Chapter Nine

Mental Health Service Use & Access

Symposium

Measuring Mental Health Services

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Symposium Introduction

The unifying theme of the papers presented in this symposium is the measurement of mental health services. Information is presented about work that is being done as part of the development of the Adolescent Treatment Outcomes Module (ATOM) to develop a self-administered instrument for measuring service use and algorithms for assessing the content of mental health treatment. These papers are followed by a series of papers that describe the use of mental health services by youth (1) receiving services from the specialty mental health sectors (2) with conduct disorder, (3) in contact with State social service departments, and (4) in therapeutic foster care.

Measuring Service Use in Observational Studies of Adolescent Mental Health Care

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Introduction

Large-scale observational studies of the quality of mental health care for children and adolescents require measurement of the amount and kind of services youth receive. Assessment of service use often relies on review of medical charts or billing information for information about the number of visits, type of referral, medications prescribed, and level of the care provided. Basing conclusions about service use on medical record or billing information may be problematic. While providers delivering care on a fee for service basis might be expected to record all patient contacts in detail, providers in a capitated system may be less motivated to document with the same level of detail. Further, assessment of service use based on information available in medical charts will typically include services received in only a single system of care. Services received elsewhere will be unavailable to the record abstractor.

To address deficiencies in chart- and billing-based measurement, inquiries about services used are often made directly of youth and parents. Two survey measurement instruments are most widely used: the Service Assessment for Children and Adolescents (SACA; Stiffman et al., 2000) and the Child and Adolescent Services Assessment (CASA; Burns, Angold, Magruder-Habib, Costello, & Patrick, 1996). The SACA is derived from an early version of the CASA and additional instruments. Both the SACA and the CASA are designed for use in community and clinical studies and are administered through face-to-face interview. A self-administered assessment of service use, adapted from the CASA, was developed for use in the Adolescent Treatment Outcomes Module (ATOM; Robbins et al., 2001).

For a variety of reasons, adolescents and parents may not always agree on the adolescent's history of service use. Informants may have access to different information, may interpret questions differently, and may have varying motivations to disclose or conceal the youth's involvement in the mental health system. In this paper, agreement between parent and adolescent reporting of service is presented for CASA interview data from the Great Smoky Mountain Study and self-administered data generated as part of the ATOM Validation Study. Results of these two studies are compared to data published on parent-adolescent agreement using the SACA.

Method

Three sources of data are used in this study. Data from the Great Smoky Mountain Study (GSMS), a population-based epidemiological study, are presented for a sample of 832 youth ages 11 to 13. GSMS sampling methods are described more fully elsewhere (Costello et al., 1996). Parents and youth were interviewed with the CASA concerning their use of services during the prior three months. The sample for the ATOM Validation Study consists of 103 youth age 11 to 18 who received treatment at one of five outpatient or three inpatient programs. Adolescents and a parent completed a self-administered service use assessment that inquired about service use in the previous six months. A brief reading screen was used to identify parents and youth you might have required assistance in completing the form. Data on the SACA, as reported elsewhere (Stiffman et al., 2000), are based on interviews with 145 youth, both clinical and non-clinical, ages 11 to 17. Data referencing service use during a previous 12-month period are used. The kappa statistic is used to measure parent-youth agreement. Since kappa is greatly influenced by low base rate events, data are also presented on percent agreement between parents and youth.

Results

As presented in Table 1, parents and youth report service use in very similar numbers. This is true across service sectors and across studies. Agreement between informants varies substantially, however. Parent-adolescent agreement for the CASA ranges from 85 to 97%. Agreement for the ATOM service use questions is generally lower, around 80%, while agreement among SACA service sector measurements are more variable, from 74 to 94%. Chance-corrected agreement as measured by kappa is consistently lower for the self-administered ATOM service use questions (range = .31 to .51) than either the CASA (.36 - .69 except for any school) or SACA (.45 - .77). Agreement between parents and adolescents on reports of school-based mental health service use as measured by both the CASA and SACA is lower than agreement on reports of all other service use.

