2007). Adverse childhood experiences and smoking persistence in adults with smoking-related symptoms and illness. *Permanente Journal, 11*, 5–7.
- Edwards, V. J., Holden, G. W., Anda, R. F., & Felitti, V. J. (2003). Experiencing multiple forms of childhood maltreatment and adult mental health: results from the Adverse Childhood Experiences (ACE) Study. *American Journal of Psychiatry, 160*(8), 1453–1460.
- Edwards, V. J., Dube, S. R., Felitti, V. J., & Anda, R. F. (2007). It's OK to ask about past abuse. *American Psychologist, 62*(4), 327–328.
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*(4), 245–258.
- Finkelhor, D. (2008). *Childhood Victimization: Violence, Crime and Abuse in the Lives of Young People*. Oxford University Press.
- Finkelhor, D., Turner, H., Hamby, S., & Omrod, R. (2011). *National Survey of Children's Exposure to Violence. Final Report (Research Report No. 248444)*. Retrieved from: <https://www.ncjrs.gov/pdffiles1/ojdp/grants/248444.pdf>
- Guthrie, B. J., & Low, L. K. (2000). A substance use prevention framework: Considering the social context for African American girls. *Public Health Nursing, 17*, 363–373.
- Hawkins, S. R., Graham, P. W., Williams, J., & Zahn, M. A. (2009). *Girls study group: Understanding and responding to girls' delinquency*. U. S. Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention. Retrieved from: <https://www.ncjrs.gov/pdffiles1/ojdp/220124.pdf>
- Hetherington, E. M., & Elmore, A. M. (2003). Risk and resilience in children coping with their parents' divorce and remarriage. In S. S. Luthar (Ed) *Resilience and vulnerability: Adaptation in the context of childhood adversities*. (pp. 182-212). New York, NY: Cambridge University Press.
- Jamora, M., S., Brylske, P. D., Martens, P., Braxton, D., Colantuoni, E., & Belcher, H. M. E. (2009). Children in foster care: Adverse Childhood Experiences and psychiatric diagnoses. *Journal of Child & Adolescent Trauma, 2*, 198–208.
- Kabiru, C. W., Beguy, D., Crichton, J., & Ezeh, A. C. (2010). Self-reported drunkenness among adolescents in four sub-Saharan African countries: Association with adverse childhood

- experiences. *Child & Adolescent Psychiatry & Mental Health*, 4, 17-29.
- Kaess, M., Parzer, P., Mattern, M., Plener, P. L., Bifulco, A., Resch, F., & Brunner, R. (2013). Adverse childhood experiences and their impact on frequency, severity, and the individual function on nonsuicidal self-injury in youth. *Psychiatry Research*, 206, 265-272.
- Kennedy, A. G. (2008). An ecological approach to examining cumulative violence exposure among urban, African American adolescents. *Child Adolescent Social Work Journal*, 25, 25-41.
- Leffert, N., Benson, P. L., Scales, P. C., Sharma, A. R., Drake, D. R., & Blyth, D. A. (1998). Developmental assets: Measurement and prediction of risk behaviors among adolescents. *Applied Developmental Science*, 2(4), 209-230.
- Maruschak, L. M., Glaze, L. E., & Mumola, C. J. (2010). Incarcerated Parents and their Children. In J. M. Eddy & J. Poehlmann (Eds.), *Children of Incarcerated Parents: A Handbook for Researchers and Practitioners* (pp. 33-51). Washington, D.C.: Urban Institute Press.
- Matsuura, N., Hashimoto, T., & Toichi, M. (2013). Associations among adverse childhood experiences, aggression, depression, and self-esteem in serious female juvenile offenders in Japan. *The Journal of Forensic Psychiatry & Psychology*, 24(1), 111-127.
- Milam, A. J., Furr-Holden, C. D., Harrell, P. T., Whitaker, D. E. & Leaf, P. J. (2012). Neighborhood disorder and juvenile drug arrests: A preliminary investigation using the NifETy instrument. *Journal of Drug & Alcohol Abuse*, 38(6), 598-602
- O'Donnell, L., O'Donnell, C, Wardlaw, D. M., & Stueve, A. (2004). Risk and resiliency factors influencing suicidality among urban African American and Latino youth. *American Journal of Community Psychology*, 33(1/2), 37-49.
- Peterson, B. L., Lweandowski, L. A., & Chiodo, L. M. (2011). Relationships among trauma, nightmares, and quality of life in urban, African American adolescents. *Journal of Nursing Research*, 33(8), 1104-1105.
- The Pew Charitable Trusts: Pew Center on the States. (2010). *Collateral Costs: Incarceration's Effect on Economic Mobility*. Washington, DC. Retrieved from: <http://csgjusticecenter.org/wp-content/uploads/2010/09/2010-Pew.pdf>
- Pittman, L. D., & Chase-Lansdale, P. L. (2001). African American adolescent girls in impoverished communities: Parenting style and adolescent outcomes. *Journal of Research on Adolescence*, 11(2), 199-224.
- Randolph, K. A. (2004). The dynamic nature of risk factors for substance use among adolescents. *Journal of Child & Adolescent Substance Abuse*, 13, 33-47.
- The Research and Evaluation Group at Public Health Management Corporation (2013). *Findings from the Philadelphia Urban ACE Survey*. Retrieved from: <http://www.instituteforsafefamilies.org/sites/default/files/isfFiles/Philadelphia%20Urban%20ACE%20Report%202013.pdf>
- Schilling, E. A., Aseltine Jr., R. H., and Gore, S. (2007). Adverse childhood experiences and mental health in young adults: A longitudinal survey. *BioMed Central Public Health*, 7. Retrieved from: <http://www.biomedcentral.com/content/pdf/1471-2458-7-30.pdf>
- Shlafer, R. J., Gerrity, E, Ruhland, E., & Wheeler, M. (2013) Children with incarcerated parents—considering children's outcomes in the context of complex family experiences. *Children's Mental Health eReview*. Retrieved from: <http://www.extension.umn.edu/family/cyfc/our-programs/ereview/docs/June2013ereview.pdf>
- The Search Institute. (2010). *Profiles of Student Life: Attitudes and Behaviors survey*. Available online at <http://www.search-institute.org/survey-services/surveys/attitudes-behaviors>
- Triffleman, E. G., & Pole, N. (2010). Future directions in studies of trauma among ethnoracial and sexual minority Samples: Commentary. *Journal of Consulting and Clinical Psychology*, 78(4), 490-497.
- U. S. Bureau of the Census (2009). *Income, Poverty, and Health Insurance Coverage in the United States: Report P60*, n. 238, Table B-2, pp. 62-7
- U. S. Department of Health and Human Services, SAMHSA, Office of Applied Studies. (2009). *The NSDUH Report: Children living with substance-dependent or substance-abusing parents: 2002-2007*. Rockville, MD
- U. S. Department of Justice, (2006). *Criminal Victimization in the United States—Statistical Tables, 2005. Tables 3, 4, 9, 10*. Washington, DC: Bureau of Justice Statistics.
- U. S. Department of Justice. (2012). *Report of the Attorney General's National Task Force on Children Exposed to Violence: Defending childhood, protect heal thrive*. Retrieved from [www.justice.gov/defendingchildhood/cev-rpt-full.pdf](http://www.justice.gov/defendingchildhood/cev-rpt-full.pdf)
- Voisin, D. R. (2007). The effects of family and community violence exposure among youth: Recommendations for practice and policy. *Journal of Social Work Education* 43(1), 51-66.
- Wight, V. R., Chau, M. (2009). *Basic Facts About Low-income Children, Children Under Age 18, 2008*. New York, NY: National Center for Children in Poverty, Columbia University, Mailman School of Public Health.
- Williamson, D. F., Thompson, T. J., Anda, R. F., Dietz, W. H., & Felitti, V. J. (2002). Body weight, obesity, and self-reported abuse in childhood. *International Journal of Obesity*, 26, 1075-1082.
- Woods-Jaeger, B. A., Jaeger, J. A., Donengerg, G. R., & Wilson, H. W. (2013). The relationship between substance use and sexual health among African-American female adolescents with a history of seeking mental health services. *Women's Health Issues*, 23(6), 365-371.



# SAVE THE DATE!

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\*Note: Mention of any project, service or event does not constitute endorsement by the Ohio Department of Mental Health and Addiction Services

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### Break the silence: UNITE to Face Addiction, The National Mall in Washington, DC

September 28 –  
October 1, 2015



**UNITE to Face Addiction** is slated to take place on October 4, 2015, when tens of thousands of people are expected to represent organizations and families from the prevention, treatment, criminal justice, health and recovery communities will convene on the National Mall in Washington, DC. Support for this effort comes from the **National ATTC Network** and **NIATx**, two of the founding partner organizations for the **UNITE to Face Addiction** rally. This effort is bolstered by the grassroots constituency that has developed over the last 15 years to build on greater acceptance of treating alcohol and other drug problems as health issues. The objective of the rally is both to promote and find solutions to improve service to fight addictions and to increase awareness about the many Americans who lack access to the individualized treatment and other recovery support services they need to get their lives on track. For information or to affirm your participation contact Pat Taylor, National Community Outreach Coordinator through this link: <http://www.facingaddiction.org/about/contact/>

**THE DAY THE SILENCE ENDS - October 4, 2015 - Washington, DC**

# STATIC, DYNAMIC, INTEGRATED, AND CONTEXTUALIZED: A FRAMEWORK FOR UNDERSTANDING MENTAL HEALTH SERVICE UTILIZATION AMONG YOUNG ADULTS

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## Abstract:

Research has illuminated the problem of untreated mental illness among young adults, including evidence that young people who exit public care systems often discontinue mental health services in adulthood. The present study explored mental health service use experiences during the transition to adulthood among sixty young adults, ages 18-25, from a Midwestern U.S. state. In-depth semi-structured interviews were conducted. All participants had mood difficulties, and shared three childhood experiences: (a) mood disorder diagnosis; (b) use of public mental health services; and (c) experience with social service systems. Immersion and grounded theory coding techniques were applied to the interview data. Two major themes about mental health service use emerged from the findings, namely the changing nature of service use over time and characterizations of experiences associated with service use at a given point in time. Categories of explanatory constructs that emerged in the latter theme included perceived need, emotions, perceived efficacy of services, and social considerations, among others. Findings suggested a four-facet mid-level theory of service utilization, highlighting both the cross-sectional and time-variant character of service use and decision-making within context. Links between broader theoretical frameworks of service utilization and social psychological models of decision making were noted, and guidelines were presented for ten classes of variables that researchers interested in understanding service use by young adults should consider.

**Keywords:** USA • Theoretical framework • Decision-making • Mental health services • Transition to adulthood • Mood disorders • Young adults

## INTRODUCTION

Nationally representative epidemiological research indicates that 46% of the American adult population experiences at least one psychiatric disorder in their lifetime (Kessler et al., 2005), and 12-month prevalence rates of mood disorders are elevated among young adults when compared to older age cohorts (Kessler et al., 1994, 2009). Prevalence rates of mood disorders among "system youth," defined as those who move in and out of mental health,

child welfare, and juvenile justice systems (Osgood, Foster, Flanagan, & Ruth, 2005) are particularly high. A recent study by McMillen et al. (2005) reported a lifetime prevalence rate of 27% for major depression among a group of 17-year old youths in foster care, a rate higher than those found in the general population -- that is, 16.8% (Newman et al., 1996). Treatment(s) for mood disorders have been shown to be rela-

tively effective (AACAP, 2007), and the consequences of failing to treat can lead to psychosocial difficulties (Coryell et al., 1995).

## Acknowledgment

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Individuals who receive publicly-funded children's mental health care often experience abrupt discontinuation or, at best, fragmentation of services upon turning eighteen (i.e., See McMillen & Raghavan, 2009). This is of concern because research suggests that mental disorders are persistent and recurrent (Kim-Cohen et al., 2003). Thus, knowing (a) that young adulthood is a time of elevated need for but lack of receipt of treatment and (b) that mood disorders are associated with adverse young adult outcomes (i.e., Fergusson & Woodward, 2002), mental health service use (mental health service use, or simply 'service use') among vulnerable young adults is a pressing matter. Hence, this study was designed to explore in depth the service use experiences of young adults over the transition to young adulthood.

### ***Mental health service use theory***

Historically, research on service use has been guided by several useful broad based theories. The *Sociobehavioral Model* (Andersen, 1995), which is implicitly based on rational choice, argues that health service use is a function of an individual's predisposition to use services (as shaped by, for example, health beliefs), enabling factors (e.g., insurance, social support), and need factors. The Sociobehavioral Model's primary focus on the individual has been seen as a limitation to the model. Later theories, such as the *Network-Episode Model* (NEM; Pescosolido, 1992) built upon and elaborated the *Sociobehavioral Model* to take into account multiple levels of analysis.

The original NEM described service use not as a one-time decision, but rather emphasized patterns of use and consultations during an episode of illness (Pescosolido & Boyer, 1999). The NEM diverged from the Sociobehavioral Model by conceptualizing service

use as a process that is relevant over the course of an "illness career" and that is embedded in social networks varying in structure, content, and function. Attributes of the treatment system that individuals encounter are thought to affect future orientations toward service use. More recently, Pescosolido has developed the NEM III, and III-R, which extend this conceptualization of service use, emphasizing multi-level factors of influence, including the molecular, individual, social, institutional, and community levels (Pescosolido, 2011). In the NEM III-R, Pescosolido outlines the subsystems of the health and illness career: (a) key entrances (e.g., sick role, patient role); (b) key exits (e.g., from sick role, termination of care); (c) key social sequences (e.g., coping); and (d) key response timing (e.g., combination of health advisors, delay and spacing of consultations). Being a dynamic process, not only are "outcomes at each point potentially conditioned by earlier ones" (Pescosolido, 2011, p. 48), but events do not have to occur in sequential order. Moreover, events might occur repeatedly if episodes of real or perceived illness are rejected or stifled. When considering former system youth, such a dynamic framework is useful, as changes in developmental status and involvement with systems of care are likely to result in varying and unpredictable illness experiences. The various incarnations of the NEM have been useful for identifying broad classes of variables that researchers in the field of mental health service use should consider.

### ***Empirical research on adolescent and young adult service use***

There have been several notable studies on service use experiences among those involved in systems of care. Delman and Jones (2002) examined the experiences of largely Caucasian, mentally ill young adults ( $n =$

24), ages 18-26, all of whom received services while in the public children's mental health system. Participants described aging out as an experience of shock that occurred "with little or no warning" (p. 16). They reported that a key reason they sought treatment was because they recognized they had mental health challenges and also because mental health services were bundled with housing services. Another study conceptualized the onset of illness and initial interaction with the mental health system as a 'maze' with four stages, including first signs, recognition of illness, understanding of illness, and resolution (Webster & Harrison, 2008). More recently, Moses (2011) reported that positive perceptions of treatment, family support, and the self-labeling of difficulties in psychiatric terms were related to greater commitment to service use. Also among adolescents, Lindsay, Joe, and Nebbitt (2010) indicate that family relationships can influence various barriers to services, such as distrust of professionals. These studies highlight the importance of the social milieu as well as individual level determinants of service use.

### ***The present research***

The present study was an in-depth qualitative study focusing on service use experiences, during the transition to adulthood, of 60 young adults and the study explored the factors that shaped service use. This is a noteworthy time with regard to service use primarily for two reasons: (1) developmentally, young adults are in the midst of solidifying their identity and making life transitions and (2) institutionally they are 'aging out' of children's social service systems (Osgood, Foster, & Courtney, 2010). An important aspect of the study is that it includes a significant number of participants who were not using services at the time of the interview. The initial questions that

the research sought to address were (a) how do former system youth with mental health difficulties experience mental health services during the transition to adulthood, and (b) what factors impact these experiences? The research was emergent-theoretic rather than confirmatory-theoretic, with our goal being the prospect of a viable mid-level theory emerging from the qualitative data. As will be seen, what emerged mapped well onto an integration of the NEM III-R framework and recent models of decision making developed in social psychology (i.e., Jaccard, Dodge, & Dittus, 2002). Because the links between these approaches only became apparent after the data were analyzed, we defer discussion of the relevant decision theories and their place in relation to service use theories and the emerging framework to the Discussion section.

**METHOD**

**Participants**

Purposive sampling was used to conduct interviews on the service use experiences during the transition to adulthood, among young adults who had three common experiences during childhood, namely (a) diagnosis of a mood disorder, (b) use of Medicaid-funded mental health services, and (c) use of at least one additional public system of care (child welfare, public welfare, juvenile justice). All participants indicated that they were currently struggling with mood difficulties. The inclusion criteria ensured we interviewed participants with system experiences consistent with our research questions. The sample was recruited from a Midwestern state between 2008 and 2010. Participants were between 18 and 25 years of age (inclusive) and living in the community. Youth were excluded if they were actively psychotic, using substances, had used services

**Table 1**  
**Sample (n = 60).**

	% (n)	Mean (SD)/range
Age		20.97 (2.08)/18-25
Female	67.0% (n = 40)	
Black/African American/multi-racial	68.0% (n = 41)	
Childhood mental disorder <sup>a</sup> :		
Depression only	45.0% (n = 27)	
Bipolar disorder only	31.7% (n = 19)	
Both depression and bipolar	23.3% (n = 14)	
Maltreatment history		
Physical abuse	63.3% (n = 38)	
Physical neglect	53.3% (n = 32)	
Sexual abuse	54.0% (n = 31)	
At least one type of abuse	82.0% (n = 49)	
Public systems of care		3.35 (0.90)
Public mental health	100% (n = 60)	
Public welfare services	73.3% (n = 44)	
Child welfare	70.0% (n = 42)	
Juvenile justice	49.3% (n = 29)	
Special education	44.0% (n = 27)	
Lifetime psychiatric med	86.7% (n = 52)	> or equal to 16
Clinical depression (CES-D)	75.0% (n = 45)	

<sup>a</sup>Participants also reported comorbid diagnoses they were given during childhood. We have restricted the data here to mood disorders, as this was the focus of the study.

for developmental disabilities, and/or if they could not speak English or had communication difficulties that would hinder them from answering interview questions. Human Subjects Review Boards at a large university and a community college approved all study protocols.

The final sample consisted of 60 young adults (mean age = 20.97; SD = 2.08). Sample statistics are reported in Table 1.

**Recruitment and interview procedures**

The study used a three-pronged strategy for recruitment: (a) study ads were posted at agencies/institutions serving young adults who were formerly system youth (e.g., community colleges, welfare agency, unemploy-

ment offices, mental health agencies); (b) study ads were posted on telephone poles, in grocery stores, bus-stops, and at local eateries; and (c) a variant of respondent driven sampling was used that gave participants business cards to distribute to others who they felt might be interested in the study.

Face-to-face mixed methods interviews were conducted. Interviews were conducted at a site of the participants' choosing, often their place of residence, the project office, or in community venues. The first author or doctoral students (with master's degrees in social work and training on the interview) conducted all interviews. Participants received a fifty-dollar honorarium for completing the interview. Interviews took between two to three hours.

### Measurement

A semi-structured interview protocol was developed consisting of six core open-ended questions on service use experiences, followed by probes after each question to elicit additional information. Questions were as follows: 1) Has your service use changed since turning 18? (Meaning, have you started, stopped or changed services?; If so, for what reason?); 2) How did you transition to getting services after turning 18?; 3) Have you run into difficulties getting mental health services?; 4) Do you feel you need mental health services at this time?; 5) If you needed mental health services (or, when you need mental health services) do you have the money/resources to pay for them?; and, 6) Of all the possible reasons not to seek services, why would you say you are not seeking services? Investigators adapted questions and probed with follow-up questions that fit reported participant experiences.

In addition to the in-depth interviews, participants completed closed-ended questionnaires that were used to provide perspective on the clinical needs of the sample and, in some cases, convergence with qualitative data. The Service Assessment for Children and Adolescents (SACA) measured lifetime, past year, and current service use and it has demonstrated good to excellent test-retest reliability (Horwitz et al., 2001). The SACA was used to evaluate convergence with the qualitative findings. The Center for Epidemiological Studies Depression Scale, which has high internal consistency, test-retest reliability, and validity (Locke & Putnam, 1971) was used to determine current level of depression. Abuse and neglect was assessed utilizing the Child Trauma Questionnaire, a previously established cut-off score of 10 or above indicated moderate to severe abuse and neglect (Bernstein & Fink, 1998),

and three items on sexual abuse, which were adapted from Russell (1986). Finally, youth self-report was used to record all mental disorder(s) participants were diagnosed with during childhood and all public systems of care that were utilized during childhood.

### Multi-phase analytic process

The analytic process progressed in stages. First, three analysts used immersion/ crystallization (Borkan, 1999), reading transcripts without coding to gain a more holistic meaning of participant experiences. Analysts highlighted text that referred to questions of interest (no code applied) as a data reduction strategy. Analysts also made notes in journals about ideas emerging in the data.

Then, the same analysts engaged in grounded theory coding techniques (Glaser, 1965). First, each analyst individually conducted line-by-line initial coding, using Atlas.ti software (Muhr, 2004), comparing and contrasting meaningful quotations within and between interviews, starting with a subset of five transcripts. Based on this coding, each analyst developed a set of initial codes and axial codes. Then, analysts met to discuss the initial codes and axial codes, comparing and contrasting individual codes and quotations, while discussing and resolving discrepancies when they occurred. This led to the development of an initial codebook. Analysts went back and individually coded another 18 interviews, comparing and contrasting new codes with quotations in the initial codebook. Project meetings were held to address unclear codes, and codes that were not being applied in the same way. Discrepancies were resolved through consensus. At this point, investigators modified the interview based on initial results to refine questions. Then, analysts coded 17 more interviews further refining

codes and building reliability in the use of codes. Through this process, analysts reported hearing repetition in the data, indicating the point of saturation had been reached; new data could be captured with the codes in the codebook (Morse, 1994). The first author coded the remaining cases. A second stage of constant comparison was conducted on axial codes to derive categories of young adult service use, discuss relationships between categories and ultimately to derive the major themes in this paper.

In some cases multiple contacts prior to and/or after the interview were made with participants. Triangulation of analysts and data strengthened the reliability of the results. Use of multiple coders helps to guard against selectivity in the use of data by any single analyst. Finally, member and expert checking with a participant, clinicians, policy-makers, and scholars added to the validity of the data. In debriefing meetings, researchers discussed the role they played (i.e., their own subjectivity) in the process to raise awareness and increase reflexivity in the overall research process.

## RESULTS

Analyses revealed two major themes surrounding service use, (a) the dynamic character of service use over time, and (b) core factors that impact service use decisions at any given point in time. The presentation of results is organized around these themes. In the Discussion section, we unify them into a four-facet framework of service use during young adulthood and discuss them in relation to previous research and prior frameworks.

### ***The dynamic character of service utilization during the transition to young adulthood***

A prominent feature in respondent accounts of their experiences was the dynamic character of service use over time. We observed four sub-types of users. First, there were *discontinuers*, who had been engaged in services at one point in time but were no longer using them. This group comprised about 42% ( $n = 25$ ) of the sample. Fifty-nine percent of study participants ( $n = 35$ ) were using services at the time of the interview, and they could be categorized into three sub-groups. *Continuous users* maintained the use of services as they transitioned to young adulthood ( $n = 13$ , 22%). *Single gap-interrupted users* ( $n = 13$ , 22%) showed one major gap in service use. Finally, *multiple-gap interrupted users* ( $n = 9$ , 15%) showed multiple gaps. The left-most panel of Fig. 1 (see Part 1) depicts these four types of experiences.

The dynamic nature of service use is important theoretically, because it suggests the need to understand broader behavioral patterns and factors that impact those patterns. It also underscores the need to understand why people disengage and then re-engage services. The primary reasons provided for disengagement in our sample were (a) developmental changes in perceptions that the services were needed, (b) perceptions that the services were not effective, (c) reports of undesired side effects, and (d) a lack of resources which, in turn, made accessing services difficult. A number of the quotations associated with disengagement, many of which are featured in the results below, illuminate a unique and important aspect of the dynamic patterns of service use decisions, which emerged among young adults in the present study, specifically that there may be

a shift in critical determinants of use during the transition to adulthood (i.e., insight into perceived need, discussed later and illustrated in Part 3 of Fig. 1). In the present study, the three groups that were currently using services differed with regard to type of services being utilized, more specifically, 85% of the continuers were using outpatient services, while 100% of those in the other two groups, those that experienced single or multiple gaps in services, were using outpatient services. Further, a larger percentage of the continuers were using medication (77% versus 69% and 67%, respectively) and other services, specifically partial hospital, day treatment, residential or providers associated with the legal system (38% versus 0% and 11% respectively).

### ***A static characterization of service use at a given point in time***

Questions in the interview probed why individuals were using or not using mental health services at the current time. Seven major categories evolved from their responses and aspects of these categories fit the constructs depicted in Fig. 1, Part 2. We present results relative to each category and associate them with the boxes in Fig. 1, Part 2.

### ***Insight or perceived need (behavioral beliefs e BB, Box C)***

Perceiving there is a need for help and/or that there is a problem, and the opposite, not perceiving a need, emerged as important beliefs impacting use: ["I know now that it's important that I take my meds. I know it's also now important that I track my symptoms. If my symptoms get worse, I know it's important to go to my doctor" #8]. Another example reveals a young adult's personal initiative to use services related to

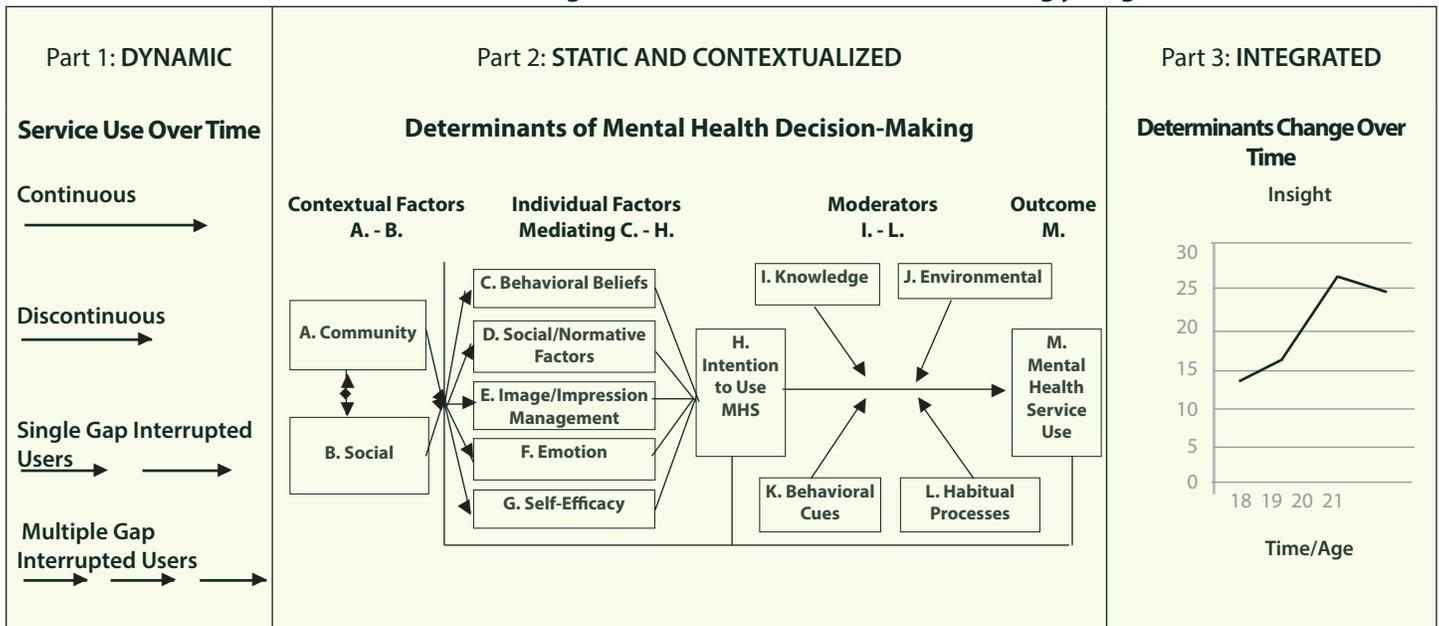
insight: ["The second time it was all because of me, I went down there by myself with some advice from the people at <agency>, but I knew, I know now that I need the help" #53]. This example illuminates that insight into the need for help is static at any one point in time, yet, insight, and each of the other determinants in the model, can change over time (See Fig. 1, Part 3). Others expressed lack of perceived need, or denial: ["I just made myself be in denial like 'I don't want their help, 'cause they don't know what I'm talking about.' They don't have it. How are they going to tell me what to do?" #13].

