Attention-deficit/hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD) are two of the most commonly diagnosed disruptive behavior disorders for children and adolescents. While ADHD is characterized by patterns of inattention and/or hyperactive behavior, ODD is characterized by disobedient and hostile behavior, specifically towards adults (American Psychiatric Association, 1994). Children and adolescents diagnosed with ADHD may often have symptoms associated with ODD, and vice versa. For example, a child diagnosed with ADHD who has trouble concentrating and sitting still may be construed as "actively defy(ing) or refus(ing) to comply with adults' requests or rules" (APA, 1994, p. 102), a criterion used in diagnosing ODD. Because of symptom overlap, practitioners and researchers (e.g., Paternite, Loney, & Roberts, 1995; Waldman & Lilienfeld, 1991) have studied the validity of a distinction between the disorders, with varying results.

The Comprehensive Community Mental Health Services for Children and Their Families Program funds communities to develop and sustain community-based, individualized, family-focused systems of care for children with serious emotional disturbance. The national evaluation of communities funded in the years 1997-2000 provides an opportunity to explore the baseline characteristics of youth entering systems of care diagnosed with ADHD and ODD, and to better understand the service use patterns and prognoses of these youth while in systems of care.

### Demographic and Clinical Profile of Youth Diagnosed with ADHD and ODD

ADHD was the most frequently reported diagnosis among children aged 0-22 years with a diagnosis (n = 8,809), with more than one-third of youth (36.5%) diagnosed with ADHD at intake. ODD was another prevalent diagnosis, with one in four diagnosed with ODD. One in 10 youth were diagnosed with both disorders. A subset of youth (n = 3,713) with a diagnosis of ADHD or ODD, not including those diagnosed with both disorders, was examined. The demographic and clinical profile of youth with ADHD (n = 2,299) entering systems of care differed significantly from those diagnosed with ODD (n = 1,424). Youth diagnosed with ADHD were more likely to be boys (81.1% vs. 64.7%), were younger (mean age 11.5 vs. 13), and were more likely to be White (62.5% vs. 58.5%) than those diagnosed with ODD. In addition, youth with ADHD were referred slightly more often from a mental health...
agency (31.1% vs. 27.6) and from schools (24.4% vs. 19.1%), while youth with ODD were more likely than those with ADHD to be referred from juvenile justice (18.2% vs. 13.0%).

The baseline clinical profile of youth diagnosed with ADHD and ODD also differed. Youth diagnosed with ADHD exhibited more problem behaviors, as measured by the Child Behavior Checklist (CBCL, Achenbach, 1991) than did those with ODD. Eighty-four percent of youth who entered systems of care with ADHD scored on the clinical range of the CBCL, compared to 77.3% of those with ODD. Further, the types of problems these youth presented at intake differed by group. Youth diagnosed with ODD presented with higher rates of noncompliance (53.2% vs. 46.6%), physical aggression (50.6% vs. 45.3%), and alcohol or substance abuse (16.6% vs. 10.0%) than did those with ADHD. Conversely, those diagnosed with ADHD were much more likely to present with attentional difficulties (47.3% vs. 25.5%) and hyperactivity/impulsivity (48.4% vs. 26.6%) than were those with ODD.

Service Use Patterns and Outcomes of Youth at 6 Months by Diagnosis

During the first 6 months after entry into a system of care, youth diagnosed with ADHD did not differ from those diagnosed with ODD in the number of service types received (both groups received about six different types of services), in the amount of nonrestrictive service units received, or in the overall restrictiveness of the locations in which they received services. There was a difference in the types of services they received (see Figure 1). Youth diagnosed with ADHD were more likely to receive case management (79.0% vs. 72.1%) and much more likely to receive medication/monitoring (77.8% vs. 50.4%) than those with ODD. Those diagnosed with ODD were slightly more likely to receive an inpatient service (28.5% vs. 22.2%), such as placement in a residential treatment center, than were those with ADHD. And of those who did receive inpatient services, those diagnosed with ODD received a greater amount—an average of 25 restrictive service contacts vs. 17 for those with ADHD.

Six months after intake into a system of care, youth diagnosed with ADHD differed somewhat in their rate of change in total problem behaviors (CBCL) than did those with ODD. Youth with ADHD (n = 767) were more likely to remain stable (57.4% vs. 46.7%) than were those with ODD (n = 390), while those with ODD were more likely both to improve (41.0% vs. 33.1%) and to deteriorate (12.3% vs. 9.5%). (See Jacobson and Truax, 1991, for a description of calculating clinically significant change.)