Discussion

Similar to disagreements between parents and adolescents on whether the adolescent is experiencing emotional and behavioral problems, it is common for parents and adolescents to disagree on whether the adolescent has obtained mental health services. Parents have access to different information than youth, youth may not interpret some school-based services as a source of mental health care, and the priorities of parents may not include accurate understanding of the source of specialty mental health care. The fact that adolescents report service use that their parents do not suggests that both informants are necessary for an accurate assessment. Previous work with the CASA has established that combined parent-youth responses using an “OR rule” results in more accurate assessment of service use when compared to information system records (Asher, Farmer, Burns, & Angold, 1996). Future work should further compare parent and adolescent reports to medical record and information management system data.

Conclusions

Assessment of mental health service use via a self-administered questionnaire results in somewhat lower parent-youth agreement than assessment based on face-to-face interviews. The simplicity and flexibility of a self-administered instrument should be weighed against a greater frequency of discordant parent-youth reports. Discrepancy is not equivalent to unreliability. The unique perspective of both informants may be required to most accurately measure use.

Table 1
Agreement between Parent and Adolescent on Mental Health Service Use

	CASA *GSMS (N=842)* *3 MONTHS*			*Services Use* *ATOM (N=103)* *6 MONTHS*			*SACA* *(N=145)* *1 YEAR*		
	Use Par/dol	*% agree*	*kappa*	*Use Par/dol*	*% agree*	*kappa*	*Use Par/dol*	*% agree*	*kappa*
Any service[1]	122/105	85	.36	85/83	81	.36	95/88	83	.63
Any residential[2]	3/ 4	99	.57	17/22	79	.34	18/22	94	.77
Any outpatient[3]	72/49	94	.56	82/77	80	.37	89/79	79	.58
Any school[4]	63/62	89	.18	38/36	78	.41	36/42	75	.45
Any mh inpt[5]	3/2	99	.80	16/17	81	.31	13/17	94	.70
Any mh otpt	48/37	97	.69	80/75	78	.40	77/65	74	.48
ER/Crisis	0/0	100		10/11	88	.31			
Medication prescribed				36/30	79	.51			

[1] GSMS and ATOM = any residential, any outpatient, any school; SACA= all 25 service use question

[2] SACA = hospital, drug/alch treatment, residential treatment, group home, foster home, detention center/prison, emergency shelter or other; GSMS = same as SACA except therapeutic foster care instead of foster care; ATOM = same as GSMS except emergency shelter is not included

[3] SACA = community mental health center, other outpatient mental health clinic, other professional, day treatment, family preservation worker, emergency room, outpatient drug, pediatrician/family doctor, probation or juvenile correction, minister/rabbi etc, alternative healer, crisis hotline; GSMS = same as SACA except in-home counseling rather than family preservation worker; ATOM= outpatient mental health (individual, group or family), outpatient drug, day treatment, ER, minister, pediatrician/family doctor

[4] SACA= special school, special classroom, special help in regular classroom, counseling or therapy at school; GSMS= analysis of counseling or therapy at school only; ATOM= counseling or therapy at school

[5] SACA, GSMS & ATOM = psychiatric hospital/unit, drug/alcohol treatment, residential treatment

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Assessing the Quality of Behavioral Health Care for Children and Adolescents

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Introduction

Concerns about the quality of care provided to children and adolescents who receive behavioral health services have heightened in recent years. Reasons for these concerns include: a) substantial increases in rates of utilization of pharmacological interventions with children and adolescents despite limited evidence for their safety and efficacy in this population (Jensen et al., 1999); b) increasing shifts toward managed care models of service delivery in which key decisions influencing the type, range, and amount of services received may be more motivated by the need for cost containment than by the goal of quality assurance; and c) findings from recent quality-of-care studies of adult behavioral health services indicating that evidence-based treatments have not consistently been adopted into routine care (see, for example, Young, Klap, Sherbourne, & Wells, 2001).

