Trauma and PTSD Among Adolescents With Severe Emotional Disorders Involved in Multiple Service Systems

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Objective: This study examined the prevalence and correlates of posttraumatic stress disorder (PTSD) among adolescents with severe emotional disorders who were involved in multiple service systems. Methods: Sixty-nine adolescents, ages 11-17, and their primary caregivers participated in a system-of-care project in three regions of New Hampshire and were interviewed to determine adolescent trauma exposure, prevalence of PTSD, treatment history, family background, behavioral and emotional problems, functioning, caregiver strain, and strengths and resilience. Results: The rate of current PTSD was 28%, which was underdiagnosed in adolescents' medical records. PTSD was related to gender (42% for girls and 19% for boys; p=.03), history of sexual abuse (61% among youths with sexual abuse and 15% among youths without), chart diagnosis of depression (47% among youths with depression diagnoses and 16% among youths without), and treatment with multiple psychotropic medications (53% among youths prescribed two or more medications and 26% among those prescribed no medication or one medication). Adolescents with PTSD also were more likely to have run away, engaged in self-injurious and delinquent behavior, reported higher anxiety and depression, and functioned worse at school and home than those without PTSD. <u>Conclusions</u>: PTSD is a common but underdiagnosed disorder among adolescents with severe emotional and behavioral disorders who are involved in multiple service systems. Routine screening for trauma exposure and PTSD should be conducted with all adolescents receiving mental health services so that treatment can be provided to those with PTSD. (Psychiatric Services 59:627-634, 2008)

ver the past several decades there has been a growing awareness of the problem of trauma and its consequences throughout the lifespan. Although much attention has focused on the long-term effects of adverse experiences in childhood (1–3), the plight of youths exposed to trauma has also become a major concern. Rates of trauma as low as 16% have been reported among adolescents (4), although a

number of other studies suggest about 40% of adolescents experience a traumatic event before age 18 (5–8).

The high exposure of children and adolescents to trauma has led to efforts to evaluate its impact, including the development of posttraumatic stress disorder (PTSD). General population surveys indicate 12-month prevalence rates of PTSD between .5% and 22% among youths (4,9–11). Even higher rates are reported for

youths exposed to specific traumatic events, such as physical or sexual abuse (11–19), or who are in particular settings, such as jails and detention centers (20–24).

Less research has examined the prevalence of PTSD among adolescents with severe emotional and behavioral disorders. This group presents many treatment challenges because of their frequent involvement in multiple service systems (mental health, school, and juvenile justice systems), the extent of their functional impairments, their high risk for out-of-home residential placement, and their struggle to transition into adaptive adult roles (25). In response to these needs, a system-of-care model was developed to integrate fragmented services into a cohesive, family-driven, community-based system (26,27). Over the past decade the system-of-care model has been widely disseminated and implemented in the United States through the National Evaluation of the Comprehensive Community Mental Health Services for Children and Their Families Program, sponsored by the Center for Mental Health Services (28,29). Grantees are required to implement a standard evaluation protocol to evaluate the outcomes of youths and their families served in the system of care. One recent study drawn from the national evaluation data reported that the rate of childhood physical or sexual abuse was 36% (30). However, the evaluation did not include measures of PTSD symptoms or diagnosis, so the extent of PTSD in this population is unknown.

Examining the rate of PTSD

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among youths served by multiple service systems has potentially important treatment implications. PTSD is frequently undetected in adult populations when specific screening questions are not asked (31). With the strong association between PTSD and poor psychosocial and health functioning among adolescents (7,12, 32-34), the failure to identify and treat PTSD could increase youths' vulnerability to negative mental and physical health outcomes as they transition into adulthood, increasing their burden of chronic PTSD. To address this question, we studied the rate and correlates of PTSD among adolescents with severe emotional disorders who were enrolled in a system-of-care demonstration project in New Hampshire. The study was guided by four hypotheses. First, girls will have higher rates of PTSD than boys, consistent with gender differences in PTSD (35,36). Second, PTSD diagnosis will be most strongly related to history of childhood sexual abuse, consistent with previous research on youths (7) and adults (37,38). Third, the rate of PTSD diagnosis in the medical records of youths will be lower than the rate based on structured clinical interviews. Fourth, youths with PTSD will have a history of more treatment, more severe symptoms and behavior problems, and worse functioning than youths without PTSD.

Methods

The study took place at three community mental health centers in New Hampshire, including two serving rural areas of the state (Berlin and Littleton) and a third serving the largest city, Manchester. All three centers were implementing a system-of-care approach for youths with severe emotional disorders that was specially adapted in the state and called the Community Alliance Reform Effort (CARE NH). A regional collaborative was created in each community to coordinate and integrate planning for the local system of care. The collaborative included a regional coordinator, representatives from local service systems, consumer families, and cultural competence consultation. All youths served by CARE NH participated in an individual and family-centered process to identify and coordinate needed community services and supports (26).