### ***Perceived efficacy of treatment and perceptions of better alternatives (BB, Box C)***

The belief that services are efficacious (or not) emerged as a determinant of service use: ["Even with medication you can't control it, for real. It's like that's why I really stopped taking my meds 'cause me taking my meds is not gon' help me stop thinking about the situation. It's not gon' help me stop having symptoms..."#21]. Another participant stated counseling was pointless: ["It was just pointless. It was just something to go to every week, stuff I can just hear on the streets" #51]. Participants expressed the opposite as well, perceived efficacy: ["And my doctor there, she helps me a lot because if it wasn't for her I would still be acting the way I did, but she put me on the medicine and I'm like a little calm now, and it helps, the mood medicine" #9].

Comments also revealed that young adults sometimes perceived there were better alternatives to psychiatric services, such as marijuana use: ["Instead of seeking mental help, I was seeking medical/marijuana help. I was like 'Oh well, I'll just go get some weed. I'm fine,' until a couple

**Figure 1**  
**Framework for understanding mental health service utilization among young adults**



of hours it'd wear off of course" #49]. One participant whose use was interrupted discussed how during the years without services, marijuana was all that was available: ["Nothing, like except for the way I could medicate was through weed" #31].

An important aspect related to alternatives to psychiatric medications was the impact of side effects. Side effects were discussed as a barrier to using medication, for example, interfering with participant's ability to parent: ["Because they made me feel drowsy, and I'm always constantly sleeping, and it was like I had a baby to take care of then, so I don't want to go to sleep and then I don't hear my baby crying...So I had stopped taking them" #30]. Overall, the data suggest that side effects carry a varying amount of weight in young adult's lives based on contextualized circumstances, such as becoming a parent.

**Social/normative factors (Box D)**

Data suggested that social norms, or perceptions that important others approve or disapprove influenced decisions: ["My auntie...she was like, 'Your old foster cousin just got her own doctor and stuff. She was talking about <community agency>...She was like, "It's a real good program"...and she was like, "Just go up there and tell them someone there, and they'll find you a doctor." So I found me a doctor at <agency>" #6]. This statement reveals that the young adult's aunt approved of seeking professional help.

**Image-based considerations (Box E)**

Participant's expressed concern regarding their image, what others would think of them if they were using services: ["Yeah, trying to avoid that minefield <services> at all costs 'cause I don't want nobody seeing me struggle" #27]. In another case, a participant talked about feeling like 'the only one': [..."Sometimes I feel like

I'm the only one that really has these type of problems and issues, but in reality I know I'm not...It's normal for some people to go through things like this, but I just feel just so less of myself if anyone was to know or to find out or just have any type of knowledge of what I'm going through..." #50]. Another participant described how even if you feel ashamed it is important to fight against those feelings to receive needed help: ["Cause if you're not honest, you can't get the help that you need. Like even if there's some part of you that is ashamed of, you have to be upfront to let them know so they can help you with it..." #13]. Others expressed no shame: ["I mean maybe some people can do it on their own. I need a little help, and there's no shame in that" #38].

**Emotional reactions (Box F)**

Emotional reactions emerged as critical to service use. Interestingly, in the case of fear, our data suggested that fear can encourage both use and

non-use. For example, participants suggested that fear was a barrier to use: ["I needed it, but I was afraid to go about it. I was afraid to take the opportunity" #28]. In other cases, fear motivated use: ["Because I think that if I don't have them, it's that fear of relapse again. If I don't have the services, I'm just scared I'm gon' go back to where I used to be" #22]. For one participant who was not in any services at the time of the interview, there was ambivalence about service use: ["Like every time I have a, feel depressed or feel like I'm about to have a nervous breakdown, I'll say 'Well maybe I should go talk to somebody. Maybe I should go see a doctor,' but then something else will pop in my mind like 'I can get myself together by myself. I don't need a doctor to tell me what's wrong with me. Like I already know what's wrong with me'"#50].

***Perceived tangible obstacles (self-efficacy, knowledge & environmental, G, I, J)***

This category includes cognitively constructed tangible barriers that may or may not have a basis in reality but that, regardless, get in the way of service use, such as access issues related to insurance, money, appointment-making, time, and transportation. We discuss different facets of such barriers here.

***Insurance***

Insurance was discussed as a barrier with regard to paying for medication: ["I couldn't pay for medication anymore, because at the time I didn't have a job to pay for the medication, and I didn't have any insurance...My Lexapro is \$100 a month" #15], and getting counseling: ["I didn't have any medical coverage at all, and a lot of people didn't want to take me. Like my child counselor wouldn't take me because I didn't have any medical..." #43].

***Agency factors***

Participants discussed long wait periods as getting in the way: ["I scheduled an appointment 'cause I wanted to see him then, but I made an appointment in August and he said there weren't any openings until March of next year..." #17]. In addition, participants discussed difficulties making appointments, organizations being overwhelmed, agency services being slow, frustrations with provider turnover, and lack of coordination between agencies.

***Competing demands***

A few participants talked about psychosocial stressors that competed for their time and attention with pursuing services: ["Right now, I do need professional help...and the thing that's stopping me is basically time...I was going to school full-time, then I have to come home and take care of my daughter. So it's just a battle between when do I take the time to do it?" #63].

***Transportation***

Transportation was a system-level barrier that many participants discussed: ["Just the bus...I don't know what time it comes. Like the bus schedule done changed. They done knocked a lot of buses from different areas...I just don't go. I call them and tell them I can't come, unless my aunt or somebody take me" #34].

***Knowledge***

In some cases lack of knowledge was a barrier: ["I've learned now that through state assistance there might be things that you could do, but I'm still honestly not clear about how that works at all" #42]. In other cases, knowledge was a facilitator: ["It was up on a wall, you know a poster on the wall, and then you know they

explained the <mobile crisis service> and everything to me, and like I have these people on speed dial" #14].

***Context: community and social considerations (Box A, B)***

A variety of contextual influences were mentioned by participants, including both direct and indirect facilitating or obstructive roles that important others, such as providers, family, significant others and friends played in influencing service use and indirectly influencing behavioral beliefs, emotion, efficacy, etc. Salient community factors, such as the availability of services and the treatment system culture were also discussed.

***Social considerations***

A particularly important source of social influence was the health provider. Participants discussed a variety of professionals that facilitated receipt of services and encouraged service use: ["One of the people in Tenant Services asked me if I had ever heard of <mental health agency> and I told her yeah...and she had suggested that I get connected with <agency> again, and I have been since last October" #52]. Data suggested that some participants perceived that part of why there were times when they were without services was that facilitators were no longer "forcing" them to get professional help: ["I would say my depression was kind of more maintained when I was in foster care, rather than now, because all your support is right there, and then versus you getting out on your own, being out on your own and there's nobody really forcing you to go help yourself, like help you get help with your depression. It's just kind of like all on you" #28].

Quality of relationships with providers and perceived effectiveness

of providers impacted participants' intentions and actions. When asked why he/she stopped services, one participant reported the provider not caring: ["I mean she was really like about the clock thing, that's it. You could be in the middle of a sentence, and your time was up?... 'Make an appointment at the front desk,' and you're just looking at her like 'What? Aw man.' It was like she just didn't really care" #43]. Providers who were perceived as effective were characterized as facilitating use, as reflected by comments on listening and understanding: ["Like when I say I don't want to do something, they listen to me and understand where I'm coming from" #9], among other qualities, such as taking time with them. Mistrust of providers also was discussed by participants. For example: ["Just getting to know new people, having to be able to trust them and 'cause I have trust issues as well" #26]. Some receiving treatment discussed how the mistrust got in the way of engaging in care that they were receiving: ["It was kind of rough at the beginning just because I don't really trust people" #28].

Similar to professionals, family played a role in facilitating service use. Participants talked about their parents no longer "making" them go: ["Got older. My mom didn't make me go. I wasn't guarded no more" #62]. Another important family theme was concern for children: ["Just with my children, I have to be mindful of how they...I can't just go around blowing up on everybody, because I don't want them to see that side of me, but I also don't want them to learn that that's okay. So I think it's a little bit more difficult because I have to consider other people's feelings" #22]. When young adults' lives change, when they begin to develop their own families, their perceptions may change, they

may begin to view their need for help in a different way.

### *Community considerations*

Another important influence, and often barrier, was the perceived lack of availability of services within the community. Participants felt services were more abundant when they were younger: ["I mean the system. I mean you could get in a better place when you was younger, a decent place, a Residential Treatment Facility, decent place, when you was younger, but now it's like it's really hard to get in places like that. Now you gon' have something...a State house...or a Group Home with different people who have different issues" #3]. Further, the culture of the community, including the treatment facilities in the community and their policies and procedures can impact intentions and actions.

## DISCUSSION

The present study provides detailed and contextualized examples of the mental health service use experiences among former system youth who are now young adults. The study adds to the literature in important ways. First, it is a qualitative study of young adult mental health service use with extensive data from both service users and service non-users. Second, some of the factors that emerged as significant to service use are unique and have not been examined closely, such as emotional reactions, perceived understanding of illness, and need for services, among others. Also, the data revealed a developmental aspect in the participant's understanding of their illness and/or need for services.

Importantly, we were also able to organize the conceptual categories that emerged from the data into a cohesive

mid-level theoretical framework that complements broader frameworks like the NEM III-R by providing researchers with targeted guidance about constructs to focus on when trying to understand service use at the individual, social, and contextual levels. Many (but not all) of the categories map onto well-developed decision models from social psychology (i.e., Jaccard et al., 2002), which has implications for service use research. Our conceptual organization yielded the four-facet framework depicted in three parts Fig. 1, which we now consider in more depth.

### *Facet 1: the dynamics of service use*

The first facet of the framework, like the NEM III-R, emphasizes the dynamic, time-variant nature of service use. Our data underscore that service use fluctuates over time for a number of young adults. There were participants who reported relatively stable experiences, either consistently not using (discontinuers) or consistently using (continuers) services. Yet, interestingly, two subgroups consisting of approximately 40% of the sample were experiencing services replete with interruptions in care that occurred for a variety of reasons. Some interrupters described one significant gap with no services after turning 18, followed by an experience(s) that led to a reconnection to care. Another group described their service use experiences with more than one gap in care, discussed as a complicated set of stops and starts in service use in young adulthood. For example, a participant described changing her mind about use when her provider got promoted and then re-engaging when someone encouraged her to go back to counseling.

In addition to changes in providers, life crises occurred, which also led participants to revisit their decisions

about services and ultimately their behavior. For example, in some cases, participants talked about personal crises (e.g., homelessness) leading to changes in decisions or realized use of services. Also, getting pregnant and having children led to life changes that impacted service use. Finally, decisions about service use are impacted when young adult's relationships to social service system(s) change, for example, entering or leaving foster care or prison, which is reminiscent of the 'illness career' (Pescosolido & Boyer, 1999).

**Facet 2: a template to examine mechanisms that underlie decisions to use services**

The second facet of the framework offers a template for what we call 'static' analyses, or analyses that focus on one point in time and the factors that impinge on use decisions (See Fig. 1, Part 2). The template that emerged has a foundation in both service use and decision-making models. Drawing on decision theoretic perspectives, there are two distinct facets of decision-making that must be considered when trying to understand service use. First, people can have strong motivation to use services (i.e., they actively decide to use them), but they may ultimately fail to use because barriers or external events prevent them from doing so. Of concern are what those barriers and external events are (See Boxes H-L). This facet focuses on issues surrounding the translation of positive intent to perform a behavior into actual behavior performance (Fishbein & Ajzen, 1975). Second, people might have only weak or non-existent motivation to seek services, so they simply choose not to do so. In this latter case, the concern is with understanding why a person has actively decided not to seek services (See Boxes C-G). Our data support the importance of both of these facets of decision analysis for service use.

Interventions to increase service use will be different for those who are motivated to use those services but who do not, as compared with those who simply are not motivated to use them. For the former group, the primary focus is on addressing environmental constraints and facilitators, knowledge and skills necessary to translate positive decisions into behavior, keeping the behavior salient to avoid forgetting, and dealing with habits and automatic processes that may prevent behavioral performance. Our study observed numerous examples of these dynamics. Environmental constraints included lack of transportation and insurance. Participants also discussed a lack of knowledge about how to engage the system and where to go for adult services. This segment of decision analysis underscores recognition that the focus of a program to increase service use often needs to be helping people carry out their (positive) intentions and decisions rather than just convincing people that they need to get such services. While our data did not provide exemplars of it, previous research also suggests that the behavior must be salient to the individual so that the person does not forget to enact it (Box K). And, habitual and automatic processes can interfere with (or support) behavioral performance (e.g., out of habit, a mother goes to her normal, routine activity on the same day and time that she has an appointment for counseling).

For the latter group, interventions to increase service use also must address why their motivation to use services is low. Based on our data as well as research on decision models in social psychology, we suggest five classes of variables be considered (See Boxes C-G). First, *behavioral beliefs* refer to what people perceive as the advantages and disadvantages of engaging in the behavior. We found that some people

saw treatment as being ineffectual or unnecessary, and causing side effects. Such perceived disadvantages, coupled with an absence of (or minimal) perceived advantages can lead to decisions not to seek services. Second, are *social norms*, which incorporate injunctive norms (perceptions of important others approval/disapproval of using services) and other sources of social pressure to use or not use services. We found, for example, that providers and family were key sources of social influence on decisions to seek mental health services. Third, are *image-management* considerations, which refer to the perceived image implications of service use, i.e., how it fits with one's own self-concept and what images others will have of the person if s/he uses mental health services, including stigma-related concerns. Fourth are the emotional reactions one has when one thinks about using services. In our study, emotions were often mentioned when participants thought about service use. And, finally, one's own judged self-efficacy to use services. This component focuses on perceived as opposed to actual obstacles that get in the way of using services. To be sure, there often will be close correspondence between perceptions of obstacles and what obstacles truly get in the way. However, the dynamic captured here is that if people perceive there to be many or insurmountable obstacles to service use, then they will tend to just "give up" and decide it is not worth trying.

Analysis of this facet of decisions to use services is important because the relative importance of these factors in shaping decisions may differ depending on the target population. This, in turn, shapes the factors one will address in programs to increase decisions to use mental health services.

It is important to stress that we do not see people as carefully contem-

plating each of the above factors when making service use decisions. Rather, based on past experience and other factors, residues of each variable reside in a person's long term memory. Some combination of them will be accessed into working memory in a given situation, often instantly and without conscious thought, and one's decisions will be guided by these salient elements.

### ***Facet 3: the importance of context***

It is well known that the contexts in which behaviors are performed can be crucial for understanding behaviors. Contexts studied by social scientists, including service use scholars, include family, school, peer, work, provider, religious, neighborhood, government/policy, and cultural contexts (see Pescosolido, 2011). In the present study, two contexts were most prominent in young adults' lives as they contemplated service use, the social (e.g., provider and family relationships) and community (e.g., availability of services, treatment systems) contexts (See Boxes A and B in Part 2 of Fig. 1). These contexts gave rise to many of the "specifics" cataloged above in the variable categories elaborated for decision analysis. We believe it also is important for program designers and researchers to carefully consider the contexts in which service use decisions are made and how these contexts can shape important individual determinants and/or facilitators or inhibitors of behavior. A strength of this study is that the template specifies potential paths that connect contextual with individual level determinants of decision-making, which can, in turn, lead to greater insights into the mechanisms through which context impacts behavior.

### ***Facet 4: integrating the cross sectional, snap shot views and the dynamic views***

Finally, it is evident from our research that any mid-level theory of

service use must include the dynamic, time variant nature of use behaviors, as well as recognition that the categories of decision analysis and the contexts in which people act (e.g., the provider context) all change over time and hence, are also dynamic in character. This latter aspect is an important addition to current discussions of the dynamic nature of service use. For example, young adults' discussions of service use explicated that their insight into the perceived need for services changed as they got older (See Part 3, Fig. 1). Changes in context are also particularly crucial to the young adult experience, as transitioning to adulthood includes a shift of the social service systems that regularly respond to mental health need (Osgood et al., 2010). Thus, as institutions and system involvement changes for individuals, research, policy and practice communities must remain aware of how contextual changes impact service use. Our data suggest interesting contextual shifts that may be useful to examine, for example, how are service use decisions impacted as family relationships change or as youth 'age out' of children's systems of care. Over 50% of the participants had children and their relationships with their children influenced service use decisions. Similarly, when young people move into the adult service system, what often changes even if their intention and desire to use services remains consistent is their access to and knowledge of certain agencies, and institutions that provide services.

## **CONCLUSION AND IMPLICATIONS**

Developmentally, young adults are in the midst of innumerable changes, including changes in their intentions and behaviors surrounding mental health care and changes in the public institutions that have served

them throughout their childhood (Osgood et al., 2010). Data from this study suggest that the transition to adulthood is particularly complicated with regard to maintaining mental health; many things can go wrong, leading young adults to no longer receive the services they need. The field can now benefit from the formulation of more mid-level theories that fit within broader frameworks like the NEM III-R but that can provide researchers with targeted guidance about specific conceptual categories to consider when studying facets of the NEM III-R. Programmatic research needs to pursue focused analyses of the different parts of these frameworks and then "put the pieces together" into a coherent whole. The present research provides such a mid-level theory, focused primarily at the individual, social, and contextual levels. The framework presented here builds on the broader NEM III-R framework by presenting a mid-level theory that provides researchers with a more targeted template to examine, and ultimately understand, the mechanisms underlying service use intentions and behaviors in the area of mental health. The framework also builds on social psychological decision-making models; however, it is distinct from them in how it embeds, for example, intention to use services within the broader conceptual framework. We expect that some social scientists might disagree with particular arrows in the framework presented; however, our model serves as a starting point for empirical investigation to test causal relationships and resolve disagreements.

The framework underscores the importance of taking into account the temporal nature of service use. A few recent studies have examined the dynamic nature of illness onset, care giving and help-seeking in related areas of health services (i.e., Carpentier,

Bernard, Grenier, & Guberman, 2010; Euhara, 2001). These studies offer exemplars of innovative methodological approaches, such as Event Structure Analyses, that young adult mental health services researchers might use to refine the framework from the present study. In addition to its emphasis on temporal considerations, the framework presented here offers a template for analyzing decisions at any given point in time by emphasizing ten categories of variables organized by two facets of decision analysis that researchers and program designers should think about. The framework, consistent with NEM III-R, also emphasizes the importance of context and how context can impact the above categories of variables.

Professionals can use the framework to inform large-scale efforts to empirically research critical influences on young adult service use decisions, which will ultimately provide specific leverage points to focus on when developing evidence-informed interventions for this vulnerable and understudied population. There is a dearth of research on mental health services decision-making among young adults and much more work is needed.

The present research, of course, has limitations that must be kept in mind when interpreting the results. First, the study sampled young adults from one Midwestern state and while qualitative inquiry is not designed to be generalizable, one must exert caution relative to the limited sampling that was used. Further, all of the young adults interviewed were involved with children's systems of care, many of which they were no longer involved in. This is important to note when reading results, as these systems of care are often 'gateway providers' for youth to services. Also, while we developed a screening instrument to improve the validity of self-report of mood disorder diagnosis and use of

public systems of care, we acknowledge that self-report is a limitation. Also, a limitation of understanding the transition to adulthood among vulnerable populations is the heterogeneity of experiences among each sub-group of young people in transition. Our sample is indeed a group of young adults with mood difficulties that have experienced somewhat varying constellations of use of public systems of care during childhood. This must be considered in all studies of former system youth. Limitations notwithstanding, the data spurn forward the discussion on young adult mental health, particularly among former system youth, and the theoretical framework that has emerged, we believe, will be useful as a guiding tool for future studies.

## REFERENCES

- American Academy of Child and Adolescent Psychiatry. (2007). Practice parameter for the assessment and treatment of children and adolescents with bipolar disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46(1), 107-125.
- Andersen, R. (1995). Revisiting the behavioral model and access to medical care: does it matter? *Journal of Health and Social Behavior*, 36, 1-10.
- Bernstein, D. P., & Fink, L. (1998). *The child trauma questionnaire manual*. San Antonio: The Psychological Corporation.
- Borkan, J. (1999). Immersion/crystallization. In B. F. Crabtree (Ed.), *Doing qualitative research* (pp. 179-194). Thousand Oaks, CA: Sage Publications.
- Carpentier, N., Bernard, P., Grenier, A., & Guberman, N. (2010). Using the life course perspective to study the entry into the illness trajectory: the perspective of caregivers of people with Alzheimer's disease. *Social Science and Medicine*, 70, 1501-1508.
- Coryell, W., Endicott, J., Winokur, G., Akiskal, H., Solomon, D., Leon, A., et al. (1995). Characteristics and significance of untreated major depressive disorder. *American Journal of Psychiatry*, 152(8), 1124-1129.
- Delman, J., & Jones, A. (2002). *Voices of youth in transition: The experience of aging out of the adolescent public mental health service system in Massachusetts: Policy implications and recommendations*. Dorchester MA: Consumer Quality Initiatives, Inc.
- Euhara, E. S. (2001). Understanding the dynamics of illness and help-seeking: event-structure analysis and a Cambodian-American narrative of "spirit invasion". *Social Science & Medicine*, 52, 519-536.
- Fergusson, D. M., & Woodward, L. J. (2002). Mental health, educational, and social role outcomes of adolescents with depression. *Archives of General Psychiatry*, 59, 225-231.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Glaser, B. G. (1965). The constant comparative method of qualitative analysis. *Social Problems*, 12(4), 436-445.
- Horwitz, S. M., Hoagwood, K., Stiffman, A. R., Summerfeld, T., Weisz, J. R., Costello, E. J., et al. (2001). Reliability of the services assessment for children and adolescents. *Psychiatric Services*, 52, 1088-1094.
- Jaccard, Dodge, T., & Dittus, P. (2002). Parent-adolescent communication about sex and birth control: a conceptual framework. In S. Feldman, & D. A. Rosenthal (Eds.), *Talking sexuality: Parent-adolescent communication*, (pp. 9-42) *New directions in child and adolescent development*, No. 97 San Francisco: Jossey-Bass.
- Kessler, R. C., Berglund, P., Demler, O., Jin, O., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. *Ar-*

- chives of General Psychiatry*, 62(6), 593-602.
- Kessler, R. C., Birnbaum, H., Bromet, E., Hwang, I., Sampson, N., & Shahly, V. (2009). Age differences in major depression: results from the national comorbidity survey replication (NCS-R). *Psychological Medicine*, 40, 225-237.
- Kessler, R. C., McGonagle, K. A., Zhao, S., Nelson, C. B., Hughes, M., Eshleman, S., et al. (1994). Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: results from the national comorbidity survey. *Archives of General Psychiatry*, 51(1), 8-19.
- Kim-Cohen, J., Caspi, A., Moffitt, T., Harrington, H., Milne, B., & Poulton, R. (2003). Prior juvenile diagnoses in adults with mental disorder: developmental follow-back of a prospective-longitudinal cohort. *Archives of General Psychiatry*, 60(7), 709-717.
- Lindsay, M. A., Joe, S., & Nebbitt, V. (2010). Family matters: the role of mental health stigma and social support on depressive symptoms and subsequent help seeking among African American boys. *Journal of Black Psychology*, 36(4), 458-482.
- Locke, B. A., & Putnam, P. (1971). *Center for epidemiological studies depression scale*. Washington, DC: National Institute of Mental Health, Public Health Service, Epidemiology and Psychopathology Research Branch.
- McMillen, J. C., & Raghavan, R. (2009). Pediatric to adult mental health service use of young people leaving the foster care system. *Journal of Adolescent Health*, 44, 7-13.
- McMillen, J. C., Zima, B. T., Scott, L. D., Auslander, W. E., Munson, M. R., Ollie, M., et al. (2005). Prevalence of psychiatric disorders among older youths in the foster care system. *Journal of the American Academy of Child and Adolescent Psychiatry*, 44, 88-95.
- Morse, J. M. (1994). Designing funded qualitative research. In: N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research*, (pp. 220-235). Thousand Oaks, CA: Sage Publications.
- Moses, T. (2011). Adolescents' commitment to continuing psychotropic medication: a preliminary investigation of considerations, contradictions, and correlates. *Child Psychiatry and Human Development*, 42(1), 93-117.
- Muhr, T. (2004). *User's manual for Atlas.ti 5.0* (2nd ed.). Berlin: Scientific Software Development.
- Newman, D. L., Moffitt, T. E., Caspi, A., Magdon, L., Silva, P. A., Stanton, W. R., et al. (1996). Psychiatric disorder in a birth cohort of young adults: prevalence, comorbidity, clinical significance, and new case incidence from 11-21. *Journal of Consulting and Clinical Psychology*, 64, 352-362.
- Osgood, D. W., Foster, E. M., & Courtney, M. E. (2010). Vulnerable populations and the transition to adulthood. *Focus on Children*, 20(1), 209-229.
- Osgood, D. W., Foster, E. M., Flanagan, C., & Ruth, G. R. (2005). *On your own without a net: The transition to adulthood for vulnerable populations*. Chicago, IL: University of Chicago Press.
- Pescosolido, B. (1992). Beyond rational choice: the social dynamics of how people seek help. *American Journal of Sociology*, 97(4), 1096-1138.
- Pescosolido, B. (2011). Organizing the sociological landscape for the next decades of health and health care research: The network episode model III-R as cartographic subfield guide. In B. A. Pescosolido, J. K. Martin, J. D. McLeod, & A. Rogers (Eds.), *Handbook of the sociology of health, illness, and healing* (pp. 39-66). New York: Springer.
- Pescosolido, B., & Boyer, C. A. (1999). How do people come to use mental health services? Current knowledge and changing perspectives. In A. V. Horwitz., & T. L. Scheid (Eds.), *A handbook for the study of mental health: Social contexts, theories, and systems* (pp. 392-411). New York: Cambridge University Press.
- Russell, D. E. H. (1986). *The secret trauma: Incest in the lives of girls and women*. New York: Basic Books.
- Webster, S., & Harrison, L. (2008). Finding a way: a grounded theory of young people's experience of the pathway to mental health care. *Australian Journal of Advanced Nursing*, 26, 85-94.