Quality improvement requires the conceptualization, measurement, and assessment of the outcomes, process, and structure of the health care delivery system and the context in which it operates (McGlynn, Norquist, Wells, Sullivan, & Liberman, 1988). This model necessitates identification of processes of care that will facilitate desired outcomes. Accrediting agencies, professional organizations, and other stakeholders have recently sought to determine what constitutes high-quality treatment processes for behavioral health care. For example, the National Committee for Quality Assurance (NCQA) now includes three indicators pertaining to adult depression in the Health Plan Employer Data and Information Set (HEDIS; NCQA, 1999), and the Schizophrenia Patient Outcomes Research Team (PORT) has published a set of 29 evidence-based recommendations pertaining to treatment of schizophrenia (Lehman & Steinwachs, 1998).

Behavioral health services for children and adolescents have generally lagged behind those for adults in the development of treatment process measures, despite the recent publication of consensual practice guidelines for assessment and treatment of a range of disorders in childhood and adolescence (e.g., American Academy of Child and Adolescent Psychiatry, 1997, 1998) as well as empirical studies of efficacious treatments for this population. Investigations of the quality of routine care for youths have primarily focused on outcomes of care and global process-of-care variables (e.g., type of treatment setting, number of treatment sessions, coordination and integration of systems of care). Few published studies have focused on more specific processes of care (e.g., scope of clinical assessment, types of pharmacological and psychosocial interventions). To address the need for improved measurement of processes of children's mental health care, the authors developed and tested a comprehensive set of quality indicators derived from relevant empirical evidence and expert consensus. We developed these indicators for use in conjunction with the Adolescent Treatment Outcomes Module (ATOM; Robbins et al., 2001) or other outcome measures to enhance quality assessments within delivery systems.

Method

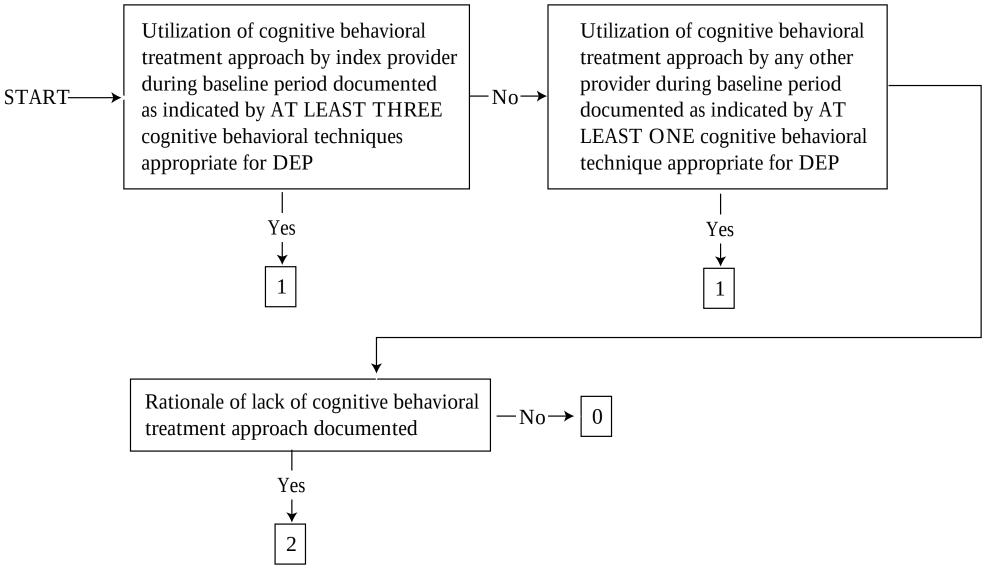
Literature on behavioral health performance measures, clinical practice guidelines for assessment and treatment of emotional and behavioral disorders, randomized clinical trials of psychosocial and pharmacological interventions, and other relevant published work focusing primarily on child and adolescent populations was systematically reviewed, as well as relevant unpublished work (e.g., American Psychiatric Task Force on Quality Indicators, 2000). Twenty-seven diagnosis-specific indicators covering the acute, continuation, and maintenance phases of treatment for attention deficit hyperactivity disorder (ADHD), disruptive behavior disorders (DBD), depressive disorders, and selected anxiety disorders were derived, as well as 32 global indicators covering treatment for all disorders (Kramer et al., 2001).