Participants

Eligibility for CARE NH required that the child meet Bureau of Behavioral Health criteria for severe emotional disorder, including being under the age of 21, having an axis I *DSM-IV* diagnosis (39), and having severe functional impairment in more than



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one domain (such as school and home), as determined by the Child and Adolescent Functional Assessment Scale (40). Eligibility also required involvement with two or more state-operated systems that serve youths, including the Bureau of Behavioral Health, Bureau of Special Education, Division of Juvenile Justice Services, Bureau of Developmental Disabilities, Division of Children, Youth, and Families (child protection), Division of Substance Abuse Services, and the Bureau of Early

adulthood.

Childhood Services. Finally, for eligibility the child had to be at risk for placement—or to have been placed—out of the home and community.

The families of all referred youths eligible for CARE NH were invited to participate in a research evaluation at baseline, which was repeated every six months for three years. Project assessments began on October 2, 2000, and ended on October 27, 2005. For youths over age ten this evaluation included an interview with both the primary caregiver and the child. Access to the CARE NH program was provided to all eligible youths and their families regardless of whether they agreed to the research. This article covers youths over age ten who participated in the research assessments. For these assessments, written informed consent for the evaluation was obtained from the caregivers and written assent was obtained from the youths. All study procedures were approved by the institutional review boards of Dartmouth College and the state of New Hampshire.

A total of 150 adolescents were referred to CARE NH, and 118 met eligibility requirements for CARE NH. Among these eligible adolescents and their families, 70 (59%, or 47% of all referrals) agreed to participate in the research. This rate of participation compared with all referrals (eligible and not) is consistent with the 52% rate reported for all system-of-care communities in the national sample for cohort 3 (December 2004 Aggregate Data Profile Report, Macro International, Atlanta). Among the 70 youths and caregivers who participated in the research evaluation, one had incomplete information about PTSD and was dropped from subsequent analyses.

We compared the 69 research participants with the 48 nonparticipants; t tests and chi square tests were used to analyze youth characteristics (gender, age, race, living situation, involvement of specific agencies, referral source, chart diagnoses, child behavior problems, recurring health problems, history of physical abuse, and history of sexual abuse) and family characteristics (biological family history of domestic violence, mental illness, or substance abuse; parental

history of psychiatric hospitalization, substance abuse treatment, or criminal conviction). None of these differences were significant, indicating that the research participants were comparable with the nonparticipants in these characteristics.

Measures

This study was part of the National Evaluation of the Comprehensive Community Mental Health Services for Children and Their Families Program, and all of the assessment instruments (except the Children's Interview for Psychiatric Syndromes [ChIPS], described below) were selected by Macro International, Inc., for the Center for Mental Health Services. Assessments included separate interviews with caregivers and youths.

The Child Behavior Checklist (CBCL) (41) was completed by caregivers to measure the youth's behaviors and symptoms. The CBCL consists of two sections, including the social competence section, which taps information related to involvement in organizations, sports, peer relations, and school performance, and the behavior and emotional problems section, which taps various problems and symptoms. For statistical analyses, we used the total problems score, two broad-band syndrome scores, and eight narrow-band syndrome scores.

The Child and Adolescent Functional Assessment Scale (CAFAS) (40) was used to assess the degree to which a youth's mental disorder or substance use disorder was disruptive to daily life, based on the caregiver's report. The CAFAS uses semistructured interview questions covering eight domains of psychosocial functioning. Section V of the Behavior and Emotional Rating Scale (BERS) (42) was used to assess psychosocial functioning across dimensions of childhood strength and resiliency, based on the caregiver's report. This section includes 52 items, corresponding to interpersonal strength, family involvement, intrapersonal strength, school functioning, and affective strength subscales.

The Caregiver Strain Questionnaire (CGSQ) (43) was used to assess the extent to which the caregiver was affected by the special demands of caring for the youth over the past six months. The CGSQ contains 21 items, from which three dimensions of strain (objective, internalized subjective, and externalized subjective) and a global measure of strain were computed. Higher scores indicate greater strain.

The ChIPS (44) was used to evaluate DSM-IV disorders. The parent version was administered to caregivers, and the child version was administered to youths. The ChIPS is a structured evaluation for trained lay interviewers that yields DSM-IV diagnoses. It is reliable and valid in this population (45), including for the assessment of PTSD. For example, one study reported that PTSD diagnoses based on the ChIPS for a clinical sample of youths were strongly related $(\kappa=.77)$ to diagnoses based on the DSM-III-R Diagnostic Interview for Children and Adolescents (46) and clinician diagnoses (sensitivity rating of 100%; specificity rating of 86%). The ChIPS also elicits information about a wide range of stressful and traumatic events, including questions to determine whether events meet DSM-IV criteria A1 (perceived threat) and A2 (distress) for PTSD. This study focused on current (pastmonth) PTSD diagnosis based on the ChIPS. Because trauma reports and PTSD symptoms are more often underreported than overreported among youths, resulting in discrepancies between caregivers and adolescents, we followed the procedure of scoring PTSD symptoms as present if either the caregiver or adolescent reported them (47,48).