## MULTIPLE DISPARITIES IN QUALITY OF ADHD CARE EXIST FOR AFRICAN AMERICAN YOUTHS

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### INTRODUCTION

The National Academy of Sciences (2001) proposed that equitable treatment should be one of the six major goals for health care systems. This group defined equitable as "providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status" (p. 5-6). Unfortunately, inequities have been documented in care for youths with Attention Deficit Hyperactivity Disorder (ADHD). Previous research has repeatedly indicated that minority youths receive different care for this disorder relative to Caucasian American youths. In particular, African-American and Hispanic American youths are less likely to be diagnosed with ADHD (Miller, Nigg, & Miller, 2009; Schneider & Eisenberg, 2006), despite the fact that minority youths do not have lower teacher ratings of ADHD symptomatology (DuPaul et al., 1997; Miller et al 2009; Rabiner, Murray, Schmid, &

**Abstract:** Objective: We investigated racial and ethnic disparities in four quality of care metrics for Attention Deficit Hyperactivity Disorder (ADHD). Method: A retrospective cohort analysis was performed using Ohio Medicaid claims data for youth (aged 4-18) with new episodes of ADHD during 2007 to 2010 (N= 84,279). Main outcome measures included performance on four claims-based quality of care metrics that reflect national treatment guidelines. Measures addressed use of stimulant medications, follow-up care during the initiation and continuation phase of treatment, and dosing. Results: Controlling for demographic, clinical, and service history, both African American youths diagnosed with ADHD (odds ratio [OR]: 0.68, 95% confidence interval [CI]: 0.65-0.70,  $p < 0.001$ ) and Hispanic American youths (OR: 0.91, 95% CI: 0.83-0.99,  $p = 0.032$ ) had a lower odd of being dispensed a stimulant medication relative to Caucasian American youths. In addition, African American youths who were dispensed an ADHD medication had a lower odd of receiving a first follow-up visit with a prescriber within the recommended 30 days relative to Caucasian American youths (OR: 0.85, 95% CI: 0.81-0.90,  $p < 0.001$ ). Conclusion: Our findings suggest that racial and ethnic disparities are most likely to occur during early stages of ADHD care.

Malone, 2004). Moreover, even when they receive an ADHD diagnosis, minority youths are less likely to receive evidence-based stimulant treatment relative to Caucasian American youths with ADHD (Morgan, Staff, Hillemeier, Farkas, & Maczuga, 2013; Pastor & Reuben 2005; Stevens, Harman, & Kelleher, 2005).

While these differences in ADHD care indicate that minority youths are receiving services that are not equitable, three methodological limitations are common in published studies. First, this literature often features samples from the 1990s and first half of the

2000s, making it difficult to determine if similar disparities still persist. Second, previous quality of care research for ADHD has utilized relatively small samples or samples from small geographical regions like individual counties (e.g., Zima et al., 2010), thereby limiting the potential generalizability

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of the findings. Third, investigators have often overlooked important indicators of care, such as periodic medication monitoring and appropriate dosing.

In the present study, we addressed these gaps by using more recent Medicaid data across Ohio, one of ten most populous states, and by incorporating some underutilized indicators of care. We hypothesized that multiple racial and ethnic disparities will be found across ADHD quality indicators.

## METHODS

### *Design and Data Sources*

A retrospective cohort design was used to examine the association between race/ethnicity and quality of care for youths 4-18 years with a new episode of ADHD in a Medicaid sample. Fee-for-service claims and managed care encounter data were obtained from the Ohio Department of Medicaid. These administrative data included information on eligibility status and paid claims for prescription drugs, inpatient, and outpatient services covered by Medicaid. The eligibility files included information on monthly enrollment status, eligibility category, and demographic characteristics of enrollees. The pharmacy files provided information on prescriptions filled by outpatient pharmacies including prescription dates, generic name and code, national drug code, dosage, days supply, and quantity. Psychotropic medications were identified from pharmacy files using the dispense date and the generic name codes. The institutional and professional files provided information on service claims for inpatient hospitalizations, physician visits (office or hospital-based), and other outpatient services and included the dates of service, CPT/HCPCS procedure codes, and up to seven *Internation-*

*tional Classification of Diseases, Ninth Revision, Clinical Modification Diagnosis Codes (ICD-9-CM)*. All procedures were approved by the Ohio State Institutional Review Board.

### *Study Population*

We included all youths ages 4-18 years with a new episode of ADHD who were continuously enrolled in Medicaid for an 18-month period (6 months before and 12 months after the index claim for ADHD) during January 1, 2007 through December 31, 2010 ( $N = 84,279$ ). The 12 months following the index diagnosis were referred to as the follow-up period. A "new episode" of ADHD treatment was defined as no claims for an ADHD diagnosis or prescriptions for a stimulant or other ADHD medications (e.g., atomoxetine) during the six-month period prior to the index claim for ADHD (ICD-9-CM 314.00, 314.01, 314.9). Excluded were youths who were pregnant, diagnosed with narcolepsy, schizophrenia, mental retardation or autism spectrum disorder. Because pharmacy data is not captured during inpatient hospital stays, we excluded youth who were hospitalized for 15 days or more.

### *Measures of Race/Ethnicity*

Youth were categorized as being Caucasian American (non-Hispanic), African American (non-Hispanic), or Hispanic American based on parental responses to the Medicaid enrollment questionnaires. Youth identified from other racial and ethnic groups, such as Native American or Asian/Pacific Islander, were excluded from the present analyses due to their small numbers.

### *Measures of Quality*

Four measures were used to assess quality of ADHD treatment. These measures were assessed based on a conceptual framework that em-

phasized: 1) level of research evidence (e.g., randomized clinical trials or observational studies); 2) feasibility (e.g., availability and accessibility of data); and 3) clinical meaningfulness (e.g., validity of quality measures) (Hermann, & Palmer 2002). The first two measures were based on current treatment ADHD guidelines developed by the American Academy of Child and Adolescent Psychiatry (2007). Measure 1 reflected the proportion of children diagnosed with ADHD who were dispensed either a methamphetamine-based or amphetamine-based stimulants prescription during the 12 month follow-up period. Measure 2 reflected the proportion of children on ADHD medications that were dispensed a dose higher than the recommended maximum during the study period. The remaining two measures were developed by the National Committee for Quality Assurance (NCQA) as part of the Health Effectiveness Data and Information Set (HEDIS) tool that is used by 90% of American health plans to assess care (NCQA 2013). Measure 3 (Initiation Phase) reflected the proportion of children with a dispensed new ADHD medication within 30 days of the index diagnosis who had at least one follow-up visit with a prescribing practitioner within one month of filling the medication. Measure 4 (Continuation Phase) reflected the proportion of children with the initiation phase completed and at least 210 days of dispensed ADHD medication who had at least two follow-up visits with a prescribing provider within nine months after the initiation phase ended.

### *Covariates*

Demographic characteristics included age (4-6, 7-12, or 13-18 years); gender (male or female); and Medicaid eligibility category (poverty, disabled, or foster care). Because comorbidi-

ties and severity of illness may affect quality of care, we included these variables as covariates. ICD-9-CM codes were used to establish the presence or absence of the following psychiatric and medical conditions during the six-month period preceding the first claim for ADHD. Psychiatric comorbid disorders included: anxiety disorders, mood disorders, conduct disorder, schizophrenia and related disorders, substance abuse, and other mental health disorders. For medical comorbidities, children were classified as having a chronic physical condition if they had one or more claims during the pretreatment period for any of the 12 diagnoses (e.g., asthma) that have been commonly used in previous studies (Silber, Gleeson, & Zhao, 1999). In addition, we controlled for several measures of health service use, which are proxies of severity of illness. These included any prior psychiatric hospitalizations or outpatient mental health services, number of prescriptions, type of psychotropic medication, and number of unique drug classes during the six-month period preceding the first claim for ADHD.

### **Statistical Analysis.**

Subject demographics and clinical characteristics are presented as frequencies and percentages across race and ethnic category and differences are tested using Pearson's chi-square statistic. Continuous variables are presented as means and standard deviations and tested across race and ethnic category using analysis of variance (ANOVA). Random-effects logistic regression was used to estimate the odds of meeting a quality of care indicator for African American (non-Hispanic) youths and for Hispanic American youths when compared to Caucasian American (non-Hispanic) youths as the referent group. The random-effect term was Ohio County of

residence. This allowed for the within and between county variation when estimating standard errors used in testing the odds ratios. The regression models included covariates listed in the previous section in order to present adjusted odds ratios. All analyses were run using Stata 12.1 (StataCorp 2011).

## **RESULTS**

Table 1 shows demographic and clinical characteristics of the study population by race and ethnicity. Of the total population of 84,279 youths diagnosed with ADHD, the majority were male (67.3%), 7-12 years old (61.4%), and eligible for Medicaid through poverty (88.2%). The age and gender distribution varied little across the three racial/ethnic categories.

Table 2 presents the adherence rates for each of the four quality of care measures stratified by race and ethnic status without controlling for confounding variables. In contrast, the results presented below feature the estimated odds ratios from four individual multivariable random-effects logistic regression models after adjustment for demographics, clinical characteristics, and service history.

### **Measure 1: Filling a Stimulant Prescription**

Of the 84,279 children diagnosed with ADHD, two-thirds (N = 56,296, 66.8%) were dispensed a stimulant prescription. The adjusted odds of filling a stimulant prescription was lower for African American youths and for Hispanic American youths compared to Caucasian American youths (OR = 0.68, 95% CI: 0.65-0.70,  $p < 0.001$  and OR = 0.91, 95% CI: 0.83-0.99,  $p = 0.032$ , respectively).

### **Measure 2: Higher than Recommended Dose of ADHD Medication**

Of the 56,296 children who were dispensed an ADHD medication during the 12-month study period, 2,216 (3.9%) were dispensed at least one prescription whose dose was higher than recommended by treatment guidelines. In the multivariable model, no significant differences were found in the odds of higher dosages of ADHD medications for African American youths and Hispanic American youths compared to Caucasian American youths (OR = 0.95, 95% CI: 0.84-1.06,  $p = 0.359$  and OR = 1.18, 95% CI: 0.93-1.51,  $p = 0.180$ , respectively).

### **Measure 3: Follow-up Care - Initiation Phase**

Of the 40,336 eligible children who filled an ADHD medication prescription within one month of the index diagnosis, only one third (N = 13,509, 33.5%) had a follow-up visit with a prescribing provider within a month after the dispensing of the ADHD medication. The odds of receiving this follow-up care during the initiation phase were 15% lower for African American youths compared to Caucasian American youths (OR = 0.85, 95% CI: 0.81-0.90,  $p < 0.001$ ). No significant differences were found in the odds of follow-up for Hispanic American youths compared to Caucasian American youths (OR = 1.07, 95% CI: 0.93-1.22,  $p = 0.347$ ).

### **Measure 4: Follow-up Care - Continuation Phase**

Of the 2,261 children who completed the initiation phase and had at least 210 days of filled ADHD medication, 88.1% had at least two outpatient visits with a prescribing provider within the nine months after the initiation phase. No significant differences were found in this stage of care for African American and Hispanic American youths relative to Caucasian American youths (OR =

**Table 1. Demographic and Clinical Characteristics of Study Populations by Racial/Ethnic Category**

Characteristic	Total Population (N = 84,279)		Caucasian (N = 56,974)		African American (N = 24,869)		Hispanic (N = 2,436)		p-value
	N	%	N	%	N	%	N	%	
<b>Child's age (year)</b>									<.0001
4-6	14,400	17.1	10,268	18.0	3,725	15.0	407	16.7	
7-12	51,769	61.4	34,554	60.7	15,662	63.0	1,553	63.8	
13-18	18,110	21.5	12,152	21.3	5,482	22.0	476	19.5	
<b>Sex</b>									<.0001
Male	56,737	67.3	37,527	65.9	17,506	70.4	1,704	70.0	
Female	27,542	32.7	19,447	34.1	7,363	29.6	732	30.0	
<b>Medicaid eligibility category</b>									<.0001
Poverty	74,353	88.2	51,648	90.7	20,486	82.4	2,219	91.1	
Disabled	5,640	6.7	2,867	5.0	2,559	10.3	214	8.8	
Foster care	4,286	5.1	2,459	4.3	1,824	7.3	3	0.1	
<b>Comorbid psychiatric conditions</b>									
Anxiety	694	0.8	543	1.0	138	0.6	13	0.5	<.0001
Mood	842	1.0	659	1.2	160	0.6	23	0.9	<.0001
Conduct	2,334	2.8	1,458	2.7	783	3.2	93	3.8	<.0001
Schizophrenia/Psychosis	82	0.1	36	0.1	44	0.2	2	0.1	<.0001
Substance abuse	631	0.8	490	0.9	122	0.5	19	0.8	<.0001
Other mental disorder	1,567	1.9	1,159	2.0	360	1.5	48	2.0	<.0001
<b>Chronic medical disorder</b>	11,502	13.7	7,698	13.5	3,480	14.0	324	13.3	.160
<b>Number of prescriptions, mean (SD)</b>	0.50 (1.91)		0.60 (2.07)		0.31 (1.50)		0.32 (1.35)		<.0001
<b>Number of unique drug classes, mean (SD)</b>	0.15 (0.48)		0.17 (0.52)		0.10 (0.38)		0.11 (0.38)		<.0001
<b>Psychotropic medications</b>									
Alpha-agonists	2,700	3.2	2,156	3.8	484	2.0	60	2.5	<.0001
Antipsychotics	4,118	4.9	3,120	5.5	907	3.7	91	3.7	<.0001
Antidepressants	3,611	4.3	2,889	5.1	630	2.5	92	3.8	<.0001
Mood stabilizers	2,176	2.6	1,719	3.0	415	1.7	42	1.7	<.0001
Anxiolytics	616	0.7	516	0.9	94	0.4	6	0.3	<.0001
<b>Any prior psychiatric hospitalizations</b>	589	0.7	393	0.7	182	0.7	14	0.6	0.607
<b>Any prior outpatient mental health care</b>	20,029	23.8	13,089	23.0	6,273	25.2	667	17.4	<.0001

Note. Anxiety includes ICD-9-CM codes 300.00-300.02, 300.09, 300.2-300.39, 309.21, 309.81, 313.0; Mood includes ICD-9-CM codes 296.0-296.06, 296.2-296.89, 300.4, 301.13, 311; Conduct includes ICD-9-CM codes 312.00-312.9, 313.81; Schizophrenia/Psychosis includes ICD-9-CM codes 295; Substance abuse includes ICD-9-CM codes 291, 292, 303-305; Other mental disorder includes ICD-9-CM codes 290-319 not included elsewhere.

1.00, 95% CI: 0.68-1.48,  $p = 0.999$  and OR = 0.83, 95% CI: 0.27-2.49,  $p = 0.733$ , respectively). It should be noted that just 16.7% (2,261 out of 13,509) of all youths had ADHD medication filled for at least 210 days.

## DISCUSSION

Our results regarding each of the four quality of care measures for ADHD will be discussed in turn. Regarding our first measure of being dis-

pensed a stimulant prescription when a diagnosis for ADHD was given, we found that both African American youths and Hispanic American youths were less likely to be dispensed these medications relative to Caucasian American youths. Our finding

**Table 2: Quality of Care Measures by Race/Ethnicity for Youths Treated for ADHD**

	Total Population (N = 84,279)			Caucasian (N = 56,974)			African American (N = 24,869)			Hispanic (N = 2,436)			<i>p</i> -value
	N of eligible cases	<i>n</i>	%	N of eligible cases	<i>n</i>	%	N of eligible cases	<i>n</i>	%	N of eligible cases	<i>n</i>	%	
<b>Filling a stimulant prescription</b>	84,279	56,296	66.8	56,974	39,782	69.8	24,869	14,919	60.0	2,436	1,595	65.5	<.0001
<b>Higher than recommended dose of ADHD medication</b>	56,296	2,216	3.9	39,782	1,591	4.0	14,919	545	3.75	1,595	80	5.0	.014
<b>Follow-up care - initiation phase</b>	40,336	13,509	33.5	29,007	10,092	34.8	10,219	3,022	29.6	1,110	395	35.6	<.0001
<b>Follow-up care - continuation phase</b>	2,261	1,992	88.1	1,761	1,544	87.7	460	412	89.6	40	36	90.0	.502

extends previous work by using more recent data from the late 2000s compared to previous investigations that have noted a similar disparity in care using data from the 1990s and early 2000s. Furthermore, our finding relied upon administrative data as opposed to previous investigations that were subject to recall biases in parent reports. Given that this inequality in care has been documented across both time and various data sources, further work is needed to identify the most prominent reasons for this disparity. Potential reasons include minority parent reluctance to place their children on stimulant medication due to concerns that medication will cause serious side effects or future substance abuse (dosReis et al., 2006) and physician hesitancy to medicate minority youths for ADHD.

Regarding our second measure reflecting patients filling prescriptions that exceeded maximum recommended doses, we did not find any racial or ethnic disparities. While just 3.9% of youths filled prescriptions with higher than recommended doses for ADHD, this small percentage still re-

flects thousands of youths medicated for ADHD in the state of Ohio alone. Higher doses are often associated with greater side effects and larger medication expenses. Therefore, clinical administrators and insurers may want to monitor this overtreatment for ADHD and develop strategies such as academic detailing that have sometimes been useful in improving psychopharmacological practices for other concerns (Benjamin, Swartz, & Forman, 2011).

Regarding our third measure reflecting patients having a follow-up visit with a prescriber within 30 days of getting an ADHD medication filled, we found that just one out of three patients met this criteria, with African-American youths somewhat less likely to meet this quality standard. Given that clinical response to stimulants are often noticed within several days and that these medication regimens frequently require multiple adjustments to optimize response, this lack of care during this initiation phase is troubling. The present data fail to clarify whether this standard is not met because prescribers are too busy to see patients for follow-up care within

a month, because prescribers do not fully understand the importance of medication adjustment during this initial phase, or because caregivers do not agree to return for follow-up care.

Regarding our fourth and final measure reflecting follow-up medication management visits during the continuation phase, we found that eight out of nine youths met this standard if they met the third quality of care standard for the initiation phase and had 210 days of filled ADHD medication. We also found no disparities in care by race or ethnicity for this last quality metric. These nonsignificant differences by minority status in this latter stage of ADHD care is consistent with previous research that utilized parent report (Stevens et al., 2005). These nonsignificant findings regarding the continuation phase suggest that earlier stages of ADHD care – namely initiation of stimulant treatment and a medication follow-up appointment within the initial 30 days—deserve greater attention in regards to reduce disparities in ADHD care. Nevertheless, the fact that just one out of six youths completed the initiation phase and had 210 days of filled

ADHD medication suggest that adherence rates are low across all groups.

The strengths of this study include its use of fairly recent Medicaid data from a large time period across an entire populous state, its quality indicators reflecting medication monitoring and appropriate dosing, and its control for a wide range of demographic and clinical confounds. However, because this study features data from a single state, the racial and ethnic disparities may not generalize to other states or other regions of the country. Furthermore, the study's reliance on administrative data precludes the utilization of other quality metrics, such as obtaining teacher ratings to inform diagnostic decisions and medication adjustments. Finally, while the study's quality metrics assessed prescriptions that were actually filled, we did not assess differences in original prescriptions or consumption. In the future, combining Medicaid data with electronic medical records and parent reports will likely provide the most robust answers to questions of racial and ethnic disparities in quality ADHD care.

## CONCLUSIONS

Multiple racial and ethnic disparities in quality ADHD care were identified. When patients were diagnosed with ADHD, the odds of being dispensed a stimulant medication in both African American youths and Hispanic American youths were lower relative to Caucasian American youths. In addition, the odds of having a first medication follow-up visit within the recommended 30 days was lower for African American youths who were prescribed an ADHD medication relative to Caucasian American youths. Taken together, these findings suggest that racial and ethnic disparities are most likely to occur during early stages of care.

## Clinical Implications

Providers and health systems seeking to reduce racial and ethnic disparities in quality ADHD care should concentrate their efforts on the initial stages of services. Engaging minority families, soliciting and addressing their upfront concerns about ADHD treatment, and facilitating contact during the first month of a prescription are likely important components of interventions aimed at promoting equitable care for one of the most common psychiatric disorders of childhood and adolescence.

## REFERENCES

- American Academy of Child and Adolescent Psychiatry (2007). Practice parameter for the assessment and treatment of children and adolescents with Attention-Deficit/Hyperactivity Disorder. *Journal Am Acad Child Adolesc Psychiatry*, 46: 894-921.
- Benjamin, D., Swartz, M., & Forman, L. (2011). The impact of evidence-based education on prescribing in a psychiatry residency. *Journal of Psychiatric Practice*, 17: 110-117.
- dosReis, S., Butz, A., Lipkin, P. H., Anixt, J. S., Weiner, C. L., & Chernoff, R. (2006) Attitudes towards stimulant medication for attention-deficit hyperactivity disorder among African American families in an inner city community. *Journal of Behavioral Health Services and Research*, 33: 423-430.
- DuPaul, G. J., Power, T. J., Anastopoulos, A. D., Reid, R., McGoey, K. E., & Ikedo M. J. (1997). Teacher ratings of attention deficit hyperactivity disorder symptoms: Factor structure and normative data. *Psychological Assessment*, 9: 436-444.
- Hermann, R. C., & Palmer, R. H. (2002). Common ground: A framework for selecting core quality measures for mental health and substance abuse care. *Psychiatric Services*, 53: 281-287.
- Institute of Medicine Committee on Quality of Health in America. (2001). *Crossing the quality chasm: A new health care system for the 21st Century*. Washington, DC, National Academies Press Report.
- Miller, T. W., Nigg, J. T., & Miller R. L. (2009). Attention deficit hyperactivity disorder in African American children: What can be concluded from the past ten years? *Clinical Psychology Review*, 29: 77-86.
- Morgan, P. L., Staff, J., Hillemeier, M. M., Farkas, G., & Maczuga, S. (2013). Racial and ethnic disparities in ADHD diagnosis from kindergarten to eighth grade. *Pediatrics*, 132: 85-93.
- National Committee on Quality Assurance (NCQA): HEDIS & Performance Measure. Website <http://www.ncqa.org/HE-DISQualityMeasurement.aspx> accessed on October 30, 2013.
- Pastor, P. N., Reuben, C. (2005). Racial and ethnic differences in ADHD and LD in young school age children: Parental reports in the National Health Interview Survey. *Public Health Reports*, 120: 383-392.
- Rabiner, D. L., Murray, D. W., Schmid, L., & Malone, P. S. (2004). An exploration of the relationship between ethnicity, attention problems, and academic achievement. *School Psychology Review*, 33: 498-509.
- Schneider, H., Eisenberg, D. (2006). Who receives a diagnosis of attention-deficit/hyperactivity disorder in the United States elementary school population? *Pediatrics*, 117: 601-609.
- Silber, J. H., Gleeson, S. P., & Zhao, H. (1999). The influence of chronic disease on resource utilization in common acute pediatric conditions: financial concerns for children's hospitals. *Archives of Pediatric Adolescent Medicine*, 153:169-79.
- StataCorp. 2011. *Stata Statistical Software: Release 12.1*. College Station, TX: Stata Corp LP.
- Stevens, J., Harman, J. S., & Kelleher, K. J. (2005). Race/ethnicity and insurance status as factors associated with ADHD treatment patterns. *Journal of Child Adolescent Psychopharmacology*, 15: 88-96.
- Zima, B. T., Bussing, R., Tang, L., Zhang, L., Ettner, S., Belin, T. E., & Wells, K. B. (2010). Quality of care for childhood Attention Deficit/Hyperactivity Disorder in a managed care Medicaid program. *Journal of American Academy of Child Adolescent Psychiatry*, 49: 1225-1238.

## CHILDREN'S ACCESS TO PSYCHIATRIC CARE IN OHIO

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The severe shortage of child and adolescent psychiatrists in the United States is well documented, (Thomas & Holzer, 2006; Kim, 2003; Pomerantz, Cole, Watts, & Weeks, 2008) especially in rural locations and areas with significant levels of poverty (Thomas & Holzer, 1999; Smalley, Yancey, & Warren, 2010). Even with the support of primary care providers (PCPs), parents often have great difficulty obtaining prompt psychiatric medication management for their children. About two thirds of PCPs, for example, report they cannot get outpatient mental health services for patients—a rate at least twice as high as that for other services (Cunningham, 2009).

Understandably, health systems prioritize serving patients with emergency or emergent conditions. Yet as a result, patients with routine mental health conditions must often wait a lengthy period of time to obtain care. According to the Commonwealth Fund, wait times of from four to six weeks for initial psychiatric appointments are common in Massachusetts,

and community mental health centers in that state report three-month waits (Holt, 2010). Similar wait times have been recorded elsewhere (Abrahams & Udwin, 2002; Canadian Psychiatric Association, 2006), and one study found that wait times often exceed one year (Pfefferle, 2007).

This is unfortunate because longer wait times increase the likelihood that patients will not keep their appointments (Folkins, 1980; Gallucci, Swartz, & Hackerman, 2005; Foreman & Hanna, 2000). Delays in mental health services also create an elevated risk of poor outcomes and potentially dangerous exacerbation of the patient's problem (Nath & Marcus, 2006). For individuals, long waits for appointments can prolong physical and emotional distress (Kowalewski, McLennan, & McGrath, 2011). Patients at Veterans Administration facilities with wait times of more than 31 days have an elevated risk of mortality compared to veterans with wait times of less than 30 days (Prentice & Pizer, 2007).

Despite these concerns, wait times for child and adolescent psychiatry are not always lengthy in all places and at all times. Some patients are able to access appointments relatively quickly. Few studies have

sought to systematically describe variation in appointment wait times for psychiatry. Studies of wait times either have done so incidentally or have published results that have not been peer-reviewed. The present study aims to assess patient wait times for adolescents with a focus on understanding the influence of health insurance, region, and season.

### *Why might appointment wait times vary?*

Health insurance is an important indicator of access to care. Because over 90% of US children have health insurance (U.S. Department of Health and Human Services, 2011), many studies have focused on how different types of insurance affect access to care. Compared to adolescents with private insurance, for example, those with Medicaid may have a more difficult time obtaining specialty care (Bisgaier & Rhodes, 2011). Yet for specialties with a shortage of providers – such as child and adolescent psychiatry – adequate insurance may amount to little more than a “hunting license,” enabling patients to pay for care only if they can find an available provider.

Appointment wait times for psychiatry may also vary by region. Nu-

merous studies, for example, document state-level variations in health care utilization among children, independent of differences in need and population characteristics (Sturm, Ringel, & Andreyeva, 2003). Such state-level differences may also reflect differences in the scope of services covered by different Medicaid plans and State Children's Health Insurance Programs (SCHIP). Yet even within a single state, regions with fewer providers per capita (e.g., rural areas) may have limited access, and thus, presumably, longer wait times. One study, for instance, found that wait times for different medical specialties varied considerably across 15 metropolitan areas (Meritt Hawkins & Associates, 2009). Alternatively, some regions may differentially invest in non-physician psychotherapy services.

Finally, the time of year may also influence how long adolescents have to wait for a psychiatry appointment because of the timing of school vacations, examinations, and other factors. Greater situational stress during the academic year may increase the demand for such appointments while the availability of school-based providers may facilitate referral to specialists. Measuring differences by season may also offer insights into the stability of measures of appointment wait times. The more that wait times vary by season, the less reliable are episodic efforts to measure them.

This study consisted of three data collection activities. First, we conducted a "mystery shopper" survey, in which researchers posed as parents and called a random sample of 561 psychiatry offices across nine regions of Ohio under different scenarios (e.g., a 14-year-old female with depression, covered by Medicaid). We systematically recorded whether the office could take such a patient, and if so, the pro-

cess and wait time to see a psychiatrist. This methodology enabled us to assess how appointment wait times for child psychiatry varied by insurance type, region, and other factors. Second, an online survey of 557 primary care providers (PCPs) assessed perceptions of access to psychiatric care as well as their familiarity with, and perceptions of the Pediatric Psychiatry Network (PPN). PPN is an initiative of the Ohio Department of Mental Health and Addiction Services and several children's hospitals. It aims to build the capacity of primary care providers to manage their patients' mental health care through phone consultation service that links a provider and a trained child psychiatrist. Third, we completed semi-structured interviews with seven physicians who staff PPN to summarize their experiences with the service and recommendations for improvement.

We organized this project around four central goals:

**Goal #1:** To determine how long Ohio children must wait for an appointment with a psychiatrist for routine medication management.

**Goal #2:** To describe the ease with which an Ohio parent with Medicaid can schedule an appointment with a child psychiatrist for routine medication management, regardless of the wait.

**Goal #3:** To describe primary care providers' perceptions of their ability to access psychiatric care for routine medication management for their child patients.

**Goal#4:** To understand how and why Ohio primary care providers use the PPN.

## METHODS

All these activities were reviewed and approved by the Behavioral and Social Sciences Institutional Review Board of the Ohio State University.