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Figure 1

Most Frequently Reported Outpatient, Support, and Inpatient Services for Children Diagnosed with Attention-Deficit/Hyperactivity Disorder and Oppositional Defiant Disorder* at 6 Months

<table>
<thead>
<tr>
<th>Service</th>
<th>Outpatient</th>
<th>Support</th>
<th>Inpatient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment or Evaluation</td>
<td>14.4%</td>
<td>77.8%</td>
<td>77.8%</td>
</tr>
<tr>
<td>Individual Therapy</td>
<td>12.4%</td>
<td>87.6%</td>
<td>87.6%</td>
</tr>
<tr>
<td>Case Management</td>
<td>3.0%</td>
<td>13.0%</td>
<td>13.0%</td>
</tr>
<tr>
<td>Family Support</td>
<td>29.4%</td>
<td>17.4%</td>
<td>17.4%</td>
</tr>
<tr>
<td>Recreational Activities</td>
<td>12.6%</td>
<td>40.4%</td>
<td>40.4%</td>
</tr>
<tr>
<td>Any Inpatient Service</td>
<td>30.2%</td>
<td>34.5%</td>
<td>34.5%</td>
</tr>
<tr>
<td>Inpatient Hospitalization</td>
<td>3.2%</td>
<td>2.8%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Residential Treatment Center</td>
<td>1.1%</td>
<td>3.5%</td>
<td>3.5%</td>
</tr>
<tr>
<td>Therapeutic Group Home</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

*This graph details the top three services received from each of the service categories: outpatient, support, and inpatient services.

Discussion

The demographic and clinical differences of youth entering systems of care diagnosed with ADHD and ODD corroborates the notion that these are two different populations with separate needs and challenges. The finding that those diagnosed with ADHD received a higher rate of medication/monitoring is unsurprising, given the numerous studies that document both an increase in prescription of stimulants during the 1990s (e.g., Anonymous, 2000; Hoagwood, Kelleher, Felt, & Comer, 1999), and the efficacy of medication treatments for youth with ADHD over other types of treatments (Anonymous, 2000; Multimodal Treatment Study of Children with ADHD Cooperative Group, 1999). Little has been done thus far to identify the types of services most beneficial for youth with ODD. Future research should focus on identifying effective treatments for this group of youth.

Problem behaviors improved significantly for both groups at 6 months and at 12 months into services. Further, the initial lag in improvement shown by those diagnosed with ADHD at 6 months was overcome at 12 months, suggesting that modifications to service plans made between 6 and 12 months for youth with ADHD were beneficial.

References:


agency (31.1% vs. 27.6) and from schools (24.4% vs. 19.1%), while youth with ODD were more likely than those with ADHD to be referred from juvenile justice (18.2% vs. 13.0%).

The baseline clinical profile of youth diagnosed with ADHD and ODD also differed. Youth diagnosed with ADHD exhibited more problem behaviors, as measured by the Child Behavior Checklist (CBCL, Achenbach, 1991) than did those with ODD. Eighty-four percent of youth who entered systems of care with ADHD scored on the clinical range of the CBCL, compared to 77% of those with ODD. Further, the types of problems these youth presented at intake differed by group. Youth diagnosed with ODD presented with higher rates of noncompliance (53.2% vs. 46.6%), physical aggression (50.6% vs. 45.3%), and alcohol or substance abuse (16.6% vs. 10.0%) than did those with ADHD. Conversely, those diagnosed with ADHD were much more likely to present with attentional difficulties (47.3% vs. 25.5%) and hyperactivity/impulsivity (48.4% vs. 26.6%) than were those with ODD.

Service Use Patterns and Outcomes of Youth at 6 Months by Diagnosis

During the first 6 months after entry into a system of care, youth diagnosed with ADHD did not differ from those diagnosed with ODD in the number of service types received (both groups received about six different types of services), in the amount of nonrestrictive service units received, or in the overall restrictiveness of the locations in which they received services. There was a difference in the types of services they received (see Figure 1). Youth diagnosed with ADHD were more likely to receive case management (79.0% vs. 72.1%) and much more likely to receive medication/monitoring (77.8% vs. 50.6%) than were those with ODD. Those diagnosed with ODD were slightly more likely to receive an inpatient service (28.5% vs. 22.2%), such as placement in a residential treatment center, than were those with ADHD. And of those who did receive inpatient services, those diagnosed with ODD received a greater amount—an average of 25 restrictive service contacts vs. 17 for those with ADHD.