Procedure

Youths were referred to CARE NH by a service provider, family member, or other involved person. Referrals were sent to the regional coordinator for the local CARE NH program at each of the three sites, who conducted an intake interview with the primary caregiver. If the youth had not been a client of the mental health center, a clinical intake also was arranged. Eligible families were then invited by the regional coordinator to participate in the research evaluation.

Families who agreed to participate

provided written informed consent and were scheduled for the caregiver and youth interviews. Interviews were conducted in a location convenient for the family. Interviewees were paid for their participation. Interviewers were people who had a child with a severe emotional disorder or other service needs and who were extensively trained in conducting the interviews. Regular interviewer reliability checks were conducted throughout the project to ensure good interrater reliability.

Statistical analyses

We first examined the relationship between gender, exposure to traumatic events, and PTSD diagnosis by computing chi square analyses. We next evaluated other demographic correlates of PTSD, as well as family history, clinical history, and treatment history characteristics by computing chi square analyses and t tests. Finally, we evaluated the clinical and caregiver correlates of PTSD diagnosis by performing t tests on the CBCL, CAFAS, BERS, and CGSQ scores.

Results

The characteristics of the remaining study sample are summarized in Table 1

Rates of trauma exposure and the prevalence of PTSD are summarized in Table 2. Chi square tests indicated that girls were more likely to have been sexually abused than boys (χ^2 = 7.32, df=1, p=.007) but showed no other differences in trauma exposure. On the basis of the ChIPS, girls were also more likely to have PTSD (χ^2 = 4.56, df=1, p=.03) and to have chart diagnoses of PTSD ($\chi^2=8.92$, df=1, p=.003). Exposure to sexual abuse (but not other traumatic events) was associated with higher rates of PTSD according to the ChIPS, with 11 of 18 (61%) youths with sexual abuse having PTSD, compared with six of 34 (15%) youths without sexual abuse $(\chi^2=12.74, df=1, p<.001).$

Comparisons of adolescents with or without PTSD (based on the ChIPS) indicated no significant differences in any demographic characteristics other than gender but several differences in family history, behavior problems, and treatment history. Parental divorce was related to PTSD diagnosis,

Table 1Demographic and diagnostic characteristics of 69 adolescents with severe emotional disorders

Characteristic	N	%
Age (M±SD) ^a	14.13±1.88	3
Gender Male	43	62
Female	26	38
Race		
White only	61	88
All others	8	12
Current living situation ^b Two parents or caregivers (at least one biological)	26	39
One biological parent only, without a partner	15	23
In a home, not with a biological parent	12	18
24-hour residential (includes juvenile detention		
and corrections centers)	13	20
Annual household income \$0-\$19,999	31	52
\$20,000-\$34,999	11	19
≥\$35,000	17	28
Adolescent behavior problems		
Ran away without caregiver's knowing location	33	49
Attempted suicide History of substance abuse	18 11	27 17
Sexually abusive toward others	10	16
Recurring health problem	37	54
Taking medications for emotional or behavioral problems	51	75
Total number of psychotropic medications taken	10	26
None 1	18 13	26 19
2	23	33
3 or more	15	22
Chart diagnosis		
Posttraumatic stress disorder	10 3	14 4
Other anxiety disorder Mood disorder	3 17	25
Conduct disorder	6	9
Oppositional defiant disorder	31	45
Attention-deficit disorder or attention-deficit hyperactivity disorder	57	83
Global Assessment of Functioning score (M±SD) ^c Family history	48.3 ± 7.6	
Divorce	37	54
Member of household has recurring health problem	44	77
Someone in family is very sick	25	36
Biological family history of mental illness	54	84
Biological parent has ever been in a psychiatric hospital Biological parent has ever been convicted of a crime	21	46 50
Biological family history of substance abuse	34 50	59 77
Biological parent has ever received treatment for substance abuse	21	54
History of domestic violence or spouse abuse	48	75
Experience with services		
Adolescent service experience (past 12 months) Outpatient services ^b	57	86
School-based services	63	94
Day treatment	17	25
Residential treatment or inpatient hospitalization	35	51
Alcohol or substance abuse treatment	9	13
Previous psychiatric hospitalization	30	45
Service system involvement at enrollment Mental health	59	85
Education	66	96
Juvenile justice	20	29
Child protection	16	23
Developmental disabilities	12 37	17 54
	.3/	.)4
2 systems 3 systems	29	42

a Range=11-17

with 15 of 19 (79%) youths with PTSD experiencing parental divorce, compared with 22 of 50 (44%) youths without PTSD (χ^2 =6.76, df=1, p= .009). A history of having run away from home was related to PTSD, with 13 of 19 (68%) youths with PTSD having run away, compared with 20 of 48 (42%) youths with no PTSD (χ^2 = 3.90, df=1, p=.05). PTSD diagnosis was significantly related to chart diagnoses of depression (nine of 19, or 47% of adolescents with ChIPS diagnosis of PTSD had chart depression diagnoses versus eight of 50, or 16% of adolescents without PTSD) (χ^2 = 7.30, df=1, p=.007). Of note is that PTSD diagnosis on the ChIPS was only marginally related to a chart diagnosis of PTSD (five of 19, or 26% of adolescents with a ChIPS diagnosis of PTSD had a PTSD diagnosis in their charts, compared with five of 50, or 10% of youths without a ChIPS assessment of PTSD) (p=.08).