## APPOINTMENT AVAILABILITY ASSESSMENT

The study focused on fictitious new patients because of the considerable logistical, legal, and ethical concerns associated with using the names of real existing patients for assessing other types of appointments. At multiple sites within multiple regions of Ohio, we assessed wait times for an initial appointment with a psychiatrist for routine medication management. We refer to this as the "Appointment Availability Assessment" or colloquially, "Mystery Shopper Survey." To reduce the likelihood of bias, we maintained the gender and age of the fictitious patient as a constant (i.e., a 14-year-old daughter).

To further limit bias and to put Medicaid findings into context, we chose a single private insurer provider to compare to Medicaid. Aetna, which has the largest insurance provider network (by market share) in Ohio, but has relatively few child psychiatrists in network. Thus, we chose the next largest provider, Medical Mutual of Ohio (MMO), which had considerably more child psychiatrists in network.

From March 15 through May 25, 2012, three members of the research team telephoned psychiatry offices across Ohio, each posing as a parent seeking a new patient appointment for routine medication management for his/her 14-year-old daughter. In order to reduce the likelihood of bias, we maintained the gender and age of

the fictitious patient as a constant (e.g., a 14-year-old daughter). For the telephone calls, the following four scenarios were used: (1) the child has depression and is covered by Medicaid; (2) the child has an anxiety disorder and is covered by Medicaid; (3) the child has depression and is covered through MMO; and (4) the child has an anxiety disorder and is covered through MMO. After making 1,945 calls, we confirmed that the patient’s gender did not influence results and believed that results are generalizable to boys as well. In terms of age, however, these results are only representative of patients 14-17 years of age since, on several occasions, an office noted that the psychiatrist would not see patients younger than 14 years old.

We then repeated this procedure from June 21 to August 14, 2012. Through this design, we assessed how our main outcome, appointment wait time, varied by region, insurance type [(Medicaid vs. Medical Mutual of Ohio (MMO)], condition (depression vs. anxiety), and season (spring vs. summer). We also documented the ease of making an appointment, including the number of calls required, the total time on the phone, and the frequency of inconsistent information from the same office.

**Sample of Psychiatry Offices**

In February 2012, we selected offices that take Medicaid from the publicly available Ohio Medicaid Managed Care Enrollment Center’s online provider directory (<http://www.ohiomcec.com/providerSearch>), using the following criteria: *provider type = physician; specialty = psychiatry; accepts patients as young as = 14*. The site included two types of results, “confirmed” providers who met all three criteria and “unconfirmed” providers who were missing information on minimum patient age but who otherwise met the criteria. Because some psychiatrists who typically see adults will sometimes see a 14-year-old patient, we included both “confirmed” and “unconfirmed” providers in the sampling frame.

Concurrently, we used the publicly available online provider directory of Ohio’s second largest private insurance provider–MMO (<https://providersearch.medmutual.com/NetworkRealignment.aspx>) to identify psychiatrists taking one type of private insurance. We searched for medical doctors in Ohio in their SuperMed PPO (Plus) Network and then downloaded pdf copies of directories and sorted results by county. To parallel the “confirmed” versus “unconfirmed” cri-

teria from Medicaid, we included providers listed as “child and adolescent psychiatrists” as well as “psychiatrists.”

Two research team members independently assigned unique office ids to each unique address and insured that all available phone numbers and providers at a given address were accurately recorded. Sixteen discrepancies, (which were less than 1% of entries) were corrected to produce a final spreadsheet of addresses and phone numbers for 578 unique office addresses.

We stratified this sampling frame across nine regions of Ohio, including three major metropolitan counties, three multi-county suburban regions, and three multicounty non-metropolitan regions. Table 1 describes each region.

We constructed these regions based on two criteria. First, we preserved multi-county groupings of local Addiction, Drug Abuse and Mental Health (ADAMH) Boards since they are the most relevant government entities to act on this study’s policy implications. We also employed a collapsed version of rural/urban continuum codes (United States Department of Agriculture, 2007) to distinguish metropolitan and non-metropolitan coun-

**Table 1. Definitions of Ohio Regions for the CAPCO Appointment Availability Assessment**

Region	Counties
1. Northwest rural	Defiance, Fulton, Hancock, Henry, Mercer, Paulding, Putnam, Van Wert, Williams
2. North central rural	Ashland, Crawford, Holmes, Huron, Marion, Richland, Sandusky, Seneca, Wayne, Wyandot
3. Appalachia	Adams, Athens, Belmont, Brown, Carroll, Coshocton, Columbiana, Gallia, Guernsey, Harrison, Hocking, Jackson, Jefferson, Lawrence, Meigs, Monroe, Morgan, Muskingum, Noble, Perry, Scioto, Tuscarawas, Vinton, Washington
4. Southwest suburban	Butler, Clermont, Clinton, Warren
5. Central suburban	Clark, Greene, Madison, Fairfield
6. Northeast suburban	Geauga, Lorain, Medina, Lake
7. Hamilton County	Hamilton
8. Franklin County	Franklin
9. Cuyahoga County	Cuyahoga

ties. All three multi-county suburban areas consist of counties that are classified as either “central metropolitan” or “outlying metropolitan.” The three rural areas consisted of “central metropolitan” or “non-metropolitan” counties, with a few exceptions necessary to preserve each region’s geographic contiguity. These exceptions are as follows: 1) Richland County which is located in the North Central rural is classified as “central metropolitan” because of the presence of the city of Mansfield; 2) In the Appalachian region, four counties including Lawrence, Washington, Belmont, and Jefferson are considered “central metropolitan” because of their proximity to small cities in other states; 3) Brown and Carroll counties are classified as “outlying metropolitan” because of the growing metropolitan sprawl of Hamilton and Stark are considered “central metropolitan” because of their proximity to small cities, respectively .

From these sources, within each region, we were able to generate one list of potential psychiatry offices that took Medicaid and another overlapping list of psychiatry offices that took MMO. Table 2 summarizes the number of po-

tentially eligible offices by insurance type in each region.

To generate a random sample of offices, we randomly ordered the list in each region for each insurance/condition/season cell (e.g., Medicaid/Depression/Spring). We then proceeded to a different scenario (e.g., MMO/anxiety) where we progressed through a randomly ordered list of the MMO offices in that region. When an office was unable to schedule an appointment, we asked for a referral to another office nearby. We recorded these referrals but did not immediately follow them in order to preserve the randomization of the sample. If we exhausted our list before recording wait times at eight different offices, we then examined our list of referred offices. If any were not on our original list, we then added them to the list and called them accordingly. These new offices became part of our list, were randomly ordered, and appended to the bottom of our list for calling in future cells in that region.

**Calling Procedure**

Three research team members posed as parents, including a 44-year-old man and two women ages 24 and

26 years, who completed 50%, 23%, and 27% of the calls respectively. We purposefully assigned different scenarios to each team member so that no one person was exclusively responsible for completing all calls in a given region or under a certain insurance/condition cell. In calling an office, each researcher posed as a parent and tried to find an appointment time under the given scenario at the listed address. For those offices that had more than one phone number, we randomly chose one number to begin calling. Researchers completed the phone calls during regular business hours (i.e., Monday - Friday, 9 a.m. - 5 p.m.).

We never actually made an appointment; we only asked whether that office had a psychiatrist who would see a 14-year-old for routine medication management and who would take the appropriate insurance type. If so, then we asked when the next available appointment was with any psychiatrist who was in that office and who met those criteria.

To minimize confusion, each researcher was assigned a specific cell in a specific region. In the spring, for example, one member completed calls in

**Table 2. Psychiatry Offices Listed as Taking Medicaid or Medical Mutual of Ohio (MMO)**

Region	# Offices Taking Medicaid	# Offices Taking MMO	# Offices Taking Either
1. Northwest rural	18	18	26
2. North central rural	30	30	46
3. Appalachia	60	47	78
4. Southwest suburban	46	35	60
5. Central suburban	27	24	36
6. Northeast suburban	38	41	56
7. Hamilton County	52	34	66
8. Franklin County	42	54	73
9. Cuyahoga County	92	106	137
<b>TOTAL</b>	<b>405</b>	<b>389</b>	<b>578</b>

Source: Ohio Medicaid Managed Care Enrollment Center’s online provider directory; Medical Mutual of Ohio Online Provider Directory

region 3 (Appalachia) in the Medicaid/depression scenario before another team member began calling offices in that region under a different scenario. To avoid overburdening any one office, no one address was phoned more than four times during a season.

Often, offices required patients to see a counselor or social worker for an intake assessment before patients could schedule an appointment with a psychiatrist. In such cases, we recorded the wait time as the sum of the days until the intake assessment plus the days until the next available psychiatrist appointment. When an office required multiple appointments with a counselor prior to seeing a psychiatrist, the appointment wait time consisted of the cumulative wait until the psychiatry appointment. A few offices had a psychiatrist on staff as part of a larger multi-specialty practice and would only accept new patient appointments from one of their own in-house primary care providers. In such a case we assessed the wait time for a new patient appointment with a primary care provider and added that to the subsequent wait time for a referral to the psychiatrist at that address.

In addition to appointment wait time, we recorded the number of different offices, the number of phone calls, and the total number of minutes on the phone required to make an appointment. For offices that were unable to schedule an appointment, we recorded the reason that we were unable to do so.

### **Statistical Analysis**

Descriptive statistics for estimated wait times by region, provider, condition, and season were calculated. Three different summary measures for “typical” wait times are provided: the mean, median, and geometric mean. All summary measures have various strengths and weaknesses. The arithmetic mean

and standard deviation are easily interpretable but are very sensitive to large outlying values, which are likely to exist in a study of wait times. The median and interquartile range (75th-25th percentiles) are both very insensitive to outlying values, which makes them a useful description of “typical” wait times for the middle of the distribution. However, the insensitivity of these measures to outliers limits their utility in comparing across regions, conditions, and insurance types. Using only the median could mask important differences outside of the middle of the distribution. For these reasons, we prefer the geometric mean and geometric mean standard deviation to summarize the wait times. The geometric mean is the arithmetic mean of the log-transformed data, exponentiated back to the original scale. Equivalently, the geometric mean is the  $n$ th root of the product of all values in the set (where  $n$  is the total number of observations). Because it is based on a logarithmic scale, the geometric mean is less influenced by large outlying values; however, these values still have some impact on the result. Therefore, the geometric mean is a compromise between the arithmetic mean and the median in terms of the influence of large outlying values on the result.

Due to imbalance in the final sampling scheme, adjusted linear regression models were run to account for possible confounding by region, condition, season, and insurance. If the original planned design (with perfect balance by these four factors) had been achieved, these linear models would have been unnecessary. Results from the regression models are presented as estimated geometric means assuming this complete balance. For example, the estimated geometric wait time for Medicaid in the spring is calculated from the model using an equal weight for each

region (1/9) and condition (1/2). Similarly, the estimated geometric wait time for the Appalachian region in the spring would be calculated from the model using an equal weight for each condition (1/2) and each insurance type (1/2). All analyses were conducted using Stata 12.0 and R 2.14. Statistical significance was  $p < 0.05$ , and results are unadjusted for multiple comparisons.

## **ONLINE SURVEY OF PRIMARY CARE PROVIDERS**

The primary goal of the online survey was to learn why more primary care providers are not using PPN and which possible improvements they might find most helpful.

### **Survey Instrument**

The survey included 18 to 23 closed-ended items (depending on skip pattern), had four optional open-ended items, and typically took <6 minutes for the respondent to complete. We randomly split the sample into three groups and randomly administered a different version of the survey to each. The versions varied in a few questions about different common mental health conditions, specifically ADHD, depression, and anxiety disorder. The research team and their colleagues pilot tested drafts of the survey to assess the instrument’s clarity as well as the accuracy of its online administration.

The survey included questions about characteristics of the practice: size; type (e.g., private solo primary care practice, multi-specialty group practice); location, percentage of patients paying through Medicaid, and whether a mental health provider was on site. Also questions distinguished whether respondents were medical doctors (MDs) or osteopaths (DOs).

In addition to this background information, the survey questions focused on five topics: (1) experiences handling patients with common mental health problems, (2) familiarity with PPN, (3) barriers to providers using PPN, (4) experiences using PPN, and (5) preferred approaches to improving PPN.

### **Survey Administration**

We used the Ohio State University College of Public Health's account with Zoomerang ([www.zoomerang.com](http://www.zoomerang.com)) to administer the survey online. All communications were sent via an email address, and respondents completed the survey on a secure (HTTPS/SSL) link to the College of Public Health's password-protected account. The Zoomerang account also enabled us to track individual respondents and subsequently send reminder messages to only those providers who had not yet responded. Our communication with participants included an initial invitation on July 9, 2012 with a deadline of July 16, 2012. We also sent three reminder emails spaced three days apart to individuals who had not yet visited the survey website. We closed the survey on July 24, 2012.

### **Sample**

The unit of analysis for the survey was each individual primary care provider. We recruited PCPs from the State Medical Board of Ohio lists of MDs and DOs. Each list included provider name, mailing address, email address, specialty codes, and the first issue date of their license to practice. To identify providers who were most likely to be current primary care providers, we only included providers with at least one of the following specialties:

MDs: Family Medicine; Family Practice; Pediatrics; Adolescent

Medicine, Pediatrics; IM/ Pediatrics; Adolescent Medicine, Internal Medicine; Sports Medicine – Family Practice; Sports Medicine – Pediatric American Medical Association

DOs: Family Medicine; Family Practice; Pediatrics; Illinois Osteopathic Medical Society.

To be eligible, a respondent must have a valid email address and currently provide primary care to child and/or adolescent patients in Ohio. Individuals with a current mailing address outside of Ohio as well as those with no listed email address were excluded. From these lists we identified 6,282 MDs and 1,296 DOs. We suspected that a large but unknown proportion of the individuals on this list were NOT eligible in that they did not currently serve as PCPs. For this reason, our response rates are only approximations.

Table 3 presents the response rates associated with three different versions of the survey. Overall, we estimate that 10.6% of eligible respondents completed the survey. Response rates did not vary significantly by version. This figure is a bit lower than other published online surveys of health providers but may be an underestimate. A large but unknown proportion of invited participants were probably ineligible. Yet, we assumed that they were no less likely to visit the website (and then be screened out) than individuals who were actually eligible.

### **Data Management & Analysis**

Because the data were from a convenience sample, we did not weight data to be representative of all PCPs in the state. We downloaded the data from each survey version into a combined Excel file where we cleaned and formatted the data. One team member then

completed a series of analyses of the numerical data in Stata 12. Open-ended responses were grouped thematically and analyzed with data from the structured qualitative feedback (see below).

### **Structured Qualitative Feed Back**

We conducted key informant interviews via telephone with psychiatrists who have consulted with PPN at three children's hospital locations. Based on information from our state agency partners, we identified 12 PPN psychiatrists. We contacted these psychiatrists by email and phone to invite them to participate. Of those contacted, seven completed interviews, and five declined to return our repeated calls and emails within our study schedule. Six of the participants had been involved in PPN since the beginning, including four who were involved in its original conceptualization. Two participants had only personally fielded 4-6 calls, whereas the others had handled 30-40 calls or simply too many to count.

### **Data Collection & Analysis**

During the interview, interviewers recorded written notes. If the participant said something the interviewer considered noteworthy, the interviewer asked the participant to stop or repeat the phrase so it could be recorded verbatim. Immediately following each call, the interviewer typed up the notes and included additions and comments based on her/his recollections. The only identifying information retained were the date of the interview and the participant's location.

Prior to the interviews, the team developed a codebook that included the range of anticipated responses for each question. Team members participated in team-based coding and analysis (Guest & McQueen, 2008) in

**Table 3. Response Rate and Disposition of Online Provider Survey by Survey Version**

	Depression	ADHD	Anxiety	Total
(1) invited	2,484	2,685	2,409	7,578
(2) hard bounce	71	91	87	249
(3) soft bounced	74	71	54	199
(4) opted out	42	45	46	133
(5) screened out	84	72	81	237
(6) not responded	2,196	2,416	2,136	6,748
(7) completed survey	177	162	163	502
(8) usable partial completion	15	15	12	55
(9) unusable partial completions	14	22	19	42
(10) estimated eligible non-respondents*	1,489	1,673	1,427	4,589
response rate	11.1%	9.3%	10.6%	10.6%
numerator**	192	177	175	557
denominator***	1,723	1,895	1,648	5,279

Note: \*estimated eligible non-respondents=(7/[5+7])\*6    \*\*numerator=7+8    \*\*\*denominator=4+7+8+10

which they compared notes from each interview and identified common themes across the interviews and assessed how these compare to the codebook developed a priori. They also considered how the open-ended comments provided by respondents to the online provider survey and PPN participants’ responses varied across different sites.

**RESULTS**

Results were organized around the project’s four central questions: and are presented in the following sub-sections.

***How Long Must Ohio Children Wait For Psychiatry?***

Table 4a displays the psychiatry appointment, wait times, in days for adolescents by condition, insurance, region, and season. An adolescent in Ohio typically waits 6 ½ weeks for a new patient appointment with a psychiatrist for routine medication management (geometric mean 46.2 days, *sd* = 2.4).

The IQR of appointment wait times overall was 29,81. This finding means that of all the different wait times we collected, 25% were less than 29 days and another 25% were more than 81 days. In other words, 50% of the wait times were between 29 and 81 days. Wait times ranged widely, however, from as little as one day, to up to 345 days, with the interquartile range being 29 to 81 days.

Table 4b presents results for the Medicaid sample. In the spring, teens covered by Medicaid wait longer than those covered by MMO (51 vs. 42 days). During the summer, however, we found no difference by insurance type. This discrepancy may result from heightened demand for psychiatry during the school year as well as greater availability of feasible appointment time during the summer when students are able to fill morning and mid-day slots without missing school.

For both Medicaid and MMO, wait times in Northwest rural Ohio, Franklin County, and the Central suburban counties were significantly longer compared to those in Cuyahoga County and

Northeast suburban counties. Around each major metropolitan areas, adjacent counties report similar wait times. Presenting problem (depression vs. anxiety) was not associated with wait times.

Despite these trends, there was still considerable variation within each region. In the core metropolitan and suburban counties, minimum wait times were about one week, whereas in the rural areas they were closer to two weeks (Table 4a). Even with Medicaid only, it was possible to get an appointment within two weeks in nearly every region (Figure 1). Only the Northwest rural counties lacked an attractive alternative. There, the minimum Medicaid wait time was 28 days. While this may be due to the small number of offices that accept Medicaid in this region, it still highlights the reality of unusually limited access to care in this region.

There is no standard benchmark for an acceptable waiting time for a routine child psychiatry. We chose the 30-day figure following consultation with two experts in children’s access to psychiatric care (Kelly Kelleher and

Table 4a. Psychiatry Appointment Wait Times (in days) for Adolescents by Condition, Insurance, Region and Season

	<i>n</i>	Mean ( <i>sd</i> )	Median (IQR)	Range (min, max)	Geometric Mean ( <i>sd</i> )
<b>Overall</b>	<b>498</b>	<b>64.7 (56.6)</b>	<b>50.0 (29,81)</b>	<b>(1,345)</b>	<b>46.2 (2.4)</b>
<b>Diagnosis</b>					
Anxiety	246	65.1 (55.6)	52.0 (30,81)	(2,345)	47.8 (2.3)
Depression	252	64.3 (57.8)	47.0 (28,78)	(1,305)	44.7 (2.5)
<b>Insurance Type</b>					
Medicaid	234	70.1 (61.9)	55.5 (31,84)	(2,305)	50.3 (2.4)
Medic. Mutual of Ohio	264	59.8 (51.1)	47.3 (26,78)	(1,345)	42.8 (2.4)
<b>Region</b>					
Northwest rural	32	75.8 (40.0)	73.3 (37,105)	(11,149)	64.2 (1.9)
North central rural	60	51.8 (27.7)	48.0 (30,64)	(12,166)	45.1 (1.7)
Appalachia	64	54.6 (34.5)	46.5 (33,70)	(14,177)	46.2 (1.8)
Southwest suburban	64	65.6 (46.6)	55.3 (33,91)	(4,229)	50.1 (2.2)
Central suburban	62	82.8 (71.0)	60.5 (37,93)	(7,345)	60.9 (2.2)
Northeast suburban	61	41.5 (28.4)	37.0 (15,61)	(2,113)	30.3 (2.5)
Hamilton County	43	60.4 (32.7)	66.5 (39,81)	(1,137)	47.4 (2.4)
Franklin County	56	113.8 (99.5)	84.5 (26,150)	(2,305)	69.6 (3.1)
Cuyahoga County	56	41.8 (43.2)	28.0 (14,55)	(2,210)	27.1 (2.6)
<b>Season</b>					
Spring	251	69.2 (63.4)	51.0 (28,89)	(1,345)	47.8 (2.5)
Summer	247	60.0 (48.5)	50.0 (30,76)	(2,270)	44.6 (2.3)

Note: Figures do not adjust for clustering by office or imbalance in calls made. IQR=Interquartile Range

Cynthia Fontanella). Also, the Canadian Psychiatric Association recommended “four weeks” for “access to a psychiatrist after referral by a family physician” for “scheduled diagnostic and medication management.” (Canadian Psychiatric Association, 2006). Using a benchmark figure of 30 days as the maximum reasonable wait time for this type of appointment, only 140 of 498 wait times (28.1%) were <30 days (data not shown). For Medicaid, only 56 of 234 (24%) appointments met this threshold, compared to 84 of 264 (32%) for MMO. This metric, however, differed markedly by region and to a lesser extent, season. During the spring, for example, 54% of the Medicaid wait times in Cuyahoga County, were <30 days, compared to 0% in both Franklin and Hamilton counties.

Compared to the spring, MMO wait times were about the same in the summer. Yet, Medicaid appointment wait times decreased significantly during the summer from 51 to 42 days (Table 5a). This trend was limited, however, to Franklin, Hamilton, and the Central suburban counties (Table 5b). Medicaid wait times in Franklin County, for example, declined from 120 days in the spring to 48 days in the summer.

### ***How Easy Is It For Ohio Parents to Schedule an Appointment With a Psychiatrist?***

With a list of approved providers from an online directory, it took a median of three calls and nine minutes on the phone to find a psychiatrist who would see an adolescent for routine medication management. Scheduling

an appointment in Cuyahoga County required considerably more phone calls than in other regions, necessitating a median of nine calls and 23 minutes on the phone. These figures do not include the amount of time required to wait between calls. A common experience, for example, was for a “parent” to call an office and leave a message. She would receive a return phone call two days later only to learn that the office no longer sees children. She would then phone another office where she is able to make an appointment.

Many offices listed on provider directories are not actually able to serve 14-year-olds seeking routine medication management. We quantified this by calculating the proportion of offices listed in the Medicaid and MMO provider directories to confirm that they

**Table 4b. Psychiatry Appointment Wait Times (in days) for Adolescents Covered by Medicaid, by Condition, Region & Season**

	<i>n</i>	Mean ( <i>sd</i> )	Median (IQR)	Range (min, max)	Geometric Mean ( <i>sd</i> )
Overall	234	70.1 (61.9)	55.5 (31,84)	(2,305)	50.3 (2.4)
<b>Diagnosis</b>					
Anxiety	119	70.4 (58.4)	60.0 (31,89)	(2,300)	51.6 (2.3)
Depression	115	69.8 (65.6)	49.0 (32,78)	(2,305)	49.1 (2.4)
<b>Region</b>					
Northwest rural	14	78.9 (46.9)	66.5 (35,134)	28,149	65.8 (1.9)
North central rural	28	52.4 (31.9)	51.0 (28,64)	(12,166)	44.1 (1.8)
Appalachia	32	52.1 (31.4)	44.5 (33,64)	(14,177)	45.1 (1.7)
Southwest suburban	32	62.3 (30.4)	57.5 (46,88)	(4,120)	52.0 (2.1)
Central suburban	31	90.5 (68.9)	62.0 (37,122)	(16,270)	69.3 (2.1)
Northeast suburban	30	41.2 (24.5)	43.0 (18,63)	(2,84)	30.9 (2.5)
Hamilton County	15	65.8 (30.1)	67.0 (41,89)	(14,107)	56.5 (1.9)
Franklin County	27	145.3 (115.7)	93.0 (36,270)	(2,305)	86.2 (3.6)
Cuyahoga County	25	48.8 (37.1)	42.5 (15,67)	(7,135)	34.9 (2.5)
<b>Season</b>					
Spring	121	78.2 (71.8)	60.0 (34,93)	(2,305)	54.0 (2.5)
Summer	113	61.4 (48.0)	52.5 (31,75)	(2,270)	46.7 (2.2)

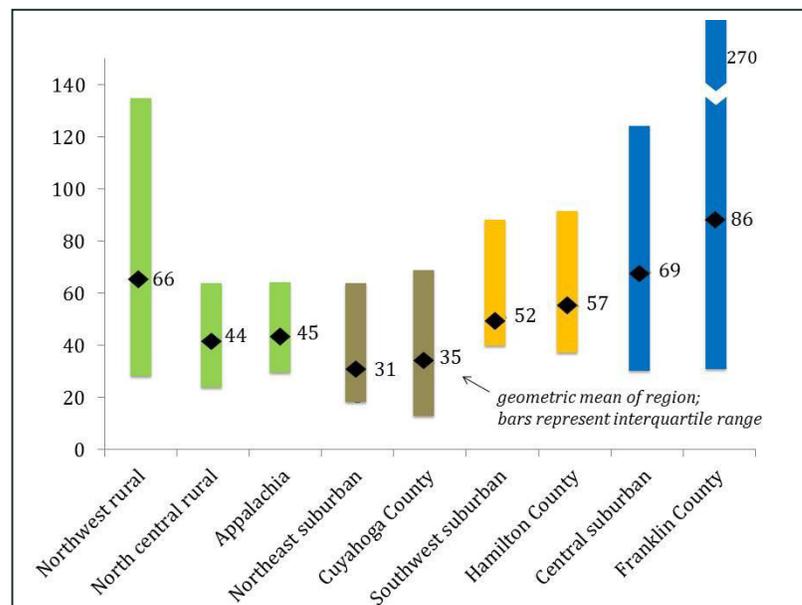
Note: Figures do not adjust for clustering by office or imbalance in calls made. IQR=Interquartile

could indeed provide this service and would accept the type of insurance.

At 79 of the 431 offices (18%) listed in the Medicaid directories, we were able to schedule appointments (Table 6). In comparison, we were able to do so at 25% of the 406 offices listed in the MMO directories. Differences in the respective accuracy of the Medicaid and MMO directories varied by region. In many regions, differences were modest. Yet in Hamilton County and the Southwest suburban counties, the Medicaid listings for child psychiatry were much less accurate than those of MMO (Table 6). In Hamilton County, for example, only five of the 57 (9%) offices listed in the Medicaid directories could actually provide routine medication management for a 14-year-old covered through Medicaid.

PCPs frequently agreed that parents often have a difficult time making

**Figure 1  
Psychiatry Appointment Wait Times (in Days) for Adolescents Covered by Medicaid: Differences by Ohio Region**



Note: Please refer to Table 4b for complete data, and to Methods section for a description of geometric means and interquartile range.