Criteria algorithms specifying rules for evaluating the applicability of indicators to individual cases and determining whether appropriate documentation is present in treatment records (Margolis, 1992) were developed to guide chart abstraction. Figure 1 depicts a sample algorithm for the treatment of depression.

Each algorithm is scored as "present" if the pertinent activity is documented in the treatment record and "absent" if not. Algorithms are not scored in cases where indicators are not applicable (e.g., assessment of medication side effects for a child who has not been prescribed medication). A user's manual was compiled detailing the rationale in support of the indicators and procedures for conducting the record review (Miller et al., 2001). Materials were reviewed by an expert panel consisting of clinicians and researchers, and informal feedback was obtained from consumers, providers, and policy makers during instrument development as well.

A feasibility study involving reviews of treatment records of 52 adolescents 11 to 17 years old receiving care in one inpatient and three outpatient settings was conducted. Participants were drawn from a larger validation study of the ATOM. They were primarily Caucasian (54%), male (64%), younger adolescents (64% 11 to 14 years old). Ninety-seven percent had at least one study diagnosis, and the majority (56%) had two or more diagnoses. Consent to review treatment records were obtained from parents/caregivers. Chart reviews were conducted on-site by trained lay and professional members of the research team. Administration times generally ranged from 1 to 1.5 hours. Based on ongoing feedback from reviewers, materials were modified as necessary to address aspects of care not initially covered, to clarify procedures for review, and to specify criteria in further detail. Reviewers were retrained as necessary following revisions to the materials.

Figure 1
Algorithm for Cognitive-Behavioral Approach to Treatment for Depressive Disorders during Baseline Period



Note: DEP = depressive disorders. Cognitive-behavioral techniques indicated for depressive disorders include behavioral contracting, cognitive restructuring, contingency management, problem-solving skills training, relaxation training, social skills training, and homework assignments. Appropriate rationales for lack of cognitive-behavioral treatment approach include, for example, cognitive deficits or need for crisis stabilization.

Results

This report presents selected results for indicators covering the baseline period of treatment (one month following admission) that were applicable for at least 10 participants. Table 1 presents the results for global indicators.

As depicted, records reviewed evidenced generally low to moderate rates of concordance with evidence- and consensus-based standards for global aspects of assessment and treatment, ranging from a low of 0% of charts documenting evidence of diagnostic concordance with DSM-IV criteria or informed consent to treatment, to a high of 74% of charts documenting parent/caregiver instruction in medication monitoring in cases where medication was prescribed. Scoring of indicators as “absent” resulted in some cases from lack of any evidence that the pertinent activities had occurred (e.g., failure to indicate by any means whether a suicide screening had been conducted), but in most cases resulted from lack of sufficient documentation to meet criteria (e.g., failure to indicate whether suicidal ideation or behavior was present, or whether risk for suicide was assessed).

Depression was selected as the target condition for the report of diagnosis-specific results. Twenty-two (42%) of the charts reviewed documented diagnoses of depressive disorders (Major Depressive Disorder, Dysthymic Disorder, and Depressive Disorder Not Otherwise Specified). Of these 22 charts, only six (27%) documented that cognitive-behavioral therapy (CBT) was provided, despite evidence to indicate its efficacy in treating depressed youths (see Kaslow & Thompson, 1998, for a review). Only 12 (55%) documented prescription of selective serotonin reuptake inhibitors (SSRIs)—either alone or in combination with other psychotropic medications—despite evidence for their efficacy in this population (see, for example, Emslie et al., 1997). Eight (46%) did not document provision of either CBT or an a rationale for not doing so (e.g., cognitive deficits, previous failure of SSRIs, refusal of treatment)—despite consensual practice guidelines recommending that depressed children and adolescents receive either psychotherapeutic interventions, pharmacological interventions, or combination treatment, depending on factors such as severity, chronicity, previous response to treatment, and motivation for treatment (American Academy of Child and Adolescent Psychiatry, 1998).