There were no differences in service system involvement or treatment history between the PTSD groups. However, they differed in prescribed psychotropic medications (χ^2 =8.70, df=3, p=.03). Adolescents with PTSD were more likely than those without PTSD to be prescribed medication (two of 19 youths, or 11%, versus 15 of 49, or 31%, respectively) or to be prescribed only one medication (one of 19 youths, or 5%, versus 12 of 49 or 25%, respectively) and were more likely to be prescribed two medications (ten of 19 youths, or 53%, versus 13 of 49, or 27%, respectively) or three or more medications (six of 19 youths, or 32%, versus nine of 49, or 18%, respectively).

The clinical and functional correlates of PTSD on the CBCL and CAFAS are summarized in Table 3. On the CBCL, adolescents with PTSD had higher scores on the narrow-band subscales of anxiety and depression and of delinquent behavior, and they had marginally higher scores on somatic complaints and aggressive behavior. The PTSD group also had higher scores on both broad-band syndrome subscales and on total problems. On the CAFAS, adolescents with PTSD had worse functioning in their home role, moods and emotions, and self-harming behavior,

b N=65

^c Possible scores range from 0 to 100, with higher scores indicating better functioning.

Table 2
Traumatic events and prevalence of posttraumatic stress disorder (PTSD) among adolescents with severe emotional disorders

Trauma exposure	Total sample			Males			Females		
		Exposed			Exposed			Exposed	
	Total N	N	%	Total N	N	%	Total N	N	%
Physically abused	60	29	48	38	17	45	22	12	54
Sexually abused	58	17	29	36	6	17	22	11	50
Witnessed domestic violence	69	35	51	43	24	56	26	11	42
Death of a loved one	69	35	51	43	22	51	26	13	50
Someone close was murdered Someone adolescent likes	69	7	10	43	5	12	26	2	8
was killed in an accident	69	9	13	43	7	16	26	2	8
Meets criteria for PTSD ^a	69	19	28	43	8	19	26	11	42
Chart diagnosis of PTSD	69	10	14	43	2	5	26	8	31

^a As assessed with the Children's Interview for Psychiatric Syndromes

as well as on the total score.

None of the comparisons between the PTSD groups on the BERS or CGSQ subscales were significant. Thus PTSD was not related to caregivers' ratings of adolescents' strengths or resiliency or to caregiver strain.

Discussion

Consistent with the high rate of trauma among these youths with severe

emotional disorder and multisystem involvement, the rate of PTSD was also high, at 28%. This rate exceeds general population estimates of PTSD among youths (4,9–11) and is more in line with the rates reported in

Table 3

Clinical and functional correlates of posttraumatic stress disorder (PTSD) among adolescents with severe emotional disorders

Measure	PTS	PTSD			No PTSD				
	N	M	SD	N	M	SD	t	df	p
Child Behavior Checklist ^a									
Narrow-band syndrome scale	S								
Withdrawn	19	70.21	10.76	48	68.12	9.94	76	65	.45
Somatic complaints	19	68.00	10.41	48	62.91	9.70	-1.89	65	.06
Anxious or depressed	19	74.95	10.61	48	68.92	11.37	-1.99	65	.05
Social problems	19	74.00	11.41	48	71.60	11.19	79	65	.43
Thought problems	19	71.84	10.72	48	71.40	9.80	16	65	.87
Attention problems	19	71.11	10.18	48	71.52	10.40	-1.99	65	.55
Delinquent behavior	19	73.11	8.60	48	67.88	8.38	-2.29	65	.03
Aggressive behavior	19	79.84	11.11	48	74.21	11.26	-1.85	65	.07
Broad-band syndrome scales									
Externalizing	19	76.53	7.88	48	71.65	8.18	-2.22	65	.03
Internalizing	19	72.95	8.07	48	67.88	9.58	-2.04	65	.05
Total problems	19	78.77	6.72	48	73.69	7.92	-2.45	65	.02
Child and Adolescent Functions	al								
Assessment Scales ^b									
School role	18	26.11	8.50	47	25.53	9.28	23	63	.82
Home role	18	30.00	.00	47	25.74	9.03	-3.23	46	.002
Community role	18	8.89	11.32	47	10.85	11.00	.64	63	.52
Behavior toward others	18	22.78	7.52	47	21.70	7.32	53	63	.60
Moods and emotions	18	26.67	4.85	47	20.64	8.95	-2.70	63	.01
Harmful behavior to self	18	20.00	11.88	47	12.13	12.50	-2.30	63	.02
Substance abuse	18	2.78	8.26	47	1.49	5.89	70	63	.48
Thinking	18	10.00	10.29	47	5.74	10.16	-1.51	63	.14
Total score ^c	18	147.22	39.53	47	123.83	37.74	-2.21	63	.03