**Table 5a. Seasonal Differences in Psychiatry Appointment Wait Times (in days) for Adolescents: Estimated\* Geometric Means (95% CI)**

Insurance	Spring	Summer
<b>Medicaid</b>	<b>50.9 (42.3, 61.2)</b>	<b>41.9 (35.2, 50.0)</b>
<b>MMO</b>	<b>41.9 (35.8, 48.9)</b>	<b>43.8 (37.9, 50.5)</b>
Region	Spring	Summer
Northwest rural	75.6 (48.1, 118.9)	74.6 (53.0, 105.0)
North central rural	47.7 (35.8, 63.5)	41.9 (31.0, 56.6)
Appalachia	47.9 (37.4, 61.2)	51.6 (40.7, 65.5)
Southwest suburban	47.9 (31.2, 73.4)	47.0 (34.0, 65.1)
Central suburban	59.2 (40.3, 86.8)	43.9 (28.2, 68.4)
Northeast suburban	26.2 (17.0, 40.4)	36.9 (25.0, 54.5)
Hamilton County	42.5 (24.3, 74.5)	43.3 (26.6, 70.5)
Franklin County	72.6 (43.8, 120.5)	44.0 (24.2, 79.9)
Cuyahoga County	24.1 (15.9, 36.6)	20.7 (13.0, 33.0)

Note: \*Values are estimated assuming complete balance by condition, region, insurance. MMO=Medical Mutual of Ohio

**Table 5b. Seasonal Differences in Psychiatry Appointment Wait Times (in days) for Adolescents Covered by Medicaid: Estimated\* Geometric Means (95% CI)**

Region	Spring	Summer
Northwest rural	66.2 (37.5, 116.7)	63.9 (37.3, 109.6)
North central rural	51.3 (36.5, 72.0)	39.5 (26.3, 59.5)
Appalachia	38.0 (28.5, 50.7)	48.9 (36.8, 65.0)
Southwest suburban	51.8 (28.7, 93.2)	56.0 (44.3, 70.8)
<b>Central suburban</b>	<b>85.9 (55.5, 132.9)</b>	<b>50.8 (33.3, 77.6)</b>
Northeast suburban	26.6 (14.2, 49.8)	32.0 (18.4, 55.6)
<b>Hamilton County</b>	<b>85.3 (63.4, 115.0)</b>	<b>38.6 (21.4, 69.6)</b>
<b>Franklin County</b>	<b>119.8 (55.0, 261.1)</b>	<b>48.0 (19.9, 115.8)</b>
Cuyahoga County	31.3 (18.6, 52.6)	28.8 (15.0, 55.4)

Note: \*Values are estimated assuming complete balance by condition

appointments. According to one provider from a group practice in Hamilton County:

We need better access for patients to be seen. We have some very severe cases of mental illness and have to depend on parents to remember to call and call again, and make an appointment, and then keep an appointment when many times the parents have mental ill-

ness. This frequently leads to patients not being seen even when it is very important to function.

In calling the offices, we encountered similar difficulties in trying to make an appointment using the Medicaid or MMO listings. Combining data from both lists (Figure 2), the most common explanations were that the office did not see children (26%),

the office did not offer psychiatry (24%),<sup>12</sup> or we were simply unable to contact them (23%).<sup>13</sup> Among the offices that we could contact that offered psychiatry and that would see children, many were not taking new patients (9% of total) or no longer took the listed insurance type (6%).

Another barrier to parents getting their child to see a psychiatrist

**Table 6. Regional Differences in the Number and Proportion of Offices Listed in Medicaid and Medical Mutual of Ohio Provider Directories Where It Was possible to Schedule a Child Psychiatry Appointment.**

Region	Medicaid			Medical Mutual of Ohio		
	# of Listed Offices Called	# of Offices Able to Schedule	% of Offices Able to Schedule	# of listed Offices Called	# of Offices Able to Schedule	% of Offices Able to Schedule
Northwest rural	19	4	21%	19	5	26%
North central rural	38	9	24%	34	10	29%
Appalachia	55	16	29%	43	18	42%
Southwest suburban	52	8	15%	35	14	40%
Central suburban	29	9	31%	26	11	42%
Northeast suburban	43	9	21%	45	13	29%
Hamilton County	57	5	9%	39	8	21%
Franklin County	45	8	18%	58	9	16%
Cuyahoga County	93	11	12%	107	15	14%
<b>TOTALS</b>	<b>431</b>	<b>79</b>	<b>18%</b>	<b>406</b>	<b>103</b>	<b>25%</b>

is that the child often must complete intake assessments and/or participate in multiple sessions with a counselor before they are able to see a child/adolescent psychiatrist. Across the state, 67% of the offices that could schedule appointments required an intake assessment before a patient could see a psychiatrist. Also, 15% of offices provided inconsistent information regarding the process for obtaining an appointment with a psychiatrist.

**How and Why Do Ohio Primary Care Providers Use the Pediatric Psychiatry Network?**

More than anything else, PCPs do not use PPN because they are simply unaware of it. Among the PCPs responding to our survey, 77% were unfamiliar with the service including 61% who had “never heard of it” and 16% who “had heard of it but nothing specific.” Even in the Columbus area where PPN is most active, 64% of surveyed PCPs were not familiar with PPN. Among PCPs who had heard of PPN but had not used it, not having enough time for the consultation (48% agreed) was a much greater

barrier than the perception that they could handle cases on their own (27%) or the lack of reimbursement (20%) or the perception that consulting psychiatrists are usually unhelpful (12%) (Refer to Figure 3).

**What Is Working Well ?**

Despite such barriers, most PCPs liked the PPN concept and reported they were “very likely” (20%) or “likely” (54%) to use the service in the future. In the words of a provider who had heard about PPN but nothing specific:

I love my patients and certainly want to be able to provide the best for them. Because it is so difficult to get help for some of them, I feel that sometimes I’m the best they’ve got. Having some guidelines and guidance would be GREAT.

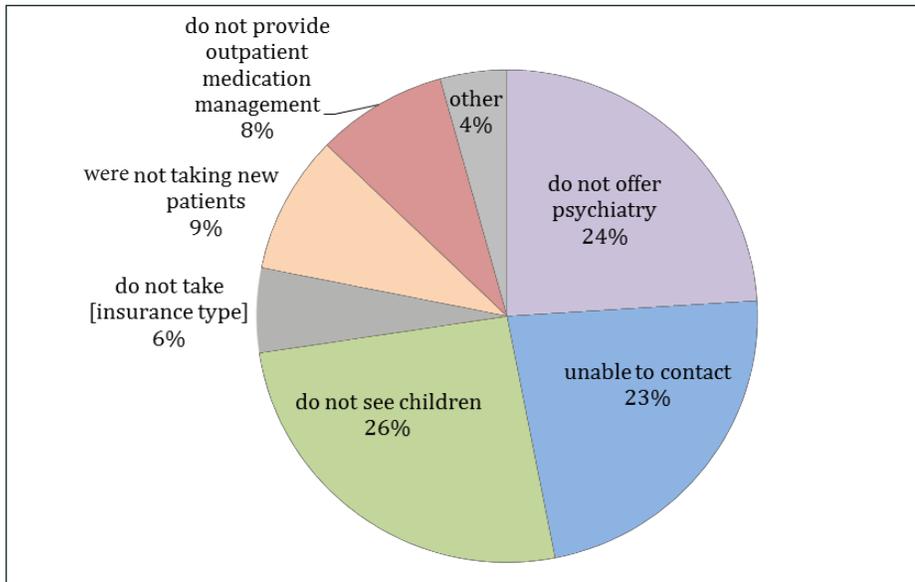
Likelihood of using PPN was similar across regions and generally not associated with provider and practice characteristics. However, respondents were somewhat less likely to use PPN if they had a mental health provider on staff (63% vs. 77%,  $\chi^2_{(1)} = 7.43, p < .01, n = 493$ ) or if they felt they could

already handle most cases themselves (58% vs. 76%,  $\chi^2(1)=5.22, p = .02, n =162$ ). Also, future likelihood of using PPN was greater among providers whose practices had a smaller proportion of children covered by Medicaid although this was only true for providers with less than 20 years’ experience and those who already were familiar with PPN. Among providers already familiar with PPN, for example, 95% of those serving fewer (<25%) Medicaid patients were likely to use the service, compared to only 60% with a larger (>50%) Medicaid population  $\chi^2(3)=14.76, p < .01, n = 115$ ). On the survey, 35 PCPs (7% of total) reported they had already used PPN. Of this group, 68% agreed that overall PPN was quite helpful, and 41% reported that it helped them avoid referring the patient to a psychiatrist. One PCP summed up the experience this way:

I had a very positive experience. I was contacted very quickly and was happy with the advice I received.

Interviews with PPN psychiatrists yielded similar findings. Every interviewee noted that most calls go very well.

**Figure 2**  
**Primary Explanations for Caller's Inability to Make a Child Psychiatry Appointment at 650 Listed Psychiatry Offices**



Note: Figures presented combine data from psychiatry offices listed by Medicaid and/or MMO.

Through interviews with PPN psychiatrists, we identified ways in which they felt the service was working. First, PPN helps PCPs handle complicated cases. One PPN psychiatrist gave the following example:

I treated a patient with a case of bipolar disorder. I was able to get them into a study, and get them some help. I was able to consult on medication and management for this patient. It was a complicated situation and a patient that really needed help.

Yet on the survey, many PCPs expressed skepticism about PPN's ability to help them manage complicated cases. Consider the following:

When I have a child I am very worried about, I don't feel comfortable with just a phone consultation.

Another noted:

Consultant had little time, and seemingly little interest, in help-

ing me unravel a complicated diagnosis. This case may not have been appropriate for the PPN, which seems geared to providing quick answers to straight-forward questions, but I don't need help with simple cases.

PPN also helps reassure PCPs that their treatment approach is appropriate. A PCP, for example, noted that calling PPN "Helped to confirm my initial impressions." PPN psychiatrists reported that many of their calls involve reassuring PCPs:

Most of the time I'm reassuring the PCP that their hunch is correct. They really appreciate it. About 50% of my calls are like that.

**What Problems Is PPN Experiencing?**

Although both PCPs and PPN psychiatrists were generally pleased with the service, a few common problems from the interviews and surveys were identified. One concerned

dropped calls and delayed responses. PPN psychiatrists acknowledged occasional delays in receiving messages as well as the challenge of returning calls promptly amid their busy schedules. While it is difficult to quantify how often such problems occur, from the PCPs' perspective, these delays were frustrating:

I had to call 3 times before I received a call back over a 4 day time period, then I was transferred to the tertiary med center nearest to me that didn't have an insurance contract to see this patient so a suggestion on therapy was made but only after an inordinate amount of time on my part---not 30 minutes.

Another potential problem is whether PCPs are using PPN only to expedite referrals to child psychiatrists. Some saw this as a concern. For example,

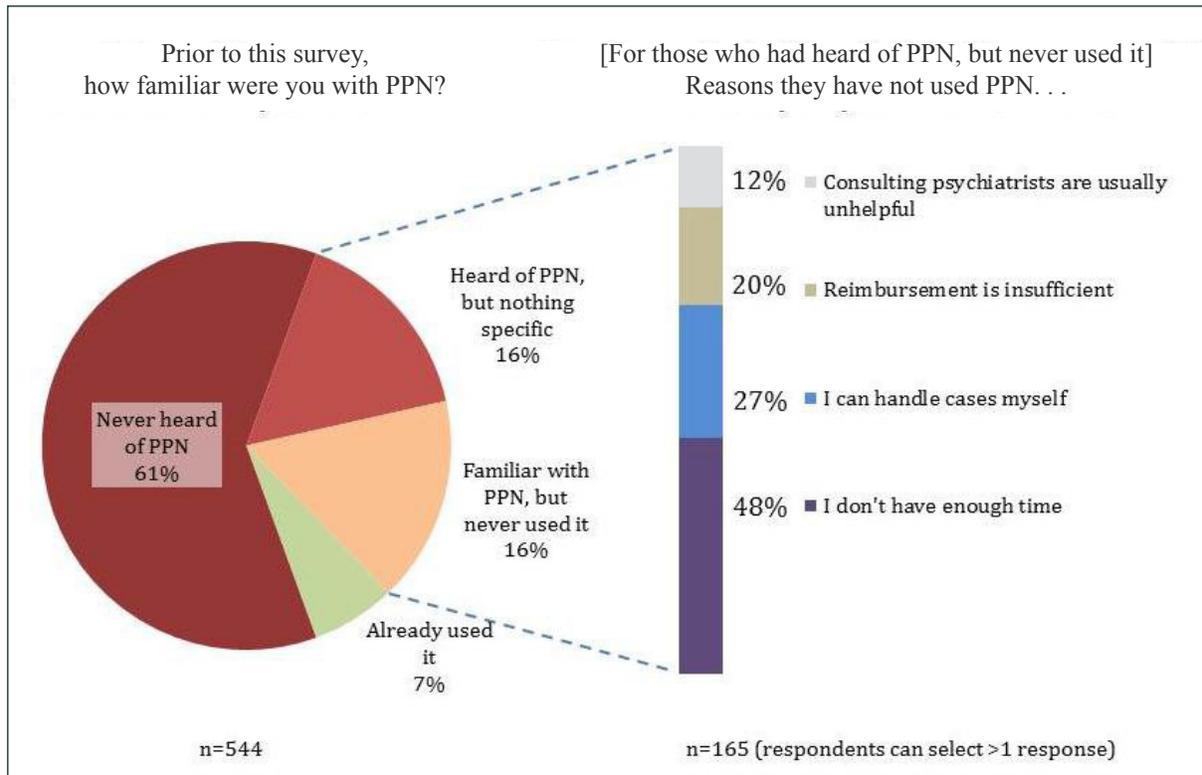
Instance in which they asked some things I can't provide – such as trying to get a child sent quickly. I don't have answers to those questions. I'll redirect back to our intake center and tell them it's an access problem.

Others, however, reported that the problem had largely disappeared or that they empathized with the caller and tried to help with referrals.

We were getting some calls just looking for a referral. Once we discovered we were doing it, we reworded the answering machine message and those types of calls dropped to near zero.

PPN psychiatrists expressed frustration with not having enough dedicated time or staff to provide quality consultation.

**Figure 3.**  
**Primary Care Providers' Familiarity with PPN and Reasons They Do Not Use PPN**



My clinic is very busy, and I don't have much time available to field these calls. My time is limited. It would be good if we could have done this by video conference. It would be nice if they could fax over some of their notes. If I had time blocked out, I'd be able to review the notes and give feedback.

**What Improvements to the Pediatric Psychiatry Network Would Be Most Effective and Popular?**

On the survey, we asked PCPs, for each \$1,000 the state agency might invest in improving PPN, how much should they spend among three realistic options. Improving continuity of care was the most popular approach for improving PPN. In descending order of popularity, their responses included:

- \$497 to improve continuity of care so you could access the same psy-

chiatrist to discuss the same patient on multiple calls;

- \$326 to improve the quality of written feedback from the PPN psychiatrist following each consultation; and
- \$177 to provide quarterly updates of appointment wait times for child psychiatrists in your area.

PPN psychiatrists also recognized the value of continuity of care. For example:

I get these frequent callers. I'll be talking with them over time and their questions become more advanced. We see them actively learning...

As PPN is currently configured, however, it is difficult to provide continuity of care. In order to avoid over-

burdening any one psychiatrist with too many PPN calls (for which they receive no reimbursement), the system spreads calls across multiple physicians. Unless the PPN psychiatrist makes informal arrangements (e.g., giving the PCP their personal phone number), a PCP calling PPN will be routed to whichever psychiatrist is currently on call.

As for improving the quality of written feedback, some PPN psychiatrists support the idea but feel it is unrealistic, unless they received additional funding for dedicated staff time towards this end.

Providing quarterly updates of local appointment wait times elicited some interest from PPN psychiatrists.

To publish wait times for various offices. That would be useful. It would help bring wait times down.

Yet, they also expressed concern with how this would work in practice, especially since shorter wait times may reflect lower quality of care.

Part of the problem is are we endorsing something? Is there something to say Dr. X is a good practitioner? Sometimes it may be that the people who don't have waiting times don't do the best jobs.

We also identified other realistic approaches for improving PPN. In particular, both PPN users and psychiatrists noted that PPN may be most attractive when PCPs are able to consult with someone local. Consider the following quote from a PCP:

[PPN] sounds like a very useful service though. Wish I could call someone in my area (local mental health agency) instead.

PPN psychiatrists also noted the value of being able to connect with someone in their area. In the words of one interviewee:

The local angle is important. Otherwise it feels like a 1-800 call... I can't tell them about resources in [county], but I know about the area where PPN psychiatrists are; I try my best with what I can do.

Because PPN already endeavors to connect callers with a psychiatrist in their area, that is often not possible because it is only staff from children's hospitals in three metropolitan areas regularly field calls. Nonetheless, planners should consider the importance of location in future efforts to expand or improve PPN.

## CONCLUSIONS AND RECOMMENDATIONS

Our findings confirm that wait times for child psychiatry in Ohio are often excessive. As agencies try to address this problem, the data from our appointment availability assessment can serve as a useful baseline to assess the effectiveness of their efforts. Future assessments using a similar methodology may be useful for measuring trends in access to care. One national study, for example, found that from 2004 to 2009, the increase in appointment wait times in Boston far exceeded changes in 14 other major metropolitan areas (Merritt Hawkins & Associates, 2009) The authors conjectured that the change may be driven by the major healthcare reform that Massachusetts enacted in 2006. With similar reforms being considered for Ohio, such an assessment may be useful for assessing children's access to psychiatric care.

Overall, both PPN users and psychiatrists believe that the network is a worthwhile endeavor. While access to child psychiatry remains a serious concern, we hope that PPN will remain an important part of the solution. The following actions are realistic, compelling approaches for strengthening PPN and developing other efforts to improve children's access to psychiatric care.

### *PPN-Specific Recommendations*

- Most PCPs are unfamiliar with PPN, yet support the concept – especially with a local connection. PPN should broadly and regularly advertise the service to PCPs in rural areas and in areas where it is already active (Cincinnati, Columbus, Akron).
- Update the PPN website to include resources, such as psychotropic

medication guidelines. Engage PCPs in the process of encouraging utilization.

- The PPN Steering Committee may want to consider training, developing a quality improvement component, and restructuring schedules to assist psychiatrists with the quality of written feedback provided to PCPs.

### *General Recommendations*

- Within Ohio, wait times vary markedly by region. It is recommended that local Alcohol, Drug and Mental Health (ADAMH) boards work with insurance providers to monitor wait times and to develop region-specific strategies to recruit and retain child and adolescent psychiatrists. Because they plan for services and monitor quality service delivery, ADAMH boards would be in a better position than Ohio Department of Mental Health and Addiction Services (OhioMHAS) to develop these strategies. Likewise, they may be more apt to recognize shorter wait times that stem from quality concerns.
- Wait times in northwest rural Ohio and central Ohio are especially long. It is recommended that state-wide efforts to improve children's access to psychiatry focus on these regions. Working with universities around Toledo and Columbus may be particularly helpful in this regard. Such efforts may fit with "hot spot" projects, funded through the 505 subsidy distributed by OhioMHAS to ADAMH boards.
- Around Ohio's three major metropolitan areas, wait times in adjacent counties resembled those in the core counties. This finding suggests that core and adjacent counties

can be thought of as one market where families experience similar access to care. It is recommended that metropolitan area ADAMH boards work with their hospital catchment areas when considering actions that will affect access to care.

- OhioMHAS and its partners may want to replicate the appointment availability assessment in other areas of Ohio that were not included in this study (e.g., Dayton, Toledo, Youngstown) to determine access issues. The methodology from the present study would be relatively easy to replicate at relatively low cost.
- OhioMHAS should consider forming a working group of community stakeholders to create specific strategies to monitor and reduce wait times for child psychiatry and determine how to incorporate these strategies into other continuity of care initiatives.

## REFERENCES

- Abrahams, S., & Udwin, O. (2002). An evaluation of a primary care-based child clinical psychology service. *Child and Adolescent Mental Health, 7*(3), 107-113.
- American Medical Association AMA Physician Specialty Groups and Codes. <http://www.mmslists.com/definitions/pdf/AMA%20Specialty%20Codes.pdf>
- Bisgaier, J., & Rhodes, K. V. (2011). Auditing access to specialty care for children with public insurance. *New England Journal of Medicine, 364*, 2324-2333.
- Canadian Psychiatric Association. (2006). Wait Time Benchmarks for Patients with Serious Psychiatric Illness. Ottawa, ON: Canadian Psychiatric Association. Retrieved from <http://www.waittimealliance.ca/waittimes/CPA.pdf>.
- Cunningham, P. J. (2009). Beyond parity: primary care physicians' perspectives on access to mental health care. *Health Affairs, 28*(3), w490-w501.
- Folkins, C. (1980). Waiting time and no-show rate in a community mental health center. *American Journal of Community Psychology, 8*(1), 121-123.
- Foreman, D. M., & Hanna, M. (2000). How long can a waiting list be? The impact of waiting time on intention to attend child and adolescent psychiatric clinics. *Psychiatric Bulletin, 24*, 211-213.
- Gallucci, G., Swartz, W., & Hackerman, F. (2005). Brief Reports: Impact of the wait for an initial appointment on the rate of kept appointments at a mental health center. *Psychiatric Services, 56*(3), 344-346.
- Holt, W. (2010). *The Massachusetts child psychiatry access project: Supporting mental health treatment in primary care. The Commonwealth Fund*. Publication 1378, Vol. 41, Retrieved from: [http://www.commonwealthfund.org/~media/Files/Publications/Case%20Study/2010/Mar/1378\\_Holt\\_MCPAP\\_case\\_study\\_32.pdf](http://www.commonwealthfund.org/~media/Files/Publications/Case%20Study/2010/Mar/1378_Holt_MCPAP_case_study_32.pdf)
- Illinois Osteopathic Medical Society. Specialty Codes. <http://www.ioms.org/publicaccess/specialtycodes.htm>
- Kim, W. J. (2003). Child and adolescent psychiatry workforce: a critical shortage and national challenge. *Academy of Psychiatry, 27*, 277-282.
- Kowalewski, K., McLennan, J. D., & McGrath, P. J. (2011). A preliminary investigation of wait times for child and adolescent mental health services in Canada. *Journal of the Canadian Academy of Child and Adolescent Psychiatry, 20*(2), 112-119.
- Merritt, Hawkins & Associates. (2009). *Survey of Physician Appointment Wait Times*. Irving, TX: Merritt Hawkins & Associates.
- Nath, S. B., & Marcus, S. C. (2006). Medical errors in psychiatry. *Harvard Review of Psychiatry, 14*(4), 204-211.
- Ohio Department of Mental Health and Addiction Services, Office of Fiscal Services. 505 Line Item Subsidy Documentation, FY 2012.
- Pfefferle, S. G. (2007). Pediatrician perspectives on children's access to mental health services: consequences and potential solutions. *Administration Policy and Mental Health, 34*, 425-434.
- Pomerantz, A., Cole, B. H., Watts, B. V., & Wecks, W. B. (2008). Improving efficiency and access to mental health care: Combining integrated care and advanced access. *General Hospital Psychiatry, 30*, 546-551.
- Prentice, J. C., & Pizer, S. D. (2007). Delayed access to health care and mortality. *Health Services Research, 42*(2), 644-662.
- Smalley, K. B., Yancey, C. T., Warren, J. C. (2010). Rural mental health and psychological treatment: a review for practitioners. *Journal Clinical Psychology, 66*(5), 479-489.
- Sturm, R., Ringel, J. S., & Andreyeva T. (2003). Geographic disparities in children's mental health care. *Pediatrics, 112*(4), e308.
- Thomas, C. R., & Holzer, C. E. (1999). National distribution of child and adolescent psychiatrists. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*, 9-16.
- Thomas, C. R., & Holzer, C. E. (2006). The continuing shortage of child and adolescent psychiatrists. *Journal of the American Academy of Child and Adolescent Psychiatry, 45*(9), 1023-1031.
- US Department of Health and Human Services. (2011). *Overview of the Uninsured in the United States: A Summary of the 2011 Current Population Survey*.

ASPE Issue Brief. Washington, DC: US Department of Health and Human Services. Retrieved from <http://aspe.hhs.gov/health/reports/2011/CPSHealthIns2011/ib.shtml>

US Department of Agriculture, Economic Research Service. (2007). *Measuring rurality: Urban influence codes*. Washington, DC: USDA. Retrieved from: <http://www.ers.usda.gov/briefing/rurality/ruralurbcon/>



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Queen Brooks

## FAMILY SUPPORT AND CHILD FUNCTIONING: CHILDREN WITH PTSD AND EXTERNALIZING BEHAVIORS RECEIVING MENTAL HEALTH SERVICES

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### INTRODUCTION

Exposure to traumatic events such as physical abuse, sexual abuse, significant emotional abuse and/or neglect, and exposure to natural disasters can cause Post Traumatic Stress Disorder (PTSD; Meiser-Stedman, Yule, Smith, Gluckman, & Dalgleish, 2005). Approximately 14-43% of children have experienced a traumatic event. From the aforementioned group, approximately 3-15% of girls and 1-6% of boys are diagnosed with PTSD (Hamblen & Barnett, 2012). Children who have been diagnosed with PTSD experience some symptoms that are consistent with those displayed by adults with this disorder, such as avoidance of stimuli associated with the traumatic event, hyper-arousal, as well as repetitive play that re-enacts the trauma they have experienced (Caffo & Belaise, 2003). Children diagnosed with PTSD related to trauma may experience problems in behavioral and social functioning, which can linger long

#### Abstract:

Children with Post-Traumatic Stress Disorder (PTSD) and behavior problems are at risk for poor functioning as are their families. This study provides information about the relationship between child functioning and parent perceptions of family support, a critical variable associated with family functioning in a sample of children dually diagnosed with trauma and either conduct problems or oppositional or disruptive behaviors. Clinicians and parents rated child functioning and parents rated their perceptions of family support. Findings indicated that clinician ratings of child emotional and behavior problems were related to lower family support ratings. On the other hand, parent ratings of higher child functioning, which was a measure of adaptation, were positively related to more positive perceptions of family support. Future research examining the relationship between specific interventions to reduce child problem behaviors and improve adaptive functioning and parent reports of family support and functioning will add information to current literature for this high risk group.

**Keyword:** Children with PTSD and Behavior Problems • Trauma and Child Functioning

after the trauma experience (Lonigan, Philips, & Richly 2003). They may often have co-morbid diagnoses, leading to any number of mental health problems, including significant behavior problems (Caffo & Belaise, 2003). Less information is available on the functioning and supports for children with co-morbid diagnoses, and learning more about resilience factors for these youth can promote their functioning.

The purpose of this study was to examine the relationship among family support, an important resilience factor for families with a child with behavior problems, and parent and clinician ratings of child functioning and behavior problems in a sample of children recovering from different

types of traumatic experiences and also behavioral problems (e.g., problems with acting out types of behaviors). Family support can buffer parents as they strive to parent children with significant psychological issues (Fordham, Gibson, & Bowes, 2012; Kutash, Duchnowski, Green, & Ferron, 2011). In addition, family support is linked to child outcomes, such as

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positive child functioning or adaptation post trauma (Trivette & Dunst, 2011). Folger and Wright (2013) discovered that family support was a protective factor when a college student had experienced maltreatment as a child. College students with high family support exhibited lower depression and anxiety (Folger & Wright, 2013). Children with PTSD are likely to exhibit behavior problems, such as disruptive and aggressive behaviors (Westphal, 2012) and have difficulties with adaptive functioning (Carrion, Weems, Ray, & Reiss, 2002). A literature review revealed that research is lacking on the relationship between family support and child functioning in children with PTSD and externalizing behavior problems. The sample for this study was a small group of children diagnosed with both PTSD and either Disruptive Behavior Disorder, Oppositional Defiant Disorder, or Conduct Disorder, who were enrolled in individual treatment in an outpatient community mental health intervention program. It was expected that child functioning would be positively related to family support, whereas child behavior problems would be negatively related to family support.

## METHODS

### Participants

Twenty-four boys and nine girls diagnosed by a mental health clinician as having PTSD and one of three externalizing disorders, Conduct Disorder, Oppositional Defiant Disorder, or Disruptive Behavior Disorder Not Otherwise Specified participated in this study. Twenty-five of the children were Caucasian, and eight were children of color. Mean grade level for this subsample was 4.5 ( $SD = 4.4$ ). Thirty of the children had experienced some form of maltreatment and therefore had

PTSD as their primary diagnosis. Children had experienced different types of trauma: 10 had experienced sexual abuse; seven had experienced physical abuse; five had experienced neglect; six had experienced significant verbal and emotional abuse; and five of the children had experienced three types of abuse in the aforementioned categories. Twenty-two were taking medications for a mental health problem.