Table 1
Results of Record Review for Global Indicators

Indicator	*Percent present*
Multiple informants included in assessment	34.6
Multiple domains of functioning assessed	48.8
Screening for comorbidity	54.0
Screening and intervention for suicide	50.0
Screening and intervention for violence	44.0
Screening and intervention for substance use	52.1
Screening and intervention for child abuse	46.9
Evidence of diagnostic concordance with DSM-IV criteria[a]	0.0
Appropriateness of level of care	22.9
Informed consent to treatment[b]	0.0
Psychoeducational intervention	62.0
Parent/caregiver participation in treatment planning	51.7
Parent/caregiver instruction in medication monitoring	73.7
Family intervention	58.8
School intervention	32.0
Planning for discharge/termination	5.6

Note. Each indicator is scored as present if the pertinent activity is documented in the record, and as absent if not. Indicators are not scored when they are not applicable (e.g., parent/caregiver instruction in medication monitoring in cases where medication was not prescribed, planning for discharge/termination in cases where treatment was not discontinued during the review period).

[a] Requires (a) documentation of minimum symptom criteria, or (b) explicit indication that criteria were met.

[b] Requires multiple elements, including discussion of limits of confidentiality, treatment options, potential risks and benefits, duration of treatment, and level of family involvement.

Discussion

Results of a chart review-based feasibility study of a comprehensive set of quality indicators for child and adolescent mental health treatment suggest that there may be significant gaps in the implementation of evidence- and consensus-based practices in routine care. Further research is needed to confirm whether poor performance on the indicators truly represents deficiencies in quality of care or inadequacies in documentation. However, it should be noted that failures of documentation could in themselves be considered problematic from clinical as well as legal and ethical perspectives. To the extent that treatment records serve as a means of facilitating or informing the provision of subsequent courses of treatment, negligent record-keeping practices render them useless for this purpose.

Although further refinement of the indicators is warranted, consistently poor performance across a variety of global and disorder-specific measures highlights a wide range of potentially problematic areas that may serve as the focus of targeted quality improvement interventions. Despite certain limitations (e.g., small sample size, small number of sites), the present work represents an advance in bridging the gap between research and clinical practice in quality-of-care studies and in clarifying the processes of routine care. Additional work is under way to establish interrater reliability of the measures, to apply them to larger datasets, and to examine the relationship between processes and outcomes of care in observational and experimental studies.

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Use of Multiple Service Sectors by Adolescents in Specialty Mental Health Care

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Introduction

In the population-based Great Smoky Mountain Study, 45% of youth who received mental health services used services from more than one mental health service sector (e.g., education, specialty mental health, general medicine, juvenile justice, child welfare) (Burns et al., 1995).

Because youth who use services from multiple sectors may differ in important ways from youth who only receive services from a single sector, an accurate understanding of the outcomes of mental health care must take into consideration *all* services youth receive, regardless of sector. For this study, we used data from the Adolescent Treatment Outcomes Module (ATOM) Validation Study to explore the extent to which adolescents being treated by specialty mental health providers also received care from other mental health service sectors. We also wanted to determine if adolescents who received services only from the specialty mental health sector differed clinically at baseline or follow-up from adolescents who received services from multiple sectors.

Methods

Adolescents ages 11 to 17 and an adult respondent completed parallel versions of the ATOM (Robbins et al., 2001) within one week of beginning a new episode of care with a specialty mental health provider and again approximately six months later. As part of the follow-up assessment, adults and adolescents completed questions about mental health services the adolescent received during the follow-up period. This self-report service use measure is an adaptation of the Child and Adolescent Service Assessment (CASA; Burns et al., 1992). Adolescents were considered to have received a service if the service was reported by either the adolescent or adult. Symptom measures were based on adults' responses to ATOM symptom scales. Summated symptom scales were constructed for each of six disorders (generalized anxiety [GAD], separation anxiety [SEP], depression [DEP], attention deficit [ADD], oppositional defiant [ODD], and conduct [CD]). Scales were composed of from 8 to 14 yes/no items representing cardinal symptoms of each disorder and reference the past six months.