Six months after intake into a system of care, youth diagnosed with ADHD differed somewhat in their rate of change in total problem behaviors (CBCL) than did those with ODD. Youth with ADHD (n = 727) were more likely to remain stable (57.4% vs. 46.7%) than were those with ODD (n = 390), while those with ODD were more likely both to improve (41.0% vs. 33.1%) and to deteriorate (12.3% vs. 9.5%). (See Jacobson and Truax, 1991, for a description of calculating clinically significant change.)

Service Use Patterns and Outcomes of Youth at 1 Year by Diagnosis

Just as at 6 months, at the 1-year mark in a system of care, children diagnosed with ADHD did not differ from those with ODD in the number of service types received (although the average number did decrease for both groups from 6 to 5.5 service types), in the amount of nonrestrictive service units received (no significant change from 6 months to 12 months for either group), or in the restrictiveness of service locations. However, while there had been differences at 6 months between the two groups in the types of services received, at 12 months the only remaining difference was for that of medication/monitoring. A greater percentage of children diagnosed with ADHD (76.8%, n = 504) received medication/monitoring than did those with ODD (52.5%, n = 217). It is interesting to note that while the number of service types received by both groups decreased slightly, the total amount of service units did not decrease from 6 to 12 months. This suggests that systems of care tailored service plans and focused resources after 6 months to provide services deemed most beneficial for individual youth.

One year after intake into a system of care, the difference between children diagnosed with ADHD (n = 533) and those diagnosed with ODD (n = 259) in rate of change in total problem behaviors (CBCL) dissipated. While at 6 months those with ODD were more likely to improve than those with ADHD, at 12 months youth with ADHD were equally as likely to improve, with about two-fifths improving from 6 to 12 months, about half remaining stable, and about 1 in 10 deteriorating in both groups.

Discussion

The demographic and clinical differences of youth entering systems of care diagnosed with ADHD and ODD corroborate the notion that these are two different populations with separate needs and challenges. The finding that those diagnosed with ADHD received a higher rate of medication/monitoring is unsurprising, given the numerous studies that document both an increase in prescription of stimulants during the 1990s (e.g., Anonymous, 2000; Hoagwood, Kelleher, Feil, & Comer, 1999), and the efficacy of medication treatments for youth with ADHD over other types of treatments (Anonymous, 2000; Multimodal Treatment Study of Children with ADHD Cooperative Group, 1999). Little has been done thus far to identify the types of services most beneficial for youth with ODD. Future research should focus on identifying effective treatments for this group of youth.

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References:
Therapeutic Group Home
Residential Treatment Center
Any Inpatient Service
Recreational Activities
Family Support
Case Management
Individual Therapy
Medication/Monitoring
Assessment or Evaluation
Outpatient Services
Support Services
Inpatient Services
Percent
0% 20% 40% 60% 80% 100%
0% 5% 10% 15% 20% 25% 30% 35% 40% 45% 50% 55% 60% 65% 70%
Medication/Monitoring
Individual Therapy
Case Management
Family Support
Recreational Activities
Any Inpatient Service
Residential Treatment Center
Therapeutic Group Home

*This graph details the top three services received from each of the service categories: outpatient, support, and inpatient services.

Figure 1
Most Frequently Reported Outpatient, Support, and Inpatient Services for Children Diagnosed with Attention-Deficit/Hyperactivity Disorder and Oppositional Defiant Disordera at 6 Months

- Medication/Monitoring
- Individual Therapy
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- Family Support
- Recreational Activities
- Any Inpatient Service
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CBCL = Child Behavior Checklist
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The Comprehensive Community Mental Health Services for Children and Their Families Program funded by the Center for Mental Health Services of the Substance Abuse and Mental Health Services Administration provides six-year grants and cooperative agreements to states, political subdivisions of states, American Indian Tribes, tribal organizations, and territories to support the development of community-based systems of care for children with serious emotional disturbance and their families. Systems of care are developed using an approach that emphasizes integration of services through collaborative arrangements between child-serving sectors such as education, child welfare, juvenile justice, and mental health; youth and family caregiver participation; and cultural and linguistic competence of services. The Briefs are published monthly and are sponsored by the Child, Adolescent and Family Branch of the federal Center for Mental Health Services.

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System-of-Care Evaluation Brief:

**Intake Characteristics and Service Use Patterns of Children Diagnosed with Disruptive Behavior Disorders**

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