### Measures

*Ohio Scales, Clinician and Parent Short Forms* (Ogles, Lambert, & Masters, 1996; Ogles, Melendez, Davis, & Lunnen, 1999). The short forms provide a practical assessment of child functioning (functioning/adaptation and behavior problems) for children between the ages of 5 to 18 years who are receiving mental health services. The behavior problems scale and functioning scale scores, which were used in study analyses, have adequate psychometric properties (Ogles et al., 1999; Ogles, Melendez, Davis, & Lunnen, et al., 2001). The scale assessing child functioning consists of 20 items rated on 5-point scales; the total functioning scores can range from 0-80. The problem behaviors scale consists of 20 items rated on 6-point scales, with a total score range from 0-100. Ogles et al. (1999) reported that parents rated average functioning of children in a clinical sample to be about 42 ( $M = 41.65$ ,  $SD = 16.03$ ) and average problem scores to be about 39 ( $M = 39.35$ ,  $SD = 17.71$ ). In contrast, agency workers rated functioning of children in a clinical sample at about 39 ( $M = 39.94$ ,  $SD = 12.91$ ) and problem scores about 41 ( $M = 41.04$ ,  $SD = 14.40$ ). Lee and colleagues (2009) used the *Ohio Scales* behavior problems and functioning scales with a group of children, with a range of diagnoses, participating in mental health services.

Prior to treatment parent ratings for average behavior problems were 40.4 ( $SD = 20.6$ ) and parent ratings for average functioning was 35.0 ( $SD = 17.3$ ). Case managers' average rating for behavior problems were 40.4 ( $SD = 20.6$ ), and average functioning was 35.0 ( $SD = 17.3$ ). Lee et al. concluded that the ratings were indicative of a need for treatment, indicating behavioral problems and need for improved adaptive functioning.

*Family Support Scale.* This scale was developed by Dunst and colleagues (Dunst, Jenkins, & Trivette, 1984; Dunst, Trivette, & Hamby, 1994) to assess types of support helpful to parents. Areas of support include: support from family members, friends, organizations, and professionals. Parents rate 18 items on 5-point scales assessing the helpfulness of different types of social support and support from professionals in the past six months. The 5-point scale ranges from "not at all helpful" (1) to "extremely helpful" (5). The total support score, assessing overall social support for the family, was used in analyses. Higher scores indicate higher levels of support. The total score on the *Family Support Scale* has adequate psychometric properties (Dunst et al., 1984; Dunst, Trivette, & Deal, 1988; Hanley, Tasse, Aman, & Pace, 1998). This scale has been used extensively to examine parent perceptions of support for the family for children with special needs or disabilities and in studies assessing children's behavioral adjustment (e.g., Fordham et al., 2012; Hastings, 2003; Keller & Honig, 2004).

### Procedures

This study was approved by a university-based institutional review board, and consent was required for participation. Parents provided demographic information for the child.

Clinicians provided the child’s diagnosis. Clinicians and parents rated child behavior problems and functioning on the short form of the *Ohio Scales* (Ogles et al., 1996, 1999, 2001). Parents also completed the *Family Support Scale*. Each scale took about 10 minutes to complete.

**Results**

A regression analysis was used to examine the predictors of family support. Predictors were parent and clinician ratings of child functioning and behavior problems on the *Ohio Scales*. Means and standard deviations for clinician and parent ratings on the *Ohio Scales* and the *Family Support Scale* are presented in Table 1.

The regression analysis predicting family support was significant,  $F(4, 28) = 3.44, p = .021$ . The model predicted 23% of the variance in family support. Regression coefficients are presented in Table 2. Clinician ratings of problem scores and parent ratings of child functioning were significant predictors. Higher problem scores rated by clinicians were related to lower family support ratings by parents. On the other hand, higher ratings of child functioning by parents were related to higher levels of family support (see Table 2). Clinician ratings of child functioning and parent ratings of the

**Table 1. Means and Standard Deviations for Subscales on the *Ohio Scales* and *Family Support***

Area (Variable)	M	SD
Family Support Score	33.63	14.22
Clinician Ratings of Problem Behaviors	33.73	12.03
Clinician Ratings of Child Functioning	38.42	9.29
Parent Ratings of Problem Behaviors	32.52	17.68
Parent Ratings of Child Functioning	41.24	14.03

child’s behavior problems were not significantly related to our dependent variable. The interaction term was not significant and not included in the final model.

**DISCUSSION**

Study results provided some support for the notion that parent ratings of adaptive functioning for children with PTSD and behavior problems is related to parent perceptions of higher levels of family support. Hence, more positive child adaptive functioning may serve as a buffer when a child has experienced trauma and also exhibits behavior problems (Carrion

et al., 2002). This is important because boosting family support may be a long-term protective factor for young adults who have experienced childhood trauma (Folger, & Wright, 2013). Conversely, clinician ratings of child problem behaviors were inversely related to parent ratings of family support. Thus, children with higher levels of problem behaviors may be apt to experience lower family support. Clinician and parent ratings of child problems and functioning were within range of those reported for a clinical sample in the *Ohio Scales User’s Manual* (Ogles et al., 1999), although it was noteworthy that problem scores were somewhat lower than

**Table 2. Predictors of Family Support Scores**

Predictor	Unstandardized Coefficient		Standardized	t	p
	B	Std. Error	Beta		
Clinician Problems*	-.473	.235	-0.400	-2.01	0.05
Clinician Functioning	-.616	.361	-0.4.2	-1.705	0.10
Parent Problems	-.139	.163	-.172	-.852	0.40
Parent Functioning*	.443	.192	.437	2.312	0.028

those for the clinical sample in the *User's Manual*.

Findings are limited in terms of generalizability as this was a small sample and our design was cross-sectional. Longitudinal research providing information about the relations among treatment (including dose or number of therapy sessions), family support, and child functioning will provide additional information to guide the development of interventions. Recruiting a larger sample and gaining more information on type of trauma would allow for the exploration of functioning in children recovering from various types of trauma. Interventions, both at home and at school, that reduce child problem behaviors also may allow the family to cope more effectively and show that they are utilizing their supports effectively, which in turn could result in improved family adaptation and parent-child relationships. Reducing child problem behaviors also may be related to the child being more responsive to therapy to address trauma issues, which would further bolster child adaptation as the child and therapist were able to focus on healing from trauma rather than focusing on child behavior problems. These ideas are speculative, however, and more in-depth research, focusing on the nature of child recovery and the types of therapy services related to successful child functioning, will provide additional information to inform the development of clinical interventions to improve child adaptation and growth as well as family functioning.

## REFERENCES

- Caffo, E., & Belaise, C. (2003). Psychological aspects of traumatic injury in children and adolescents. *Child and Adolescent Psychiatric Clinics of North America*, 12(3): 493-535.
- Carrion, V. G., Weems, C. F., Ray, R., & Reiss, A. L. (2002). Toward an empirical definition of pediatric PTSD: The phenomenology of PTSD symptoms in youth. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41(2): 166-173.
- Dunst, C. J., Jenkins, V., & Trivette, C. (1984). The Family Support Scale: Reliability and validity. *Journal of Individual, Family, and Community Wellness*, 1: 45-52.
- Dunst, C. J., Trivette, C. M., & Deal, A. G. (1988). *Enabling and empowering families: Principles and guidelines for practice*. Cambridge MA: Brookline Books.
- Dunst, C. J., Trivette, C. M., & Hamby D. W. (1994). Measuring social support in families with young children with disabilities. In C. J. Dunst, C. M. Trivette, & A. G. Deals (Eds.) *Supporting and strengthening families: Methods, strategies and practices* (Vol. 1). pp. 152 - 160 Cambridge MA: Brookline Books.
- Folger, S. F., & Wright, M. O. (2013) Altering risk following child maltreatment: Family and friend support as protective factors. *Journal of Family Violence*, 28: 325-337.
- Fordham, L., Gibson, F., & Bowes, J. (2012) Information and professional support: Key factors in the provision of family-centered early childhood intervention services. *Child: Care, Health and Development*, 38(5): 647-653.
- Hamblen, J., & Barnett, E. (2012, December 20) The national center for PTSD. Retrieved from [http://www.ptsd.va.gov/professional/pages/ptsd\\_in\\_children\\_and\\_adolescents\\_overview\\_for\\_professionals.asp](http://www.ptsd.va.gov/professional/pages/ptsd_in_children_and_adolescents_overview_for_professionals.asp)
- Hanley, G., Tassé, M. J., Aman, M. G., & Pace, P. (1998) Psychometric properties of the Family Support Scale with Head Start families. *Journal of Child and Family Studies*, 7(1): 69-77.
- Hastings, R. P. (2003) Behavioral adjustment of siblings of children with autism engaged in applied behavior analysis early intervention programs: The moderating role of social support. *Journal of Autism and Developmental Disorders*, 33(2): 141-150.
- Keller, D., & Honig, A. S. (2004) Maternal and paternal stress in families with school-aged children with disabilities. *American Journal of Orthopsychiatry*, 74(3): 337-348.
- Kutash, K., Duchnowski, A. J., Green, A. L., & Ferron, J. M. (2011) Supporting parents who have youth with emotional disturbances through a parent-to-parent support program: A proof of concept study using random assignment. *Administration and Policy in Mental Health Services Research*, 38(5): 412-427.
- Lonigan, C. J., Phillips, B. M., & Richey, J. A. (2003) Post-traumatic stress disorder in children: Diagnosis, assessment, and associated features. *Child and Adolescent Psychiatric Clinics of North America*, 12(2): 171-194.
- Meiser-Stedman, R., Yule, W., Smith, P., Glickman, E., & Dalgleish, T. (2005) Brief report: acute stress disorder and post-traumatic stress disorder in children and adolescents involved in assaults or motor vehicle accidents. *American Journal of Psychiatry*, 162(7): 1381-1383.
- Ogles, B. M., Lambert, M. J., & Masters, K. S. (1996). *Assessing outcome in clinical practice*. Boston: Allyn & Bacon.
- Ogles, B. M., Melendez, G., Davis, D. C., & Lunnen, K. M. (2001). The Ohio Scales: Practical outcome assessment. *Journal of Child and Family Studies*, 10: 199-212.
- Ogles, B. M., Melendez, G., Davis, D. C., & Lunnen, K. M. (1999) *The Ohio Youth Problems, Functioning, and Satisfaction Scales (Short Form)*. *User's Manual*. Athens OH: Ohio University.
- Trivette, C. M., & Dunst, C. J. (2011). *Measuring outcomes for young children and their families*. *Outcome indica-*

tors for everyday kids, everyday lives: a vision for Pennsylvania's children. Morgantown NC: Smoky Mountain Research Institute.

Westphal, E. L. (2012). *A comparative analysis of the Child Behavior Checklist scores of traumatized youth with and without Post-Traumatic Stress Disorder relative to non-traumatized controls*. Dissertation from Columbia University. Publication Number 3491423. Downloaded from <http://hdl.handle.net/10022/AC:P:12370>.

## SAVE THE DATE!

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\*Note: Mention of any project, service or event does not constitute endorsement by the Ohio Department of Mental Health and Addiction Services



National Recovery Month  
Prevention Works - Treatment is Effective - People Recover  
SEPTEMBER 2015

JOIN THE VOICES FOR RECOVERY

visible, vocal, valuable!

#### National Recovery Month

Every September, SAMHSA sponsors Recovery Month to increase awareness and understanding of mental and substance use issues and celebrate the people who recover. Recovery Month spreads the positive message that behavioral health is essential to overall health, that prevention works, treatment is effective and people can and do recover.



#### Make History: Unite to Face Addiction

On October 4, 2015, the **UNITE to Face Addiction** march and rally on the National Mall in Washington D.C. will bring people from across the country together to end the silence about addiction.

for information contact: Laurie Krom, Co-Director of the ATTC Network  
email [kroml@umkc.edu](mailto:kroml@umkc.edu) or call 816-235-6985  
Website: <http://www.attcnetwork.org>

#### Get your **UNITE to Face Addiction** toolbox

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## EXPLORATORY STUDY ON THE EFFECTS OF PARTICIPATION IN A RECOVERY MALL AT STATE-OPERATED BEHAVIORAL HEALTHCARE INPATIENT HOSPITAL

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### BEHAVIORAL HEALTHCARE

We proposed an exploratory study on the effects of participation in a treatment mall. We interviewed currently enrolled patients at the Recovery Mall at a state-operated behavioral healthcare hospital in Ohio. Treatment malls are an increasingly popular approach to rehabilitation of inpatient populations (Webster & Harmon, 2006). The popularity of the approach is based on the theory that empowerment of the consumer to participate in decision-making will aid in restoring functioning and return to community living (Rahe, 2001). Treatment malls offer multiple simultaneous therapeutic activities, allow the involvement of consumers in making choices about their treatment plans and their daily living activities, and provide a more normalized environment. Patients have to leave their home units to seek out opportunities to participate in community life activities such as going to the bank, hair salon or chapel; socializing; and making their own food choices.

Although there are sound reasons to believe that the treatment mall ap-

proach will provide patients with a basis for developing skills and knowledge they need for community living, to date there has been limited research on the effects of treatment mall approaches on psychosocial rehabilitation (Boppe, Ribble, Cassidy & Markoff, 1996; Tuit, 2005). Most early efforts have been qualitative studies that have examined staff and patient satisfaction with the approach (Tuit). More recently quantitative outcome data have begun to emerge. Dhillon and Dollieslager (2000) found that following implementation of a treatment mall model in a public psychiatric hospital in Virginia, staff reported better morale, improved individualization of treatment, and enhanced interdisciplinary collaboration. They also found that treatment consumers reported a better understanding of their illness, medication needs, and discharge plans.

The Wright State University research team sought to provide evidence of the effects of a treatment mall approach on recovery-related variables from the perspective of the patient. We developed a structured near-exit interview protocol and carried it out with 24 patients who were currently enrolled at the Recovery Mall at a state-operated behavioral healthcare hospital and who were identified as being close to discharge. We saw the research as an initial

step in the development of a methodology for more comprehensive outcome research on the effectiveness of the treatment mall approach.

Our original research questions were:

1. What are the effects of participation in the Recovery Mall on patient perceptions of therapeutic alliance?
2. What are the effects of participation in the Recovery Mall on patient understanding about their illness, their knowledge about their prescribed medications, and their self-reported following of medication regimens?
3. What are consumer perceptions about participation in the treatment mall and its effects on their self-reported behavior changes?
4. Do these effects differ by frequency of attendance, length of stay, or by type of commitment (i.e., civil vs. criminal)?
5. How do self-reported behavior changes compare to Recovery Mall treatment records?

#### Acknowledgment

We would like to acknowledge the excellent cooperation we received from the Behavioral Healthcare Hospital in carrying out this project.

## METHOD

Participants enrolled in this study were inpatients at a state-operated behavioral hospital. Because participants were inpatients, the study had numerous practical constraints for which the design had to accommodate. For example, very few civil-committed patients were referred to us for interviews. As a result, we could not conduct any analysis of effect differences by type of commitment. We also modified our intent to review treatment records. After consultation with staff, we realized that we could not compare self-reported behavior change to change reflected in treatment records effectively. Any inpatient who had been recently involved in major behavioral incidents would not have been referred to the study since such incidents would make them ineligible for discharge. We opted instead to have staff provide ratings and verbal commentary on progress for each interviewed participant. Also, we had intended to include the concept of therapeutic alliance, typically considered to be an agreement between the client and therapist on treatment goals and tasks to achieve goals as well as the personal bond between therapist and client. In discussions with hospital staff, it became clear that this measure was inappropriate for participants since an individual sees multiple therapists. Indeed, during the interviews, the majority of participants referred to therapists as “treatment team” or “hospital staff” rather than “my therapist”. Finally, we had intended to interview 32 participants but could only complete 24. In the last few days on which we were scheduled to conduct interviews, it became increasingly difficult to find patients to interview. Hospital staff indicated that this difficulty was a result of interviewees having to be drawn primarily

from two units. There were fewer and fewer participants who met the criteria for participation. We were also getting redundant information from the participants. With Ohio Department of Mental Health and Addiction Services (OhioMHAS) and the hospital approval, we stopped interviews at 24.

To construct the interview questions, we reviewed a variety of existing instruments, including, among others, the Illness Management Recovery Toolkit developed by Gingerich and Mueser (2003), the Personal Vision of Recovery Questionnaire created by Ensfield (1998), the Working Alliance Inventory developed by Horvath and Greenberg (1989), and the Multnomah Community Ability Scale, a self-report treatment outcome assessment instrument for mental health service consumers developed by O’Malia, McFarland, and Barron (2002). From these instruments, we selected items relevant to our study, deleted redundant items, and constructed an initial set of questions.

In the spirit of community participatory research, we also did three group interviews with hospital staff (one with Occupational Therapists, one with Psychology staff, and one with SAMI and Social Work staff) to elicit input as to what questions staff would like to include in the interview instrument. Staff also provided information that assisted us in modifying the original research design. Staff suggestions for questions were combined with items identified through the literature review to create a draft instrument for inpatients. We then circulated the complete set of questions to hospital staff and the research team and asked them to rate each question as High, Medium, or Low Priority. For the final step, we selected questions rated by most respondents as High Priority and worked with a staff psy-

chologist on question wording to ensure that patients would be able to understand and respond to the questions.

Hospital and OhioMHAS staffs reviewed the research protocol, including human subjects’ protection. Wright State University IRB approved the research design.

We familiarized hospital staff with the project through group informational sessions. We also distributed to them a one page project summary that included inclusionary and exclusionary criteria for the inpatients to be interviewed. Our inclusionary criteria included: anticipated release within 2-3 months of interview; stable enough to participate in an interview; and cognitively capable of answering simple questions. Exclusionary criteria included inpatients who were actively psychotic, violent, or mentally retarded with a low level of functioning.

Hospital treatment team staff identified potential participants and provided them with information about the project. If the inpatient agreed to be interviewed, staff obtained informed consent and completed a demographic information sheet on the inpatient that included a therapist rating of progress on a 5-point scale.

An interview process was developed. A hospital liaison was assigned to assist with arranging the interviews and with carrying out the logistics of interviewing the inpatient. As part of the process, interviews were scheduled to be completed on Wednesday mornings. On the day of the interviews, hospital staff provided us with a list of interviewees, their demographic information and rating sheet, and the signed informed consent form. A monitor brought the interviewee to a private room where the interview was conducted. Two members of the

research team participated in each interview, one conducting the interview and one taking notes. We began each interview by introducing ourselves, discussing why we were there, reminding them of the purpose of the interviews, and verifying that they had signed an informed consent form. In addition to the PI and Co-PIs, a Graduate Research Assistant (a doctoral student from the School of Professional Psychology) participated in the interviews. No interview lasted more than an hour, and we typically completed two to four interviews per visit.

## RESULTS

### *Demographics*

Twenty-four people participated in the interviews. There were 19 males and five females, ranging in age from 23 to 68 with an average age of approximately 41. Fourteen interviewees were African American, and 10 were European American. Twenty-two were criminal commitments, and two were civil commitments. The participants had an average of three prior commitments (range 0-20+). The length of time of the participant's current admission ranged from less than one month to over three years. Ten had been hospitalized for more than a year.

### *Functionality*

A therapist measured each patient's functionality prior to the interview. The scale ranged from "1" to "5" with "1" meaning no behavior change since admission and "5" meaning significant behavior change since admission. No inpatient with a score of less than "2" was referred for an interview. The average functionality score was 3.68, with 91% of the interviewees scoring "3" or above. Although these

scores did provide some screening, we found that inpatients were not always at a high level of functionality. Whether it was a result of medications or anxiety about the interview or a change in circumstances, many interviewees seemed to have difficulty focusing and answering the questions. Because of this, when we analyzed the interview results, we took the entire interview into account, not just the immediate response to a specific question. For example, we asked whether the opportunity to socialize was helpful. While many interviewees addressed that issue, they did not always address the issue as a response to the specific question regarding the opportunity to socialize. Rather, we read the entire interview to determine if the interviewee said that the opportunity to socialize was helpful.

### *Interview Question Responses*

We summarized responses by question, and results are presented in the following paragraphs. Percentages were calculated using the number of people who responded to the question as the denominator. The total number of responses frequently exceeds the number of interviewees because all relevant responses were included even when they came from the same respondent.

#### *Question 1: Please think back to the time when you first came to the [hospital]. Have you changed since then?*

Seventeen of twenty-four respondents (70.8%) indicated that they had changed. Two indicated that they did not feel they were better, and five did not answer the question. Several people gave "before and after" profiles of themselves (e.g., "I heard voices before I got here but not now").

Table 1 summarizes the emerging themes for Question 1. The primary theme was **medication**, named by 12 of 17 inpatients (70.5%). The majority of comments were about positive effects of the medication, with six comments specifying that the medication calmed or stabilized the participants. Two said more generically that the medication made them "feel better." Four patients mentioned their increased knowledge about their medications, their increased understanding of the need to stay on the medications prescribed, or their newly gained understanding of the need not to mix these drugs with alcohol. Two patients complained about the medication's side effects. One said that the medications made his/her energy level low. Another indicated that the medication gave him/her hand and body tremors (borne out by observation of him/her during the interview).

A secondary theme, mentioned by six of 17 (35.2%) respondents was **better social relationships**. These patients indicated having a greater comfort level in talking to other people, more acceptance of differences in others in their peer group, and pleasure in socializing. For instance, one respondent noted: "I am more accepting of others that are different."

#### *Question 2: Has participating in the Recovery Mall helped you to understand what causes the symptoms of your mental illness and how to deal with the symptoms?*

Thirteen respondents indicated that the Recovery Mall helped them cope with their symptoms. Only one participant definitively answered no to this question. The participant commented, "It has not helped me under-

stand my illness. It is more a measure of responsibility and maturity. It helps to show if you are responsible enough to handle it, you earn responsibility based on behavior and only make it to the treatment mall if you behave and are stable. It is a measure of progress and behavior, not of illness.”

Three subjects indicated that they did not believe they have a mental illness, and two of these three respondents blamed other causes for their hospital commitment. One indicated that he/she had had a substance-abuse related incident and that he/she has been an alcoholic for a long time. Another said, “I don’t have a mental illness. I’ve just got a bad family.”

Seven respondents did not directly answer this question. While most of these respondents made comments relevant to their experiences at the hospital, they were unresponsive to the question of whether or not their hospitalization had helped them understand the symptoms of their mental illness. One respondent noted: “Yes. I understand that I like to watch others. It gave me a goal, to get the green badge. Mealtime is fun. The birds are nice to watch.”

**Question 3: What things at the Recovery Mall have helped you get better?**

According to 13 (54%) of the 24 participants, **participation in therapy groups** was the most helpful contributor to getting better. Several patients identified specific benefits to group therapy participation, including contributing to motivation, help in being less withdrawn, learning things about their illness, and understanding coping mechanisms. Two participants gave particularly powerful statements about participation in group therapy:

**Table 1. Question 1 Responses: Please think back to the time when you first came to [hospital] . Have you changed since then?**

Issue	# of Respondents
<i>Medication</i>	17
<i>Better social relationships</i>	6
<i>Learned about myself/figured out my life</i>	3
<i>Developed trust with staff</i>	3
<i>Learned to communicate better</i>	2
<i>Learned patience</i>	2
<i>Became calmer</i>	2

**Table 2. Question 3 Responses: What things at the Recovery Mall have helped you get better**

Facilitator	# of Respondents
<i>Participation in Therapy Groups</i>	13
<i>Socializing with a Peer</i>	7
<i>Freedom of Choice</i>	5
<i>Stabilized on Medications</i>	4

“Groups have been a life saver.”

“Groups give me something to live for.”

**Question 4: Do the groups offered at the recovery mall help you get better?**

Sixteen respondents (66.7%) indicated that groups helped them get better. Two (8.3%) indicated that groups did not help them get better. Two others (8.3%) seemed to indicate that groups helped them get better, although they did not directly answer the question. The other respondents either gave no clear answer, or they just listed groups in which they participated.

Several themes were mentioned in response to this question. One theme related to how the groups helped the respondents **understand issues relat-**

**ed to their legal cases.** One respondent noted: “Groups give information on my legal status and what you need to know relative to NGRI”. Another theme dealt with how **the groups help the respondent learn.** According to one respondent, “[g]roups are great as you learn something.” A third theme pertained to the **social aspects of the group.** For instance, one respondent commented that “[g]roups help you interact[,]” while another mentioned that “[y]ou are able to discuss things with other patients.”

**Question 5: What groups do you find most helpful?**

The group with the highest number of responses was SAMI with seven participants mentioning this group. Two respondents each mentioned the following groups: Restoration to

Competency, AA/NA, Voices/Schizophrenia, Responsible Adult Development, and Computer Class. The groups mentioned by one respondent are as follows: Religion and Spirituality, Mind Over Mood, Weighing the Cost, Boys to Men, What Can I Do?, Living Skills, Anger Management, Tai Chi, Meditation, Recovering from Trauma, Music, Community Reintegration, Sewing, Occupational Therapy, Behaviors of Use, Relationships, Metaphors for Recovery, Recovery Check-in, and Rights, Rules, and Responsibilities. Participants also specified enjoying fitness classes and activities and visits to the library.

**Question 6: *If you had a positive experience participating in a particular group in the recovery mall, was it due to what you did in the group, or was it due to the person who was leading the group?***

Five respondents (20.8%) stated that their positive experience was due to the leader. Three respondents (12.5%) indicated that it was due to what they did in the group. Nine respondents (37.5%) stated that it was due to both the leader and what they did in the group. Two respondents (8.3%) indicated that their positive experience was due to the inpatients themselves. Five respondents (20.8%) did not give a clear answer.

Respondents made several comments on the qualities of a group leader that contribute to making a group good or bad. According to one respondent, “[t]he key to a good leader is to direct the class. Do not depend on the participants.” Another commented that “[i]t is not good if the leader talks all the time. The group can make up for a bad leader.”

Some participants believed that the group members made an equal or superior contribution to the group. According to one respondent:

“If you have the right make-up, you will have a good group. If you have the right messages but the wrong people, it is not so good. In good groups, you hear other people’s problems. This makes me thankful. I try to help with words/experiences. A good leader equals a good group. A bad leader and good people are not so good. Is laid back, not focused, and people can get away with a lot. A group can compensate for a bad leader.”

**Question 7: *Are the opportunities to talk to other patients or the opportunity to do things like go to the barber or beauty shop helpful for you to get better?***

**Socializing** was a strong theme that was frequently discussed during the interviews and discussed in response to many of the questions. Of the 21 participants who mentioned socializing, 17 or 81% indicated that the treatment mall provided interaction opportunities that the patients did not seek out prior to hospitalization and/or allowed them to work on their socialization skills. One interviewee said: “Yes, in certain ways but you can’t just talk to anybody. You have to have friends and feel open with our friends. You get support and it is more personal.”

Also, inpatients indicated that interacting with patients who they perceived to be worse than them provided a cautionary tale and this was also helpful. For example, one stated, “Yes, I learn from their experience. I can give them advice or support.”

According to four participants (19%), socializing had a negative effect on them. One patient indicated that he/she gets to the point where he/she shuts down and can’t handle being around people who curse and are disrespectful. Another inpatient indicated that he/she was not at the hospital to make friends.

Seven participants directly answered that they found opportunities to do other things, and these opportunities were helpful in their recovery. These opportunities included going to the beauty shop or barber, the commissary, the exercise facility, and the bank. One woman said getting her hair cut makes her feel better as a woman.