^a Possible scores range from 0 to 100, with higher scores indicating worse functioning; T scores of 67–70 for syndromes are in the borderline clinical range and scores over 70 are in the clinical range, whereas "total problems" T scores of 60–63 are in the borderline clinical range and scores over 63 are in the clinical range.

b Domains were rated on 4-point scales: 0, minimal or no impairment; 10, mild impairment; 20, moderate impairment; 30, severe impairment.

^c Possible scores range from 0 to 240, with higher scores indicating worse functioning.

studies of abused youths (11–19). Also consistent with prior research, girls were more likely than boys to have a history of sexual abuse and to meet criteria for PTSD (42% versus 19%) (7,30, 49–53), and sexual abuse was identified as the most distressing event linked to PTSD (7,49,54).

Despite the high rate of PTSD detected by the ChIPS, it was much less frequently noted in adolescents' charts. Furthermore, the relationship between chart diagnosis of PTSD and diagnosis based on the ChIPS was only marginally significant, suggesting that PTSD was frequently not diagnosed or was misdiagnosed in the treatment settings. The only chart diagnosis that was significantly related to the interview-based diagnosis of PTSD was depression, which is often comorbid with PTSD among youths (7,12,18,33,49,55).

PTSD diagnosis was correlated with several important problems. Adolescents with PTSD were more likely to have a history of running away from home, consistent with prior research (30,33,56–59), and were more likely to engage in self-harming behavior, also consistent with prior research (59-62). PTSD also was associated with more severe behavior problems and symptoms on the CBCL, including increased anxiety or depression and increased delinquency on the narrow-band syndromes, and internalizing and externalizing symptoms on the broad-band syndromes, as well as more problems with mood and emotions on the CAFAS. These findings are consistent with research showing that PTSD among youths is associated with a wide range of symptoms and problem behaviors (7,17,18,33,63).

PTSD was also related to greater functional impairments on the CAFAS, including worse functioning at home and in school. These associations are consistent with other research on the functional correlates of PTSD among adolescents (12,33,53), as well as studies suggesting that PTSD symptoms contribute to worse functioning among youths (64). However, despite the worse clinical and psychosocial functioning of adolescents with PTSD, caregivers did not perceive them as having fewer

strengths or as posing more burden.

Overall the findings suggest that PTSD is a common but underdiagnosed disorder among adolescents with severe emotional disorders. Although interview-based diagnoses of PTSD were associated with severe problems, chart diagnosis indicated that treatment providers were largely unaware of who had PTSD. The poor recognition of PTSD, combined with its more severe and heterogeneous clinical presentation, may partly account for the high rate of polypharmacy for adolescents with PTSD (88%) compared with those without PTSD (46%).

The findings have potentially important clinical implications. With the high rate of PTSD in this study and the underdiagnosis of PTSD in charts, routine screening for trauma and PTSD with standardized instruments (65,66) should be conducted with all adolescents receiving mental health services. In addition, mental health providers who treat youths need training in empirically validated interventions for PTSD (67,68). More accurate detection and treatment of PTSD among adolescents with severe emotional disorders could reduce the severe symptoms and functional impairments associated with the disorder.

Several limitations of this study should be noted. First, the sample was not large, and we did not control for conducting multiple statistical tests, and thus some of the findings could be spurious. Second, although the racial-ethnic composition of the study sample reflected the communities where the study took place, the sample was predominantly Caucasian. Research is needed to evaluate prevalence of PTSD in a more racially and ethnically diverse population of adolescents with severe emotional disorders. Third, 41% of eligible adolescents and their caregivers declined participation in the study, suggesting that the findings may not generalize to a broader population of similar youths. Of youths with attention-deficit hyperactivity disorder or oppositional defiant disorder, a significantly higher percentage participated in the research than refused. Although it is unclear why youths with

these diagnoses were more likely to agree to participate in the research, the difference suggests that the findings may be more generalizable to youths with these disorders than to youths without. Fourth, the ChIPS was designed for lay interviewers, not experienced clinical interviewers. Although it has acceptable psychometric characteristics for assessing PTSD among youths (45), a more refined diagnostic instrument should be considered in future research.

Conclusions

Despite these limitations, this study was unique in its examination of PTSD among youths with severe emotional disorders involved in multiple service systems. The findings indicated that PTSD is common but underdiagnosed, and it is associated with more severe problems and treatment with more medications. There is a need for greater awareness of the problem of trauma and PTSD among youths with severe emotional disorders.