Results

This sample consisted of 176 adolescents (mean age of 13.7, SD, 1.9): 65% were Caucasian, 57% were male, and 48% lived in families with annual incomes below $20,000. Adult respondents were typically the adolescents' biological, adoptive or step-parent, but 14% were adult relatives other than parent figures.

Between intake and follow-up six months later, slightly more than half (52%) of the adolescents had received mental health services from a sector other than specialty mental health (SMH). Most often (42%) these were services from the education sector (ED). A small proportion (3%) of adolescents received services from general medicine (GM-SMH) or from all three sectors (SMH-ED-GM) (9%).

Baseline symptom scores tended to differ more between the multi-sector groups and the SMH-only group than between the various multi-sector groups (see Table 1). In general, adolescents in the SMH-ED and SMH-ED-GM groups had more symptoms on each scale than adolescents in the SMH-only group. The SMH-GM group, however, generally scored lower than the SMH-only group on externalizing scales (ADD, CD, ODD) and higher on internalizing scales (e.g., GAD, SEP, DEP).

Table 1
Mean Baseline Symptom Scores by Patterns of Service Sector Use (ANOVA; *N*=176)

	SMH Only (n=81)	*SMH-ED (n=74)*	*SMH-ED-GM (n=15)*	*SMH-GM (n=6)*
Scale	*mean (s.d.)*	*mean (s.d)*	*mean (s.d.)*	*mean (s.d.)*
GAD	2.2 (2.1)	3.0 (2.3)*	3.8 (3.0)*	2.7 (1.6)
SAD	1.7 (1.8)	2.0 (2.0)	2.5 (2.2)	2.3 (2.3)
DEP	3.9 (2.1)	4.1 (2.1)	5.0 (2.7)	4.8 (2.1)
ADD	5.6 (3.6)	7.7 (3.9)*	7.9 (4.5)*	5.3 (4.3)
ODD	6.2 (2.7)	7.2 (2.6)*	6.4 (3.7)	5.3 (3.2)
CD	2.4 (2.5)	3.6 (3.1)*	4.3 (4.3)*	1.8 (3.3)

ADD=attention deficit, ODD=oppositional defiant, CD=conduct disorder, GAD=generalized anxiety disorder, SEP = separation anxiety, DEP=depressive symptoms
SMH = specialty mental health; ED = education; GM = general medicine
* differs significantly ($p < .05$) from SMH-only

To determine if symptom scores at follow-up were associated with the sectors from which adolescents received care, we used general linear modeling with baseline symptom scores as covariates. Adolescents who received services from the SMH-GM group were dropped from this analysis because of the group's small size ($n = 6$). Analysis was conducted with SPSS GLM using Type III sum of squares and Bonferroni adjustment. Using Wilks' criterion, we determined that the combined follow-up symptom scale scores were significantly related to service sector groups ($F = 1.96$ (12,304), $p = .001$). Univariate analyses showed reliable differences were present for each of the follow-up scales except ODD and CD. Differences in follow-up symptom scores based on estimated marginal means employing Bonferroni correction are shown in Table 2. Controlling for baseline symptom levels, adolescents who only received care from the specialty mental health sector tended to show greater improvement in affective and attention disorder symptoms than did adolescents who received services from multiple sectors.

Discussion

Using self-administered instruments to assess service use, we determined that it was common for adolescents who presented to specialty mental health providers to also receive services outside of the SMH sector during a six-month period after beginning an episode of specialty mental health treatment. Generally, adolescents who received services from multiple sectors exhibited more psychiatric symptoms at baseline then did adolescents who only received services from the specialty mental health sector. After differences in symptoms at baseline were taken into account, adolescents who only received services from the specialty mental health sector showed greater improvement in affective and attention symptoms than did adolescents who received services from multiple sectors.

These findings suggest that multi-sector service use may be a response to the clinical complexity or severity of a disorder. They also support the need to assess service use across all sectors to accurately understand the outcomes of specialty mental health treatment.