**Question 8. *Have you been in other facilities not like the recovery mall? If so, how is the recovery mall different?***

Sixteen interviewees indicated that they had been in other facilities. The most common response was jail (seven participants) followed by the Veteran’s Administration (VA) Hospital (four participants). Most interviewees were vague about whether the Recovery Mall was better than the other facilities. They were clearer on how aspects of other facilities compared to the Recovery Mall. The most frequently mentioned comparison related to activities offered (seven participants). For instance, “a[t] [Recovery Mall], I can read, walk, exercise. There are more options, more responsibilities, you can get a job at [Recovery Mall].”

Six people talked about freedom or flexibility at the Recovery Mall as compared to other facilities. One respondent stated that: “[a]t [RecoveryMall] there is a schedule...you get ready for the day, groups, read, return to unit, read, dinner, community meetings, current events, read, snack, read, talk to parents, bed. [Other] hospital did not have groups, exercise, less flexible. Same people all day.”

Another respondent noted that there was more freedom at VA than at the Recovery Mall and commented that: “[t]he VA had more freedom. You could smoke and there was better food. VA had groups all day. Kept busy from breakfast to 3:30. I was outpatient but did not learn as much about myself as I did here....[Recovery Mall] is great compared to jail but still less freedom than VA.”

Four people discussed comparisons in how the staff treated them at different facilities. These comparisons mainly focused on being treated with respect. For example, one respondent noted: “[y]ou get more respect from the staff here. Facility requires this. Interaction with staff is respectful and there are repercussions if not.”

There were other comments about the safety at the Recovery Mall, privacy, the ambiance and the rules, but there was no emerging theme associated with safety. One participant commented on the separate facilities for men and women. The participant said: “[the other facility] was paradise compared to here because it was coed so it was more of a natural environment. I can’t stand being around all men. There is more fighting and aggression.”

## DISCUSSION

Overall clear themes emerged that cut across the responses to all the questions. The first theme related to medications. Repeatedly, interviewees discussed how they had learned how medications help them to remain stable.

The second theme pertained to the importance of socializing. Although there were a few exceptions, the majority of interviewees felt the opportunity to socialize was important to their recovery. Sometimes this theme involved learning how to socialize and have peer relations, but other times the theme pertained to lessons learned from socializing with patients less functional than themselves. Many interviewees expressed the concern that they did not want to end up like these less fortunate inpatients. Socializing was important to patients both in the formal context of therapy groups and in informal interactions on the unit and at mall venues. Informal interactions appeared to be especially important in the development of trust and as a source of personal support. In the formal settings of groups, many respondents felt that the comments participants made about their own experiences or their observations about issues brought up in the group helped to shape the group process either positively or negatively.

Closely related to the theme of socializing was the issue of credibility of the messenger when there was discussion of personal mental health concerns. Comments on socializing with other inpatients indicated that participants saw value in their peers’ advice because the other person shared his/her symptoms or experiences. In a similar vein, participants in the SAMI groups especially valued group facilitators who had themselves had addic-

tion experiences and thus spoke from personal knowledge. Some female participants also expressed the view that it was important to have a woman leading the Women’s Issues group because a woman was perceived to have greater credibility to direct the discussion.

Many interviewees perceived therapy participation to be an important contributor to recovery. Even before specific questions were asked about groups at the hospital, more than half of those interviewed identified group participation as something that had helped them get better. For these participants, groups served as informational resources (e.g., helping them understand court processes, how much time and money is spent on alcohol or drugs, etc.); as a source of anticipatory guidance on handling life outside of the hospital setting (e.g., learning relapse triggers); as a source of learning life skills; and as a reliever of boredom (e.g. “gives me something to do”).

Treatment malls represent a departure from traditional models of inpatient rehabilitation in their move from unit-based treatment to centralized programming that allows more choice in therapeutic and social activities and more normalized experiences for inpatients that are closer to community living. Professionals working in such facilities have identified the potential benefits of mall interventions for patients as including, among others:

- Opportunities for skills training and support relevant to community living
- Opportunity to experience socialization with a variety of peers resulting in increased ability to form friendships
- Opportunity to engage in many types of group activities that enrich daily life

- Opportunities to become part of a group of peers, resulting in enhanced feelings of acceptance
- Opportunities to function as one would in society, rising at a certain hour, getting dressed, participating in meaningful activities, and living on a schedule (Ballard, 2008).

The majority of participants in this treatment mall research saw themselves as having made progress since their admission to the hospital. Most could identify specific ways in which they had changed and specified the facilitators of change. Many of these identified facilitators mirrored the theoretical benefits acknowledged in professional literature. Socializing with peers was perceived as helping in recovery because of the personal support it offered and its function in peer-administered therapy. Inpatients also appreciated and saw value in the opportunity to participate in a wide variety of group therapeutic and recreational activities and that the treatment mall model broadens these choices from the two or three groups typically offered in unit-based treatment models to more than 20 group options scheduled in the treatment mall. Interviewees also specifically mentioned skills training that transfers to community living (e.g., sewing and cooking classes, learning relapse triggers) as helping prepare them for life after hospitalization. Inpatient perceptions identified in this research thus tend to validate the unique features of the treatment mall as helpful to recovery.

### **Limitations**

Several limitations affected data collection and analysis. First, it was difficult to recruit the number participants needed to reach the target of 32 participants. If this study was a

long-term project, taking place over several years, it may have been possible to obtain more and clearer data. This was a one-year study. During the first six months, we needed to create the research protocol and obtain IRB approval. We only had six months to collect data. Since inpatients are typically at the hospital for several months to several years, there simply were not enough inpatients close to discharge to be interviewed.

A second problem was that many of the inpatients simply were not at a level where they could track the questions and provide clear coherent answers. We went through many iterations of the questions to make them simple, clear, and concise. The problems in obtaining clear, coherent answers were not artifacts of the questions themselves. Rather, the problems stemmed from inpatient issues. The medication may have been at least partially responsible for the difficulties many inpatients experienced in providing clear, concise answers. Although all participants were able to complete the interview and for the most part responded appropriately to the questions, some interviews were very short because respondents had concentration and communication difficulties that appeared to be related to their medications.

Third, although therapists provided ratings indicating the level of the inpatient's functionality, it would have been helpful for us to have completed our own ratings at the time of the interviews. This rating would have provided us with a weighting in which to rank the interviews in terms of the responses' validity. Also, the screening question assessing functionality asked the therapist to rate the level of the inpatient's progress since coming to the hospital. A more targeted question would have addressed how

the therapist assessed the inpatient's overall functionality. It certainly was possible for an inpatient to score a "5", which indicated s/he had progressed significantly since coming to the hospital but not be at a high functioning level. That said, all therapists who referred inpatients for interviews knew the purpose and likely sent only the most functional patients.

### **Future Directions**

Studying inpatient perceptions of the effects of participating in a treatment mall has addressed gaps in the limited literature on treatment malls. To date, data on patient perceptions has examined little more than satisfaction with treatment services. Since the inpatient is the only source of information on the "felt experience" of the treatment mall, it is important to continue efforts to capture their perspectives. Future researchers might consider other methodology options for examining the inpatient's point of view. Since it was difficult in this study to get some inpatients to talk, a series of interviews might be considered rather than a one-time event. This format would allow for the development of trust, rapport, and comfort as well as the inclusion of other interview questions. In the present study, the number of questions was limited so that the interview could be completed within an hour. Additional interview time expanded over several sessions would allow for more in-depth exploration of topics.

This study's original purpose was to be able to provide some way for the hospital to obtain outcome data from inpatients related to the success of the treatment mall, perhaps through a written survey administered near the time of exit. It would have been very difficult to obtain valid survey data from many of the interviewees. Some had trouble tracking during a one-on-

one interview and would likely have been unable to stay focused on a survey. However, if the survey were designed to be very simple, very concrete, and short (approximately 10 items) with easy to understand language, it might be possible to gather data from exiting inpatients. It would be advantageous not to offer too many response options, thus using a 3-point versus a 5-point scale and reading the questions to the inpatients. Response options could be augmented with a graphic to help represent the option. Consider the following example in Figure 1. Developing and using such a scale may allow hospital staff to measure the impact of its interventions using a more quantitative approach.

While the inpatient is an important source of information concerning treatment effects of the treatment mall approach, other perspectives should be included in future research. Interviews, focus groups, or surveys of professional groups providing treatment mall services should be undertaken to gather data on the therapeutic benefits of this approach for patients and whether it increases inpatient involvement in active treatment and advances progress toward goals. Studies might also include qualitative research with nonclinical staff and with inpatient families. In addition to

clinical outcomes research, cost/benefit analysis is needed on the treatment mall model in light of the changes it entails in using staff and resources.

Finally, long-term follow-up studies on participation effects in treatment mall are needed for inpatients returning to community living. Studies should examine adherence to recommended medication regimens, quality of life indicators, and recidivism rates. A 2010 article on treatment malls identified nearly 40 hospital sites that have embraced this model in the past few years (McLoughlin, Webb, Myers, Skinners, & Adams, 2010). The growing acceptance of the treatment mall model needs to be accompanied by a rigorous program of research that both informs its direction and validates its outcomes.

**REFERENCES**

Ballard, F. (2008). Benefits of psychosocial rehabilitation programming in a treatment mall. *Journal of Psychosocial Nursing*, 46, 27-32.

Boppe, J., Ribble, D., Cassidy, J., & Markoff, R. (1996). Re-engineering the state hospital to promote rehabilitation and recovery. *Psychiatric Services*, 47, 697-701.

Dhillon, A., & Dollieslager, L. (2000). Overcoming barriers to individualized psy-

chosocial rehabilitation in an acute treatment unit of a state hospital. *Psychiatric Services*, 51, 313-317.

Ensfield, L. (1998). *The personal vision of recovery questionnaire*. Dissertation Abstracts International, Section B: The Sciences and Engineering, 59, 5-B.

Gingerich, S., & Mueser, K. (2003). *Illness management and recovery implementation resource kit*. Retrieved August 23, 2008 from <http://mentalhealth.samhsa.gov/cmhs/communitysupport/toolkits/illness/>

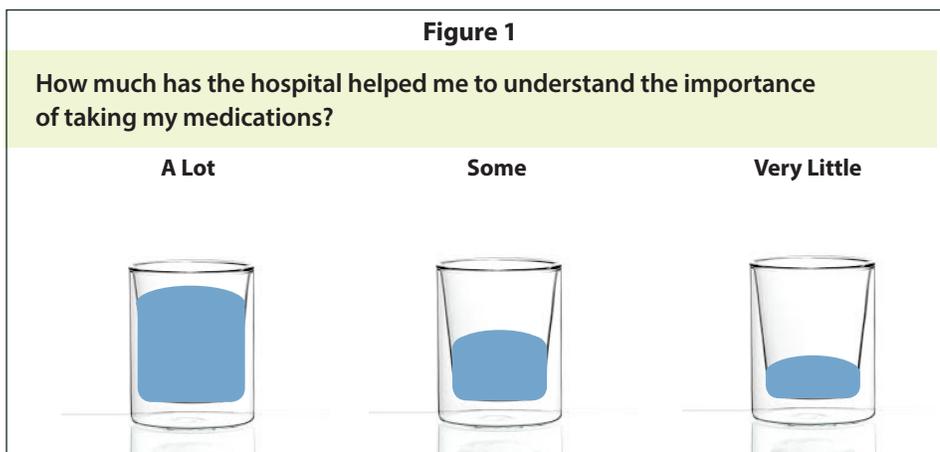
Horvath, A., & Greenberg, L. (1989). Development and validation of the Working Alliance Inventory. *Journal of Consulting and Clinical Psychology*, 36, 223-233.

McLoughlin, K., Webb, T., Myers, M., Skinner, K., & Adams, C. (2010). Developing a psychosocial rehabilitation treatment mall: An implementation model for mental health nurses. *Archives of Psychiatric Nursing*, 24, 330-338.

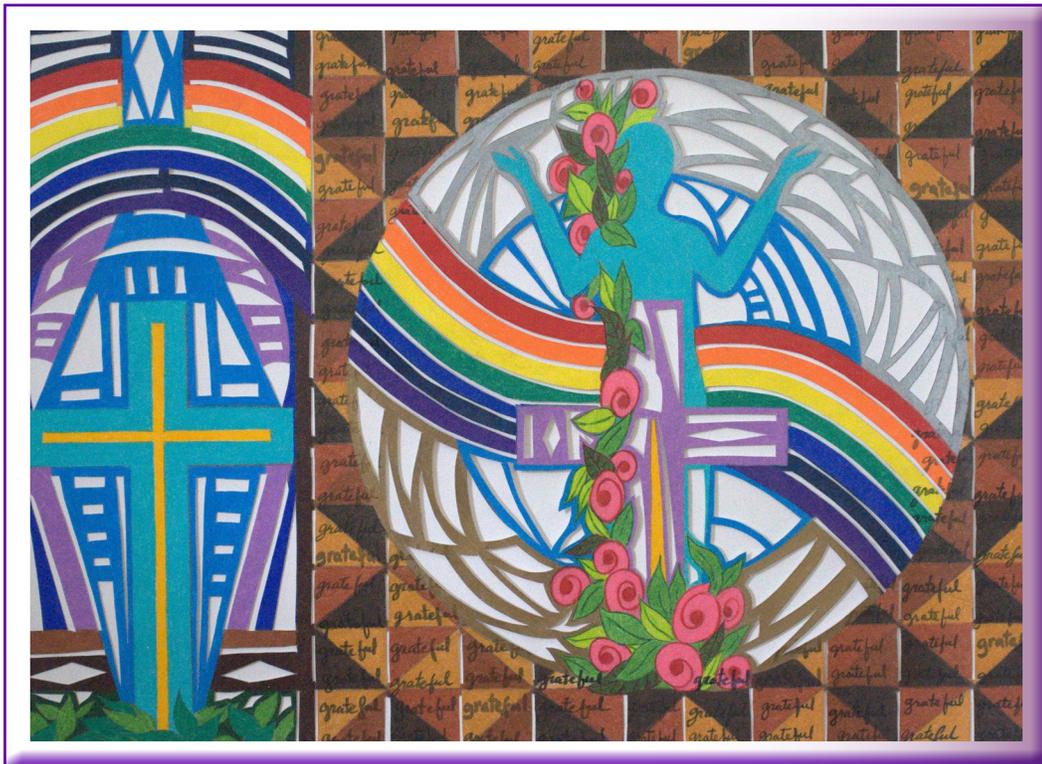
O'Malia, L., McFarland, B., & Barron, N. (2002). A level-of-functioning self-report measure for consumers with severe mental illness. *Psychiatric Services*, 53, 326-331.

Rahe, S. (2001). *Treatment mall for mental health consumers*. Northcoast Behavioral Healthcare. Retrieved April 23, 2008, from <http://das.ohio.gov/HRD/ocpm/projects/projectpdf/23068.pdf>

Tuit, K. (2005). *Re-emergence of psychosocial rehabilitation: Guidelines for evaluation of the treatment mall approach in state psychiatric hospitals*. Dissertation Abstracts International 66 (60B), 3428. (UMI No. AA13178860).



BEHAVIORAL HEALTH IN OHIO:  
TRENDING RESEARCH  
IN THE FIELD



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## MENTAL HEALTH, SUICIDE AND TRAUMA AMONG ASIANS AND PACIFIC ISLANDERS: POLICY INSIGHTS FROM SUBSTANCE ABUSE TREATMENT ADMISSIONS IN OHIO

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### BACKGROUND

Asians and Pacific Islanders (APIs) face widespread treatment and service disparities in the behavioral health system. Nationally, an estimated 529,000 APIs needed but did not receive specialty substance abuse treatment in 2012 [Substance Abuse and Mental Health Services Administration (SAMHSA), 2013a]. APIs, contrary to the model minority myth, are at risk of a range of behavioral health issues. Of the 1.8 million substance abuse treatment admissions nationally in 2010, 19,000 (1%) were APIs, with 64% naming alcohol as a problem (SAMHSA, 2013b). In 2008, less than 5% of Asian American adults received mental health treatment or counseling (U.S. Department of Health and Human Services, Office of Minority Health, 2013). Rates of suicidal thoughts and suicide deaths among API adolescents are concerning [Center for Disease Control ((CDC), High School Youth Risk Behavior Survey Data, 2012)]. In 2009, close to 19%

API students in grades 9 through 12 reported suicidal thoughts (CDC, High School Youth Risk Behavior Survey Data, 2012) and age-adjusted rates for suicide was 5.0% for API adolescents (ages 15-19) (CDC, National Center of Injury Prevention and Control, 2012). The age-adjusted death rates for suicide for Asian Americans were lower (6.3%) compared to Whites (14.3%) (CDC, 2011). Research is lacking especially on suicidal ideation and trauma exposure among APIs in Ohio. This paper analyzes available APIs treatment admission data to explore select disparities related to mental health history, suicidal thoughts, and exposure to trauma.

### METHODS

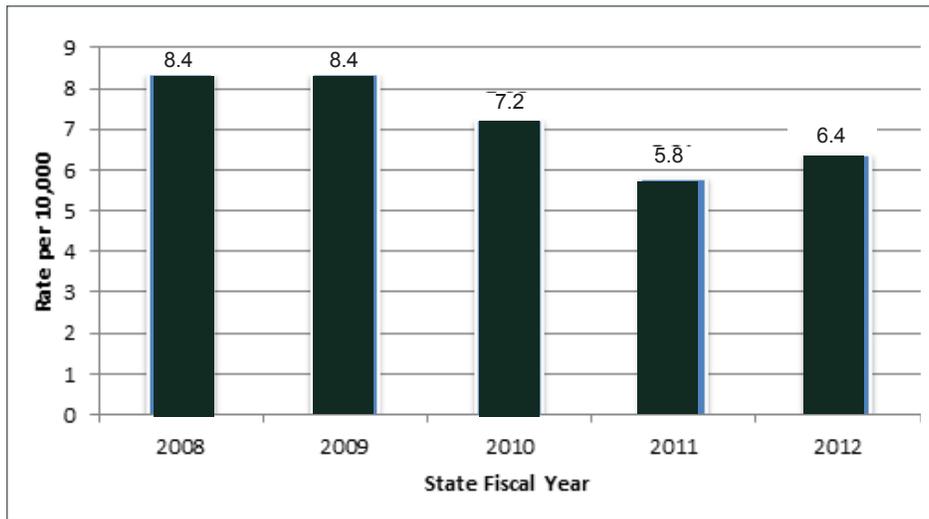
Data for this study were extracted from the Ohio Health Behavioral Health (OHBH) dataset. OHBH collects data on clients seeking substance abuse treatment in the publicly funded programs. For the purpose of maintaining client confidentiality, this study follows the Protected Health Information guidelines of the Multi-Agency Community Services Information System. Data elements include admission, transfer, and discharge on a variety of indicators including demographics, such as age of first drug

use, gender, marital status, education, primary drug of choice, patterns of drug use, levels of care, poly-drug use, mental health history, exposure to violence, episodes of treatment, and treatment outcomes.

This study analyzed unduplicated treatment data on APIs for State Fiscal Years (SFY) 2008 through 2012. For the study purpose, APIs were defined as Asian Americans and Pacific Islanders or Native Hawaiians. Due to the small numbers of API clients when analyzed annually, data for all five years were pooled together, yielding a sample of 593 unique API clients. Data analysis included age, gender, and race/ethnicity disparities to drugs of choice, mental health history, suicidal thoughts, exposure to trauma and violence, and other areas of interest. Every API who was involved in the treatment system was included in analyses and statistically significant differences were reported when possible.

We used bivariate statistical tests (Chi-square analysis [ $\chi^2$ ]) to: (a) explore mental health, suicidal thoughts, and exposure to trauma and violence; and (b) highlight disparate trends in API treatment admission rates by select demographic characteristics and primary drugs of choice. Chi-square

**Figure 1**  
**Treatment Admissions Rate per 10,000 Ohio APIs by Year, SFY 2008 -2012**



Source: OhioMHAS Behavioral Health Data

analyses were performed for the following: (1) treatment admissions by drug of choice and mental health history; (2) mental health history by child of alcohol/drug abuser, victim of domestic violence, and victim of sexual abuse; and (3) suicidal thoughts by APIs (to examine if suicidal thoughts varied substantially across these two populations). SPSS version 21.0 was used for the analyses.

## RESULTS

### *Treatment Admissions*

Select demographic characteristics provide interesting insights on API treatment admissions. (Refer to Table 1). Pooled data for SFY 2008 through 2012 yielded 593 APIs representing a total of 709 treatment admissions in the public behavioral health system. A majority of these APIs were male (64.5%) and single or never married (72.9%). A majority either had a high school education or greater (70%). Asians were more prevalent than Pacific Islanders in the sample (69.6% vs. 30.4% respectively). The average age for API admissions was 31.5 years,

fairly close for both males (31.2 years) and females (32.0 years). During the five-year period, most APIs were admitted to levels of care associated with non-intensive outpatient services (74.9%), followed by pretreatment services (10.8%), intensive outpatient services (6.9%), non-medical community residential services (4.0%), and other services (3.4%). The average length of treatment for APIs was 2.6 months with males staying in treatment longer than females (3.0 vs. 1.9 months respectively). APIs remained in treatment slightly longer than Asians (3.0 vs. 2.4 months respectively).

### *Primary Drug of Choice*

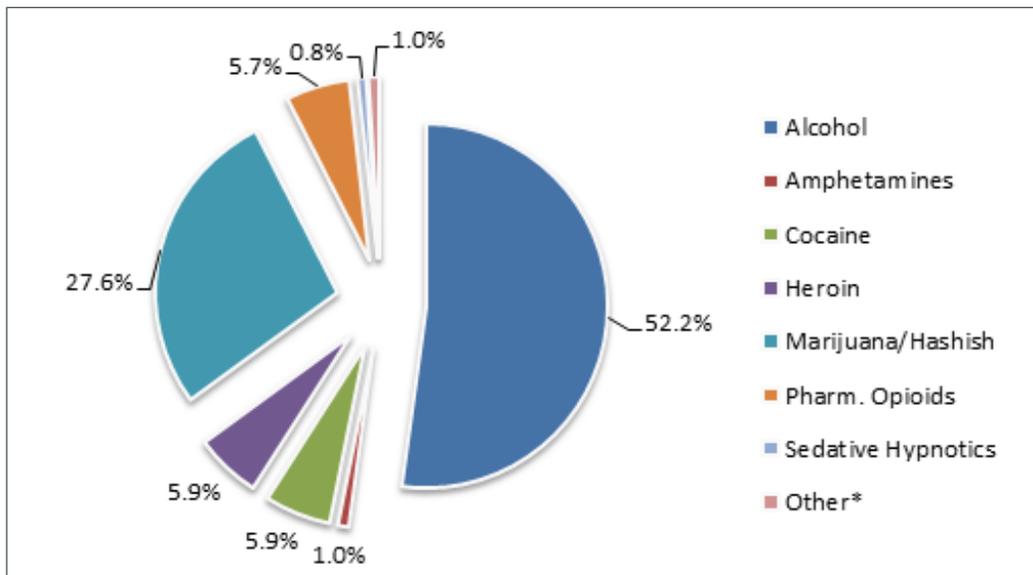
Just over 85% of APIs in treatment reported a drug of choice. When APIs were asked about their primary drug of choice, a majority of clients said they preferred alcohol (52.2%), followed by marijuana (27.6%). Close to 6% each reported cocaine, heroin, and pharmaceutical opioids as their drug of choice. (See Figure 2). Comparably, national 2009 data from the SAMHSA's Treatment Episode Data Set (TEDs) show primary drug of choice of APIs

as: alcohol (39.8%); marijuana/hashish (20.7%), methamphetamine and other amphetamines (20%); heroin/non-prescription methadone/other opiates/synthetics (11.4%); and cocaine/crack (5.8%) (SAMHSA, TEDs, 2013). APIs reporting drug use typically only used one drug (51.1%). Use of two or three drugs was more infrequently reported (32.7% vs. 15.9% respectively). APIs using four or more drugs was rare (0.4%).

### *Mental Health*

Almost 21% of APIs reported a mental health history. Pacific Islanders were slightly more likely to report a mental health history than Asians (21.1% vs. 20.3% respectively). When stratifying mental health history by gender, females were more likely than males to report this history (23.3% vs. 19.1% respectively). Differences were also apparent when examining mental health history by age group. Most APIs (27.4%) reporting a mental health history were between the ages of 45 to 64, while the fewest APIs (17.9%) reporting this history were between the ages of 18 and 24. (See Figure 3).

**Figure 2**  
**API Primary Drug of Choice, SFY 2008 -2012**



\*Other includes nicotine and other medications

Source: OhioMHAS Behavioral Health Data

**Suicidal Ideation**

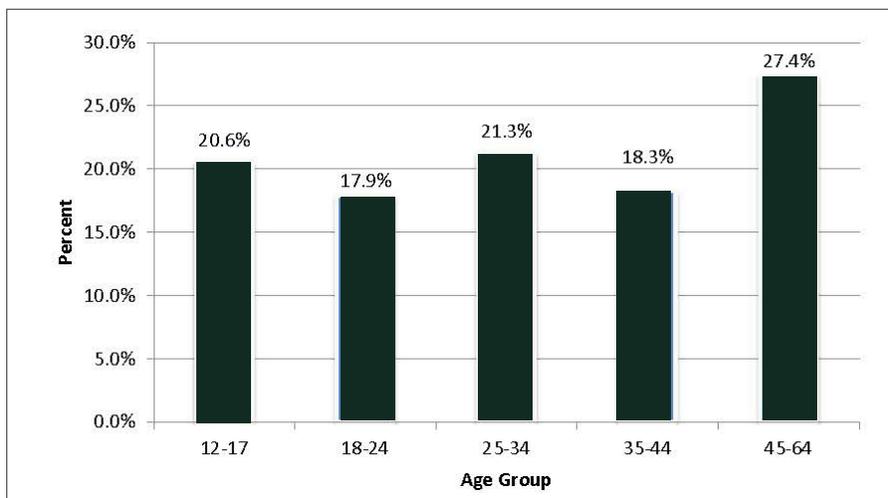
A minority (2.9%) of APIs said they experienced suicidal ideation. Asians were more likely to report suicidal ideation than Pacific Islanders (3.4% vs. 1.8% respectively). This result is similar to the national average (2.8%) of suicidal thoughts for Asians, Native Hawaiians

or other Pacific Islanders (National Surveys on Drug Use and Health, 2013).

There were gender and age disparities in API reported suicidal thoughts. API females displayed rates twice as high for suicidal ideation as their male counterparts (4.6% vs. 2.0%, respectively). APIs between the ages of 45 to 64 had

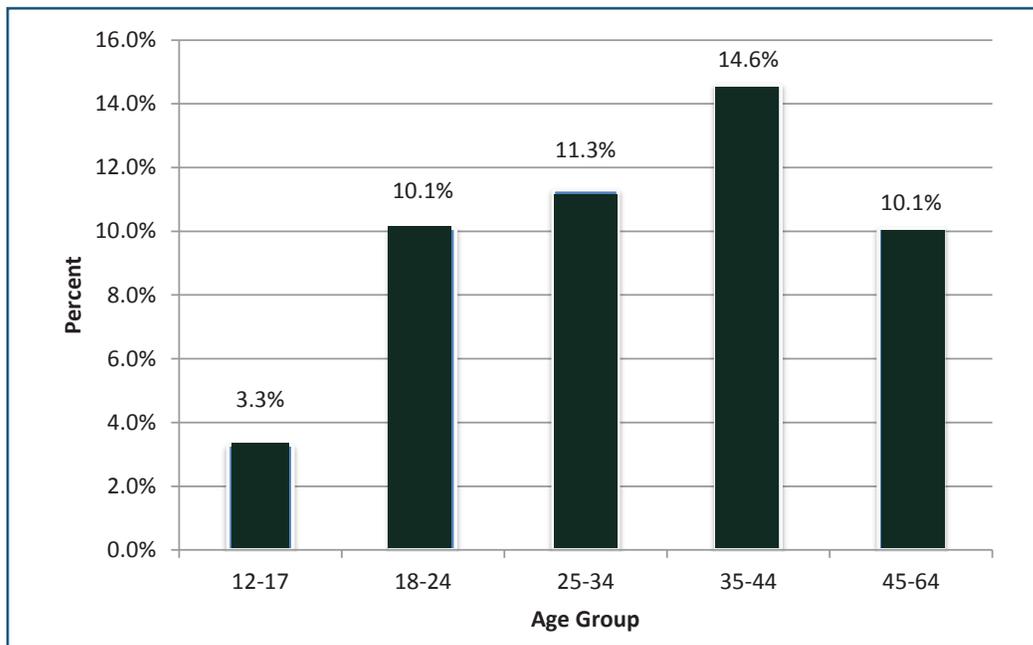
the highest level of suicidal ideation. Suicidal ideation was the same in other age groups (3.3%), with those between the ages of 18 to 24 reporting less frequent suicidal ideation than other age groups (1.4%). It may be worth noting that the Center for Substance Abuse Treatment research highlights higher rates of suicidal thoughts, suicidal plans, and at-

**Figure 3**  
**Percent of APIs Reporting a Mental Health History by Age, SFY 2008 -2012**



Source: OhioMHAS Behavioral Health Data

**Figure 4**  
**Percent of APIs as Domestic Violence Victim or Witness by Age, SFY 2008 -2012**



Source: OhioMHAS Behavioral Health Data

tempted suicides among adults with a past year substance use disorder (Center for Substance Abuse Treatment, 2009).