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References

- Bebbington PE, Bhugra D, Brugha T, et al: Psychosis, victimisation and childhood disadvantage: evidence from the second British National Survey of Psychiatric Morbidity. British Journal of Psychiatry 185: 220–226, 2004
- Duncan RD, Saunders BE, Kilpatrick DG, et al: Childhood physical assault as a risk factor for PTSD, depression, and substance abuse: findings for a national survey. American Journal of Orthopsychiatry 66:437– 448, 1996
- Kendler KS, Bulik CM, Silberg J, et al: Childhood sexual abuse and adult psychiatric and substance abuse disorders in women: an epidemiological and cotwin control analysis. Archives of General Psychiatry 57:953–959, 2000
- 4. Cuffe SP, Addy CL, Garrison CZ, et al: Prevalence of PTSD in a community sample of older adolescents. Journal of the American Academy of Child and Adolescent Psychiatry 37:147–154, 1998
- Boney-McCoy S, Finklehor D: Is youth victimization related to trauma symptoms and depression after controlling for prior symptoms and family relationships? A longitudinal, prospective study. Journal of Consult-

- ing and Clinical Psychology 64:1406–1416, 1996
- Breslau N, Davis GC, Andreski P, et al: Traumatic events and posttraumatic stress disorder in an urban population of young adults. Archives of General Psychiatry 48: 216–222, 1991
- Giaconia RM, Reinherz HZ, Silverman AB, et al: Traumas and posttraumatic stress disorder in a community population of older adolescents. Journal of the American Academy of Child and Adolescent Psychiatry 34:1369–1380, 1995
- Schwab-Stone ME, Ayers TS, Kasprow W, et al: No safe haven: a study of violence exposure in an urban community. Journal of the American Academy of Child and Adolescent Psychiatry 34:1343–1352, 1995
- Costello JE, Angold A, Burns BJ, et al: The Great Smoky Mountains Study of Youth: goals, design, methods, and the prevalence of DSM-III-R disorders. Archives of General Psychiatry 53:1129–1136, 1996
- Kessler RC, Sonnega A, Bromet E, et al: Posttraumatic stress disorder in the National Comorbidity Survey. Archives of General Psychiatry 52:1048–1060, 1995
- Seedat S, van Nood E, Vythilingum B, et al: School survey of exposure to violence and posttraumatic stress symptoms in adolescents. Southern African Journal of Child and Adolescent Mental Health 12:38–44, 2000
- Carrion VG, Weems CF, Ray R, et al: Toward an empirical definition of pediatric PTSD: the phenomenology of PTSD symptoms in youth. Journal of the American Academy of Child and Adolescent Psychiatry 41:166–173, 2002
- Deblinger E, McLeer SV, Atkins MS, et al: Post-traumatic stress in sexually abused, physically abused, and nonabused children. Child Abuse and Neglect 13:403

 –408, 1989
- Famularo R, Fenton T, Augustyn M, et al: Persistence of pediatric post traumatic stress disorder after 2 years. Child Abuse and Neglect 20:1245–1248, 1996
- Famularo R, Fenton T, Kinscherff R, et al: Psychiatric comorbidity in childhood post traumatic stress disorder. Child Abuse and Neglect 20:953–961, 1996
- Lipschitz DS, Kaplan ML, Sorkenn JB, et al: Prevalence and characteristics of physical and sexual abuse among psychiatric outpatients. Psychiatric Services 47:189–191, 1996
- 17. McLeer SV, Callaghan M, Henry D, et al: Psychiatric disorders in sexually abused children. Journal of the American Academy of Child and Adolescent Psychiatry 33:313– 319, 1994
- 18. McLeer SV, Deblinger E, Henry D, et al: Sexually abused children at high risk for post-traumatic stress disorder. Journal of the American Academy of Child and Adolescent Psychiatry 31:875–879, 1992
- 19. Seedat S, Nyamai C, Njenga F, et al: Trauma exposure and post-traumatic stress symptoms in urban African schools: survey

- in Cape Town and Nairobi. British Journal of Psychiatry 184:169–175, 2004
- Abram KM, Teplin LA, Charles DR, et al: Posttraumatic stress disorder and trauma in youth in juvenile detention. Archives of General Psychiatry 61:403