We do not know from the present study if adolescents received services from multiple sectors concurrently or sequentially or, in fact, if there was any coordination of services between sectors. These issues might be addressed by specialty mental health providers through quality improvement mechanisms aimed at improving the process of multi-sector care. Also, the present study does not address the quality of care adolescents received. This issue will be addressed in future research.

Table 2
Follow-up Symptom Scores with Baseline Scores as Covariates (*N* = 170)

						95% Confidence Interval for Difference[a]	
Symptom Scores (Follow-up)	*Single SECTOR (I)*	*Multi SECTOR (J)*	*Mean Difference (I-J)*	*Std. Error*	*Sig.*[a]	*Lower Bound*	*Upper Bound*
SEP	SMH-only	SMH-ED	-.46	.26	.24	-1.09	.17
		SMH-ED-GM	-1.40*	.44	.01	-2.47	-.32
	SMH-ED	SMH-only	.46	.26	.24	-.17	1.09
		SMH-ED-GM	-.94	.44	.10	-2.00	.12
	SMH-ED-GM	SMH-only	1.40*	.44	.01	.32	2.47
		SMH-ED	.94	.44	.10	-.12	2.00
GAD	SMH-only	SMH-ED	-.73	.30	.05	-1.46	.00
		SMH-ED-GM	-1.42	.52	.02	-2.66	-.17
	SMH-ED	SMH-only	.73*	.30	.05	.00	1.46
		SMH-ED-GM	-.68	.51	.54	-1.91	.55
	SMH-ED-GM	SMH-only	1.42	.52	.02	.17	2.66
		SMH-ED	.68	.51	.54	-.55	1.91
DEP	SMH-only	SMH-ED	-.90*	.32	.02	-1.67	-.13
		SMH-ED-GM	-1.85*	.54	.00	-3.17	-.53
	SMH-ED	SMH-only	.90*	.32	.02	.13	1.67
		SMH-ED-GM	-.95	.54	.23	-2.25	.34
	SMH-ED-GM	SMH-only	1.85*	.54	.00	.53	3.17
		SMH-ED	.95	.54	.23	-.34	2.25
ADD	SMH-only	SMH-ED	-1.65*	.47	.00	-2.77	-.52
		SMH-ED-GM	-2.57*	.80	.00	-4.50	-.65
	SMH-ED	SMH-only	1.65*	.47	.00	.52	2.77
		SMH-ED-GM	-.93	.78	.72	-2.82	.97
	SMH-ED-GM	SMH-only	2.57*	.80	.00	.65	4.50
		SMH-ED	.93	.78	.72	-.97	2.82

Note: Based on estimated marginal means

* The mean difference is significant at the .05 level.

[a] Bonferroni adjustment for multiple comparisons.

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Uses of Services by Children with Conduct Disorder

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Introduction

Symptoms of conduct disorder often emerge in early childhood and increase as youth get older. Early access to services that can effectively ameliorate these problem behaviors is critical. Since many conduct problems are usually observable, it is likely that boys and girls with conduct disorder will be identified and picked up for services, but by whom (i.e., mental health, education, child welfare, or juvenile justice), and what services will they receive? This study uses data from three recent studies to answer these questions for children who meet criteria for a diagnosis of conduct disorder before age 13.

Method

Data from the Great Smoky Mountain Study (GSMS) are based on a sample of 1,421 youth in North Carolina who entered the study at ages 9, 11 or 13 and were followed over a subsequent 3-year period. Details of the study are more fully described elsewhere (Costello, Angold, Burns, Erkanli, Stangl & Tweed, 1996). Data on service use is based on the Child and Adolescent Services Assessment (CASA; Burns, Angold, Magruder-Habib, Costello, & Patrick , 1992) administered by interviewers at study entry and then at 3-month intervals. Diagnosis was assessed by the Child and Adolescent Psychiatric Assessment (CAPA; Angold, Pendergast, Cox, Harrington, Simonoff, & Rutter, 1995; See also Angold & Costello, 1995).