**Exposure to Violence & Trauma**

According to findings in Figure 4, nearly 11% of APIs reported either being domestic violence victims or witnesses. Pacific Islanders were more likely to be a domestic violence victim or witness than Asians (13.0% vs. 9.7% respectively). API females were twice as likely as API males to be domestic violence victims or witnesses (16.9% vs. 7.3% respectively), which was statistically significant ( $\chi^2(1) = 12.19, p < 0.001$ ). APIs ages between the ages 35 and 44 were the most likely to be victims or witnesses of domestic violence (14.6%), followed by those between the ages of 25 to 34 (11.3%).

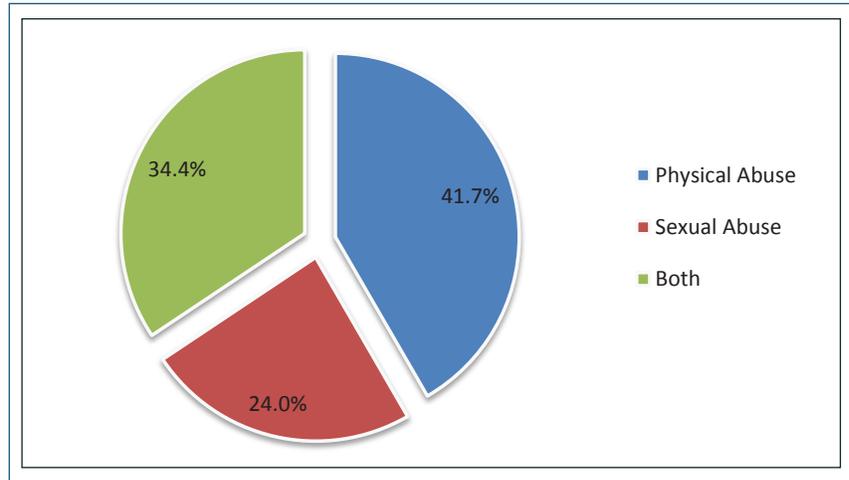
Trauma exposure analysis was based on APIs reported history on sexual and physical abuse. Just over 16% of APIs said they were victims of abuse. Of those APIs who reported abuse, about 42% experienced physical

abuse; 24% experienced sexual abuse; and 34% experienced both types of abuse. (Refer to Figure 5). Pacific Islanders were more likely than Asians to report physical abuse (12.4% vs. 8.9%, respectively) and sexual abuse, (10.1% vs. 6.8% respectively). API females were significantly more likely than API males to experience both physical abuse, (19.5% vs. 4.8% respectively) ( $\chi^2(1) = 30.35, p < 0.0001$ ); and sexual abuse, (14.9% vs. 3.9% respectively), ( $\chi^2(1) = 20.95, p < 0.0001$ ). APIs in the 25 to 34 age group were the most likely people to report some type of abuse (28.3%), closely followed by those 18 to 24 years old (24.5%). APIs between the ages of 35 to 44 and those between the ages 45 to 64 reported similar abuse histories (17.0% and 16.0% respectively), while those between the ages 12 to 17 were the least likely to have experienced abuse (4.7%).

**DISCUSSION AND POLICY IMPLICATIONS**

This paper sought to explore mental health history, suicidal thoughts, and trauma exposure in 593 APIs seeking substance abuse treatment in Ohio during SFY 2008 to 2012. The demographic information is insightful from a policy implication standpoint. The majority of APIs were male (64.5%) and were single or never married (72.9%) and were admitted to non-intensive outpatient services (74.9%). API males stayed in treatment longer than API females. Alcohol, marijuana/hashish, and cocaine were the most preferred drugs of abuse. Just over 16% of APIs reported past physical or sexual abuse, and 11% were victims of or witness to domestic violence. About 21% (more females than males) reported a mental health history with most being between the ages of 45 to 64. As for suicidal ideation, twice as many females (5%) than males (2%) reported having such thoughts.

**Figure 5**  
**Type of abuse experienced by APIs for those reporting abuse, SFYs 2008 -2012**



Source: OhioMHAS Behavioral Health Data

APIs treatment admission results provide adequate support to the fact that preventive efforts should be predominantly targeted towards male who are single or never married and have some formal education. Since close to 75% of API treatment admissions were in levels of care associated with non-intensive outpatient services, the majority of preventive screening and counseling provided to APIs seeking substance abuse treatment should be aligned to this level of care. Concerning API's primary drug of choice, findings indicate that most prevention and treatment programs need to be tailored to reach API clients who are at risk of alcohol and marijuana/hashish use. Also, some level of services should be directed to those abusing cocaine, heroin, and pharmaceutical opioids.

Mental health history findings were insightful from a policy implication standpoint and encourage a broader discussion. One important implication that was especially apparent for API males and APIs between the ages 45 to 64 years was the need for screenings for mental health issues

and referrals to appropriate therapeutic interventions. From a behavioral health disparities framework, it is also critical to understand the socio-cultural barriers among APIs. APIs have been found to be least likely to seek mental health services because of a variety of factors such as stigma, cultural impact of shame, and language barriers. Little is known about the mental health needs of API youth (National Alliance on Mental Illness, 2011). The National Institute on Drug Abuse (NIDA) Strategic Plan (2013) notes that there is a great need to understand better API communities' prevention, treatment and health services needs because: (a) "these populations are perhaps most adversely affected by this stigma, leading to misperceptions about drug abuse and addiction in minority communities," and (b) there are great disparities in drug use outcomes for racial/ethnic minorities. Precisely so, researchers advocate for cultural sensitivity and training to encourage better outcomes (Hernandez, M., Nesman, T., Mowery, D., Acevedo-Polakovich, I. D., & Callejas, L. M., 2009).

Suicidal thought findings for APIs reflect some interesting disparities. Asians were more likely to report suicidal ideation than Pacific Islanders (3.4% vs. 1.8% respectively). API females displayed twice the rates of suicidal thoughts than their male counterparts (4.6% vs. 2.0% respectively). Suicidal ideation was highest amongst those APIs between the ages of 45 to 64. This finding suggests preventive screening should also focus more on API females and older adults. A NIDA-funded longitudinal study (2013) of gender differences in substance abuse treatment outcomes among API clients suggests for a greater treatment focus on psychiatric problems for API women than men. The behavioral health field, however, needs to stay equally cognizant of API adolescent and young adults at risk of serious mental health outcomes, especially given the high rates of suicidal ideation and attempted suicides and outcomes among students in grades 9-12. Disaggregating CDC's High School Youth Risk Behavior Survey (YRBS) 2013 data for Asian students in Ohio, we found that 27 had serious-

ly considered attempting suicide, and 24 had attempted suicide one or more times. For 24 students, suicide attempts resulted in an injury, poisoning, or an overdose that had to be treated by a doctor or nurse during the 12 months before the survey was conducted (CDC, 2013). Hence, it is critical to pay equal attention to preventive measures to educate the API adolescents and young adults and provide early screening and therapy to avoid potential suicide deaths. A SAMHSA report (2009) recommends: (a) routinely screening substance abuse treatment clients for suicidal thoughts at intake as well as at specific points during treatment; (b) screening for clients with high risk factors regularly throughout treatment; and (c) sharing public health information that not only highlight the fact that effective preventive interventions exist but also attempt to reduce the stigma associated with mental and emotional problems and mental health treatment. This is an important policy implication given that in a bivariate analysis between mental health history and suicidal thoughts, we found that among APIs who had suicidal thoughts ( $n = 16$ ), 56% had mental health history.

Exposure to violence and trauma reveals wide ranging disparities in terms of gender, age, and intra-race/ethnicity. API admissions were found to be victims of physical/sexual abuse and domestic violence, to a varying degree thus necessitating additional screening for trauma issues and services. APIs, especially females should be screened for trauma because of the fact that they are significantly twice as likely as males to be either a domestic violence victim or witness to one. They are more likely API males to experience both physical and sexual abuse. Screening should be targeting those APIs between the ages of 35 to 44 followed by those between the ages of 25 to 34, who were most likely to be victims or witnesses of domestic violence. Within APIs, Pacific Island-

**Table 1: Demographics of API Participants**

Demographics	N	Percent*
<b>Gender</b>	<b>592</b>	
Male	382	64.5%
Female	210	35.5%
<b>Race/Ethnicity</b>	<b>593</b>	
Asian	413	69.6%
Pacific Islander	180	30.4%
<b>Marital Status</b>	<b>436</b>	
Single/Never Married	318	72.9%
Married	64	14.7%
Divorced/Separated	51	11.7%
Widowed	3	0.7%
<b>Age</b>	<b>593</b>	
12-17	68	11.5%
18-24	151	25.5%
25-34	164	27.7%
35-44	126	21.2%
45-64	84	14.2%
<b>Education</b>	<b>590</b>	
< High School	187	31.7%
High School/GED	190	32.2%
Trade/Technical School	23	3.9%
Some College/Associates Degree	142	24.1%
Bachelor's Degree	37	6.3%
Advanced Degree	11	1.9%

\*Totals for each variable may not total to 100% due to rounding.

ers should be screened more for trauma given the fact that they were more likely than their Asian counterparts to report physical and sexual abuse and be a domestic violence victim or witness than Asians.

**Limitations**

This study had several limitations. First, even though the data in the OHBH is reported to SAMHSA which creates the national TEDS, the results from this study may not be generalizable to the general population in Ohio

since the API admissions are exclusively from the publicly funded behavioral system and do not represent the total state demand for substance abuse treatment (SMAHSA, Quick Statistics). Second, more than half of the APIs in this study are referred from the criminal justice system, leading to results that may not be similar to APIs in the private health system because of the unique behaviors and/or demographics for the criminal justice population. Third, findings of this study are also vulnerable to several potential forms of bias. Sample bias

is possible in the data because service providers and community Alcohol, Drug, and Mental Health boards may not have contributed information to the OHBH dataset. Social desirability bias may also have affected the findings if APIs told the clinicians what they wanted to hear. Generally, it is more likely that the results underestimate some of the trends in substance use because APIs may not accurately self-report their drug history.

## CONCLUSION

Findings from this study offer important implications for research on prevention and treatment strategies to assist underserved or at-risk APIs. Future studies may be critical to know more. First, this research may spur efforts to examine mental health status and help seeking behavior among Asian immigrants/refugee population in Ohio. Ohio is a home to recently resettled (2,335 in Federal FY 2008-2012) Bhutanese refugees being resettled from Nepal. These refugees are an emergent population for which not much data is available. One recent CDC study highlighted the high levels of suicidal deaths in Bhutanese refugees, 21.5 per 100,000. The age-adjusted suicide rate using the U.S. 2000 population as the standard was 24.4 per 100,000 (Cochran, Geltman, Ellis, Brown, Anderton, et al., 2013). Second, research may explore substance use disorders and/or co-occurring behaviors along with mental health disparities among API population in Ohio. Third, it may be insightful to investigate what percent of APIs are successful treatment completers. This may be critical given their behavioral health issues that make them vulnerable to increased morbidity and mortality. Fourth, research may look into behavioral health disparities to seek insights for the development of culturally-sen-

sitive interventions to help racial/ethnic minorities. Lastly, as one SAMHSA report (2009) succinctly notes, further research needs to focus on “additional factors associated with suicidal behaviors (i.e., race/ethnicity, employment and occupation, and mental health and substance abuse problems) to help guide the development of screening tools and prevention and treatment programs.”

## REFERENCES

Cochran, J., Geltman, P.L., Ellis, H., Brown, C., Anderton, S., Montour, J., et al. (2013). *Suicide and Suicidal Ideation among Bhutanese Refugees — United States, 2009–2012* (Morbidity and Mortality Weekly Report, July 5; [62(26);533-536], Centers for Disease Control & Prevention). Retrieved from: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6226a2.htm>

Centers for Disease Control and Prevention. (2012a). *High School Youth Risk Behavior Survey Data*. Retrieved from <http://apps.nccd.cdc.gov/youthonline>

Centers for Disease Control and Prevention. (2012b). *Fatal Injury Reports, National and Regional, 1999-2011* (Web based Injury Statistics Query and Reporting System). Retrieved from [http://webappa.cdc.gov/sasweb/ncipc/mortrate10\\_us.html](http://webappa.cdc.gov/sasweb/ncipc/mortrate10_us.html)

Centers for Disease Control and Prevention. (2012c). *Health, United States, 2011* (Table 24). Retrieved from [http://www.cdc.gov/nchs/data/11.pdf](http://www.cdc.gov/nchs/data/hus/11.pdf)

Centers for Disease Control and Prevention. (2013). *Youth Online: High School YRBS-Ohio 2013 Results*. Retrieved from <http://nccd.cdc.gov/YouthOnline/App/Results.aspx?LID=OH>

Han, Y., Lin, V., & Hser, Y. (2012). *Gender comparisons of drug abuse treatment outcomes among Asian Americans and Pacific Islanders* (National Institute on Drug Abuse). Retrieved from: <http://www.drugabuse.gov/international/abstracts/gender-comparisons-drug-abuse-treatment-outcomes-among-asian-americans-pacific-islanders>

Hernandez, M., Nesman, T., Mowery, D., Acevedo-Polakovich, I. D., & Callejas, L. M. (2009). Cultural competence: A literature review and conceptual model for mental health services. *Psychiatric Services, 60*(8), 1046-1050.

National Alliance on Mental Illness. (2011). *Asian-American and Pacific Islander mental health report from a NAMI listening session*. Retrieved from [http://www.nami.org/Template.cfm?Section=Multicultural\\_Support1&Template=/ContentManagement/ContentDisplay.cfm&ContentID=115281](http://www.nami.org/Template.cfm?Section=Multicultural_Support1&Template=/ContentManagement/ContentDisplay.cfm&ContentID=115281)

National Institute on Drug Abuse (2013). *NIH health disparities strategic plan, fiscal years 2009-2013*. Retrieved from [http://www.drugabuse.gov/sites/default/files/nida\\_health\\_disparities\\_strategicplan\\_2009-13.pdf](http://www.drugabuse.gov/sites/default/files/nida_health_disparities_strategicplan_2009-13.pdf)

Office of the Administration of Children & Families. (2012). *Refugee Arrival Data (US DHHS, July 17)*. Retrieved from: <http://www.acf.hhs.gov/programs/orr/resource/refugee-arrival-data>

Office of Minority Health. (2013). *Mental Health and Asian Americans* (US DHHS, 2008 data). Retrieved from: <http://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=54>

Ohio Department of Mental Health and Addiction Services. (2014). *Multi-Agency Community Services Information System (MACSIS) Notice of Privacy Practices*. Retrieved from: <http://mha.ohio.gov/Portals/0/assets/Learning/Legislation/2013-notice-of-privacy-practices--macsis.pdf>

Substance Abuse and Mental Health Services Administration. (2013a). *The National Survey on Drug Use and Health Report: Need for and Receipt of Substance Abuse Treatment among Asian Americans and Pacific Island-*

ers. Retrieved from <http://www.samhsa.gov/data/2k13/NSDUH125/sr125-aapi-tx.htm>

Substance Abuse and Mental Health Services Administration. (2013b). *The Treatment Episode Data Set Report, May 28*. Retrieved from <http://www.samhsa.gov/data/spotlight/Spot115-64-percent-alcohol-as-their-problem.pdf>

Substance Abuse and Mental Health Services Administration. (2013c). *The Treatment Episode Data Set Report, May 15*. Retrieved from: <http://www.samhsa.gov/data/spotlight/Spot090APIMethUse2012.pdf>

Substance Abuse and Mental Health Services Administration. (2013d). *The National Survey on Drug Use and Health Report, May 10*. Retrieved from: <http://www.samhsa.gov/data/2K13/Spotlight/Spot118-suicidal-thoughts.pdf>.

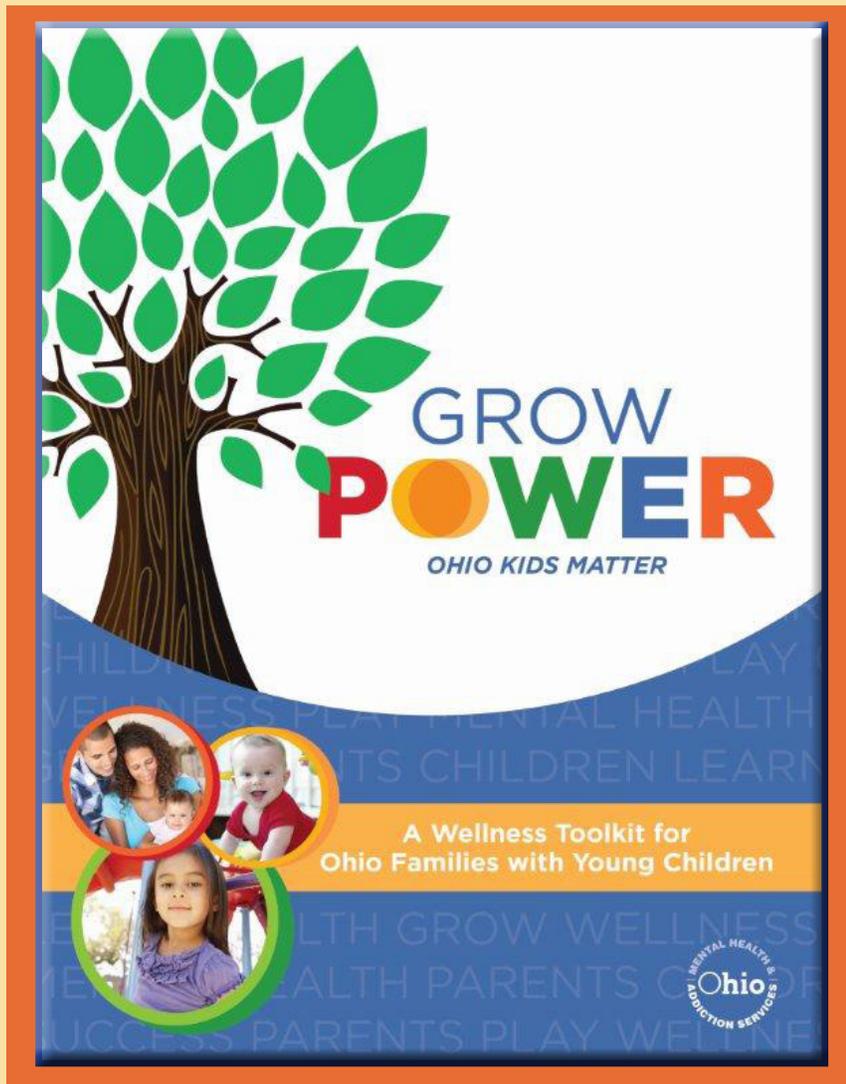
Substance Abuse and Mental Health Services Administration. (2009). *Treatment Improvement Protocol Series 50, HHS Publication No. SMA 09-4381*. Retrieved from <http://store.samhsa.gov/shin/content//SMA09-4381/TIP50.pdf>.

Substance Abuse and Mental Health Services Administration. (2009). *The National Survey on Drug Use and Health Report, September 17*. Retrieved from: <http://oas.samhsa.gov/2k9/165/SuicideHTML.pdf>

Substance Abuse and Mental Health Services Administration. *Quick Statistics from the Drug and Alcohol Services Information Systems*. Retrieved from: <http://www.dasis.samhsa.gov/webt/information.htm>.



## Best Practices Promote Childhood Learning and Wellness



OhioMHAS continues its state agency partnership to implement Ohio's Early Learning Challenge Grant (ELCG). Twenty states were awarded federal funds to better prepare America's youngsters for school success by: increasing the number of low-income children in high-quality learning environments; meeting the needs of children with high needs or disabilities; and improving the training available to early childhood professionals.

Now in year three of the four-year grant, OhioMHAS is continuing to build skills among those who work with young children. Training in Ohio's Early Learning and Development Standards was provided to more than 1,225 early childhood education professionals during SFY14. In addition, OhioMHAS funding of \$1.2 million supported the hiring of 18 early childhood mental health consultants who share their expertise through the ELCG's professional development network. For information about Professional Development Training with an ELCG consultant, contact Dr. Valerie Alloy at 614-728-0251, or reach her email: [Valerie.Alloy@mha.ohio.gov](mailto:Valerie.Alloy@mha.ohio.gov)

To enhance early childhood behavioral health service delivery, OhioMHAS continues to support the use of evidenced-based practices promoting social and emotional wellness, infant mental health and unique community collaborations through innovation mini-grants. The OhioMHAS Bureau of Children and Families developed Grow Power, a wellness toolkit that can help parents, caregivers and behavioral health and other professionals positively affect the growth and development of Ohio's youngest citizens.



**GROW  
POWER**  
BECAUSE KIDS MATTER



**Strong families are the key to helping Ohio's children grow up healthy, ready for school and able to succeed. An important resource of the Grow Power program is the Wellness Toolkit for Ohio Families with Young Children. The contents of the toolkit are listed below . . .**

**1) Early Childhood Mental Health Consultation Brochure**

This informational brochure tells early childhood professionals how to tap into classroom consultations and staff training that support the social and emotional health of children in their care. No fee service.

**2. Guide for Moms, Dads and Other Caregivers**

Wellness tips for parents and guidance for finding a trusted caregiver.

**3) Quality Childcare Brochure for Families**

A how-to guide for finding high quality early learning for children. Research confirms that high quality settings better prepare children for the future.

**4. Pediatric Psychiatric Network Card**

Help for doctors to better serve the social and emotional needs of children. Parents, the phone number listed is for physician use only. Please give it to your doctor.

**5. School to Prison Pipeline Brochure**

Learn the importance of boosting school attendance, improving graduation rates, and maintaining safety in our schools by understanding the "School to Prison Pipeline."

**6) Brain Building Activity Cards**

Fun activity cards for parents to boost baby's brain power.

**7) Health Promotion Consultants Card**

From infant safe sleep to asthma management, learn how Health Promotion Consultants can help you deliver healthy, safe care for infants, toddlers, and preschoolers. No fee service.

**8) Read to Your Child**

Nurture your child's mind and spirit by singing and reading together. Start with this delightful book and a free library card from your local library to find others.

**9) Social Emotional and Development Wheels**

One wheel helps you learn how you can nurture Grow Power and help your child be successful in school and life. Turn the other wheel to get a snapshot of things your child may begin doing at certain ages.

**10) Building Mental Wellness Parents Learning Cards**

These educational cards give parents important information so they can promote social and emotional wellness in their children.

**11) Healthy Eating for Preschoolers – My Place Plate**

What makes up a healthy diet? The United States Department of Agriculture has developed a fun, visual plate for your child to encourage sound eating habits.

**12) Grow Power Growth Chart**

Hang this growth chart in a convenient spot where your child can be easily measured. Place 18 inches from the floor and be amazed at how fast your child grows!

**13) FLIP IT Chart**

For parents – four supportive steps to help children gain better self-control. Find out what they are and how to incorporate them into your parenting.

**EARLY CHILDHOOD MENTAL HEALTH CONSULTATION SERVICES**

Helping Prepare Children for Success

**GROW POWER**  
OHIO KIDS MATTER

OHIO DEPARTMENT OF PUBLIC SAFETY

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# SAVE THE DATE!

2015 CONFERENCES, WORKSHOPS, EVENTS\*

## The New York Association of Alcoholism and Substance Abuse Providers 16th Annual Conference

October 11-14, 2015  
The Saratoga Hilton  
Saratoga Springs



### *Opportunities for Prevention, Treatment & Recovery: Transformation and Innovation for Success*

Through advocacy at the state and federal levels, ASAP champions the urgent message that substance use and problem gambling are public health issues that with adequate resources can be effectively addressed. ASAP offers professional development, program development, technical assistance, and community education to strengthen and increase access to prevention, treatment and recovery support services. ASAP serves as a catalyst for cross systems collaboration with public health, mental health, criminal justice, juvenile justice, child welfare, and social services, policy makers and service providers. This conference is designed for persons interested in effective substance use disorder and problem gambling prevention, treatment and recovery service. Visit the website -- <http://www.asapnys.org/>  
For costs & registration info: Sara Burton sarab@sswmeetings.com (866) 792 - 5399

## 11th Annual Mental Health and Substance Abuse Services Training Conference, Wisconsin Dells, WI

October 21-22, 2015  
Wisconsin Dells, WI



### *Impacting the Future: Partnership for Hope and Recovery*

This is a long-standing, partner-driven conference designed to meet the professional development needs of providers and learn the latest trends and topics from qualified local and national experts.

On Wednesday and Thursday, October 21-22, 2015, Wisconsin will host its premier conference for Mental Health and Substance Use Disorder treatment providers

Full Conference Early Registration Fee: \$190 Single Day Early Registration Fee: \$125

**Consumer Scholarships:** A limited number of scholarships for consumers are available for the 11th Annual Mental Health and Substance Abuse Services Training Conference. Scholarship application materials and explanation of the application process will be available in mid-August. Scholarship recipients are asked to make their own transportation arrangements

Continuing Education Credits (CEUs) can be earned.

## 2015 Annual Forensic Conference, The Crowne Plaza North Hotel, Columbus, OH

November 18, 2015  
Crowne Plaza Hotel  
6500 Doubletree Ave  
Worthington, OH 43229

For information about the 2015 Annual Forensic Conference contact:

Dr. Robert Baker

Forensic Services, Hospital Services

The Ohio Department of Mental Health and Addiction Services

Email: [Robert.Baker@mha.ohio.gov](mailto:Robert.Baker@mha.ohio.gov)

## Ohio Association of County Behavioral Health Authorities Annual Conference on Opiates

May 2-3, 2016  
Conference Site TBA  
For information call  
(614) 224-1111

Learn more about all aspects of opiate and other drug prevention, use, and abuse in Ohio. With policy changes, government restructuring, a continued emphasis on community-based treatment, and advances in the understanding of how to successfully treat mental health and substance abuse issues education and information dissemination is critical.

## Innovations in Recovery 2016, San Diego, CA

April 4 - 7, 2016  
Hotel Del Coronado  
San Diego, CA



Doing something innovative, share your knowledge at the 2016 Conference sponsored by Recovery Foundations Network.

Conference Site: Hotel Del Coronado, San Diego, CA.

For more information visit website <http://foundationsevents.com/innovations-in-recovery/>  
or Contact Jordan Young, Conference Coordinator

\*Note: Mention of any project, service or event does not constitute endorsement by the Ohio Department of Mental Health and Addiction Services

# BEHAVIORAL HEALTH IN OHIO CURRENT RESEARCH TRENDS

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*Promoting Wellness and Recovery*