 –410, 2004
- 21. Burton D, Foy DW, Bwanausi C, et al: The relationship between traumatic exposure, family dysfunction, and post-traumatic stress symptoms in male juvenile offenders. Journal of Traumatic Stress 7:83–93, 1994
- Cauffman E, Feldman SS, Waterman J, et al: Posttraumatic stress disorder among female juvenile offenders. Journal of the American Academy of Child and Adolescent Psychiatry 37:1209–1216, 1998
- Steiner H, Garcia IG, Matthews Z: Posttraumatic stress disorder in incarcerated juvenile delinquents. Journal of the American Academy of Child and Adolescent Psychiatry 36:357–365, 1997
- 24. Wasserman DA, Havassy BE, Boles SM: Traumatic events and post-traumatic stress disorder in cocaine users entering private treatment. Drug and Alcohol Dependence 46:1–8, 1997
- Burchard J, Clark R: The role of individualized care in a service delivery system for children and adolescents with severely maladjusted behavior. Journal of Mental Health Administration 17:48–60, 1990
- 26. Burns BJ, Goldman SK (Eds): Promising Practices in Wraparound for Children With Serious Emotional Disturbance and Their Families. 1998 Series, vol 4. Washington, DC, American Institutes for Research, Center for Effective Collaboration and Practice, 1999
- VanDenBerg J, Grealish M: Individualized services and supports through the wraparound process: philosophy and procedures. Journal of Child and Family Studies 5:7–21, 1996
- 28. Faw L: The State Wraparound Survey, in Promising Practices in Wraparound for Children With Serious Emotional Disturbance and Their Families. 1998 Series, vol 4. Edited by Burns BJ, Goldman SK. Washington, DC, American Institutes for Research, Center for Effective Collaboration and Practice, 1999
- 29. Holden EW, Friedman RM, Santiago RL: Overview of the National Evaluation of the Comprehensive Community Mental Health Services for Children and Their Families Program. Journal of Emotional and Behavioral Disorders 9:4–14, 2001
- 30. Walrath CM, Ybarra ML, Sheehan AK, et al: Impact of maltreatment on children served in community mental health programs. Journal of Emotional and Behavioral Disorders 14:143–156, 2006
- 31. Mueser KT, Rosenberg SD, Goodman LA, et al: Trauma, PTSD, and the course of schizophrenia: an interactive model. Schizophrenia Research 53:123–143, 2002
- 32. George LK, Blazer DG, Winfield-Laird I, et al: Psychiatric disorders and mental health service use in later life, in Epidemi-

- ology and Aging. Edited by Brody JA, Maddox GL. New York, Springer, 1988
- 33. Lipschitz DS, Rasmusson AM, Anyan W, et al: Clinical and functional correlates of posttraumatic stress disorder in urban adolescent girls at a primary care clinic. Journal of the American Academy of Child and Adolescent Psychiatry 39:1104–1111, 2000
- 34. Seng JS, Graham-Bermann SA, Clark MK, et al: Posttraumatic stress disorder and physical comorbidity among female children and adolescents: results from serviceuse data. Pediatrics 116:767–776, 2005
- 35. Olff M, Langeland W, Draijer N, et al: Gender differences in posttraumatic stress disorder. Psychological Bulletin 133:183– 204, 2007
- 36. Tolin DF, Foa EB: Sex differences in trauma and posttraumatic stress disorder: a quantitative review of 25 years of research. Psychological Bulletin 132:959–992, 2006
- 37. Mueser KT, Goodman LA, Trumbetta SL, et al: Trauma and posttraumatic stress disorder in severe mental illness. Journal of Consulting and Clinical Psychology 66: 493–499, 1998
- 38. Rodriguez N, Ryan SW, Van De Kemp H, et al: Posttraumatic stress disorder in adult female survivors of childhood sexual abuse: a comparison study. Journal of Consulting and Clinical Psychology 65:53–59, 1997
- Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) 4th ed, rev. Washington, DC, American Psychiatric Association, 1994
- 40. Hodges K: CAFAS Self-Training Manual. Ann Arbor, Mich, Kay Hodges, 2000
- Achenbach TM: Manual for the Child Behavior Checklist/4-18 and 1991 Profile.
 Burlington, Vt, University of Vermont, Department of Psychiatry, 1991
- Epstein MH, Sharma JM: Behavioral and Emotional Rating Scale: A Strength-Based Approach to Assessment: Examiner's Manual. Austin, Tex, Pro-Ed Inc, 1998
- 43. Brannan AM, Heflinger CA, Bickman L: The Caregiver Strain Questionnaire: measuring the impact on the family of living with a child with serious emotional disturbance. Journal of Emotional and Behavioral Disorders 5:212–222, 1998
- 44. Weller EB, Weller RA, Fristad MA, et al: Children's Interview for Psychiatric Syndromes (ChIPS). Journal of the American Academy of Child and Adolescent Psychiatry 39:76–84, 2000
- 45. Fristad MA, Glickman AR, Verducci JS, et al: Study V: Children's Interview for Psychiatric Syndromes (ChIPS): psychometrics in two community samples. Journal of Child and Adolescent Psychopharmacology 8: 237–245, 1998
- Reich W, Welner Z: Diagnostic Interview for Children and Adolescents, DSM-III-R Version (DICA-R-C). St Louis, Mo, Washington University, Division of Child Psychiatry, 1988
- 47. Ford JD, Racusin R, Daviss WB, et al:

- Trauma exposure among children with oppositional defiant disorder and attention deficit-hyperactivity disorder. Journal of Consulting and Clinical Psychology 67: 786–789, 1999
- Verlhurst F, van der Ende J, Ferdinand R, et al: The prevalence of DSM-III-R diagnoses in a national sample of Dutch adolescents. Archives of General Psychiatry 54:329–336, 1997
- Deters PT, Novins DK, Fickenscher A, et al: Trauma and posttraumatic stress disorder symptomatology: patterns among American Indian adolescents in substance abuse treatment. American Journal of Orthopsychiatry 76:335–345, 2006
- Deykin EY, Buka SL: Prevalence and risk factors for posttraumatic stress disorder among chemically dependent adolescents. American Journal of Psychiatry 154:752– 757, 1997
- Elklit A: Victimization and PTSD in a Danish national youth probability sample. Journal of the American Academy of Child and Adolescent Psychiatry 41:174–181, 2002
- 52. Ruchkin V, Schwab-Stone M, Jones S, et al: Is posttraumatic stress in youth a culturebound phenomenon? A comparison of symptom trends in selected US and Russian communities. American Journal of Psychiatry 162:538–544, 2005
- 53. Shannon MP, Lonigan CJ, Finch AJJ, et al: Children exposed to disaster: I. epidemiology of post-traumatic symptoms and symptom profiles. Journal of the American Academy of Child and Adolescent Psychiatry 33:80–93, 1994

- 54. Silva RR, Alpert M, Munoz DM, et al: Stress and vulnerability to posttraumatic stress disorder in children and adolescents. American Journal of Psychiatry 157:1229– 1235, 2000
- 55. Roussos A, Goenjian AK, Steinberg AM, et al: Posttraumatic stress and depressive reactions among children and adolescents after the 1999 earthquake in Ano Liosia, Greece. American Journal of Psychiatry 162:530–537, 2005
- Cauce AM: The characteristics and mental health of homeless adolescents: age and gender differences. Journal of Emotional and Behavioral Disorders 8:230–239, 2000
- 57. Stewart AJ, Steiman M, Cauce AM, et al: Victimization and posttraumatic stress disorder among homeless adolescents. Child and Adolescent Social Work Journal 21: 325–331, 2004
- Thompson SJ: Factors associated with trauma symptoms among runaway/homeless adolescents. Stress, Trauma, and Crisis 8: 143–156, 2005
- 59. Wright J, Friedrich W, Cinq-Mars C, et al: Self-destructive and delinquent behaviors of adolescent female victims of child sexual abuse: rates and covariates in clinical and nonclinical samples. Violence and Victims 19:627–643, 2004
- DiClemente RJ, Ponton LE, Hartley D: Prevalence and correlates of cutting behavior: risk for HIV transmission. Journal of the American Academy of Child and Adolescent Psychiatry 30:735–739, 1991
- 61. Edgardh K, Ormstad K: Prevalence and

- characteristics of sexual abuse in a national sample of Swedish seventeen-year-old boys and girls. Acta Paediatrica 89:310–319, 2000
- Gratz KL, Conrad SD, Roemer L: Risk factors for deliberate self-harm among college students. American Journal of Orthopsychiatry 72:128–140, 2002
- 63. Koenen KC, Fu QJ, Lyons MJ, et al: Juvenile conduct disorder as a risk factor for trauma exposure and posttraumatic stress disorder. Journal of Traumatic Stress 18:23–32, 2005
- 64. Bolton D, Hill J, O'Ryann D, et al: Longterm effects of psychological trauma on psychosocial functioning. Journal of Child Psychology and Psychiatry 45:1007–1014, 2004
- Foa EB, Johnson KM, Feeny NC, et al: The Child PTSD Symptom Scale: a preliminary examination of its psychometric properties. Journal of Clinical Child Psychology 30:376–384, 2001
- 66. Frederick CJ, Pynoos RS, Nader K: Child-hood Post-Traumatic Stress Reaction Index. Los Angeles, University of California, Los Angeles, Department of Psychiatry and Biobehavioral Sciences, 1992
- Cohen JA, Mannarino AP, Deblinger E: Treating Trauma and Traumatic Grief in Children and Adolescents. New York, Guilford, 2006
- 68. Taylor TL, Chemtob CM: Efficacy of treatment for child and adolescent traumatic stress. Archives of Pediatrics and Adolescent Medicine 158:786–791, 2004

Psychiatric Services Invites Short Descriptions of Novel Programs

Psychiatric Services invites contributions for Frontline Reports, a column featuring short descriptions of novel approaches to mental health problems or creative applications of established concepts in different settings.

Text should be 350 to 750 words. A maximum of three authors, including the contact person, can be listed; one author is preferred. References, tables, and figures are not used. Any statements about program effectiveness must be accompanied by supporting data within the text.

Material to be considered for Frontline Reports should be sent to one of the column editors: Francine Cournos, M.D., New York State Psychiatric Institute, 1051 Riverside Dr., Unit 112, New York, NY 10032 (e-mail: fc15@columbia.edu), or Stephen M. Goldfinger, M.D., Department of Psychiatry, SUNY Downstate Medical Center, Box 1203, 450 Clarkson Ave., Brooklyn, NY 11203 (e-mail: steve007ny@aol.com).