Patterns of Care (POC; *N* = 1,731) is an on-going longitudinal study of boys and girls ages 6 through 17 who are involved in public service systems in San Diego County, California. POC sampled and followed boys and girls receiving services across human service sectors. This study provides detailed information about service use for boys and girls with conduct disorder assessed with the computer assisted Diagnostic Interview Schedule for Children - Version IV (C-DISC-IV; Shaffer, Fisher, & NIMH DISC Editorial Board, 1998). Service use was assessed with an adapted version of the Service Assessment for Children and Adolescents (SACA; Stiffman et al. 2000). The third study includes boys and girls in southwestern Pennsylvania with a clinician diagnosis of conduct disorder (ICD-9; World Health Organization, 1980) who received services paid for by Medicaid. This study provides data on primary health care and specialty mental health service use and costs (e.g., payments summed for all services over pharmacy and non-pharmacy claims to calculate total costs for all of a child's services during the fiscal year).

Results

Observed rates of conduct disorder varied from 5% in the Pennsylvania Medicaid study to 20% in the POC study. A rate of 6% was observed in the population-based GSMS. The prevalence of specific conduct disorder symptoms also varied by study. Lying (76%), fighting (72%) and firesetting (65%) were the most common symptoms in GSMS while bullying (75%), property damage (69%) and stealing were the most common in POC. Comorbidity was prevalent in all three studies with oppositional defiant disorder being the most frequently observed comorbid condition, followed by ADHD.

Data from the GSMS study show that three-quarters (78%) of children with a lifetime (birth up to age 13) diagnosis of conduct disorder exhibited their first symptoms by age 4. By age 13, the majority (92%) of children with a diagnosis of conduct disorder had received mental health services from one or more service sectors (i.e., specialty mental health, education, child welfare, juvenile justice). The use of mental health services from multiple sectors was the norm. In both the GSMS and POC, the most often used service sector was education (72%-81%), followed by specialty mental health (67%), child welfare (31%), and juvenile justice (10%). In the POC, another 10% had police contact.

Studies of the costs of services for conduct disorder in the healthcare system are another measure of the impact of this condition. To initiate discussion on the costs of treatment for conduct disorder, direct treatment costs for conduct disorder were compared with another psychiatric condition, oppositional defiant disorder, a closely related but less severe type of disruptive behavior disorder. Medicaid reimbursement for boys and girls with conduct disorder averaged over $13,000 per child per year with median expenditures in excess of $5,000 per child. The majority of the expenditures were for psychiatric services. At nearly $3,000 per year, the cost of general medical services for this population was not insignificant. Unlike some other child psychiatric conditions like depression and ADHD, drug expenditures account for a small proportion of the conduct disorder health expenditures (an average of $251 per year).

Conclusion

Studies in North Carolina and California show that being classified with conduct disorder is associated with very high use of almost all types of services and with significant costs. However, there is a marked lag between the onset of conduct disorder symptoms in early childhood, and treatment. The surprising finding was the low rate of contact with the juvenile justice system given the prevalence of symptoms that constitute illegal activities, and suggest at least a referral role for law enforcement officers.

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Use of Mental Health Services by Youth in Contact with Social Services

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Introduction

Previous research documents high rates of emotional and behavioral problems and use of public mental health services by youth in foster care. Little is known, however, about mental health problems or service use among youth who are in contact with departments of social services for other reasons. This paper uses a general population sample to compare mental health problems and service use among three groups of youth: (1) those with a history of foster care placement, (2) those who had contact with social services but were not in foster care placement, and (3) a comparison group of youth living in poverty who had not been in contact with social services or in foster care.

Method

Data come from the Great Smoky Mountain Study (GSMS), a longitudinal epidemiologic study of mental health problems and service use within a rural region of the southeastern United States (Costello et al., 1996). Youth ages 9, 11, and 13 were randomly selected from all public school districts in 11 participating counties (n = 4,500). Two-stage sampling was employed to assure adequate numbers of youth with psychiatric problems and service use. This process resulted in a sample of 1,346 youth, of which 1,073 (80%) participated in the study.

The target geographic region includes the home of the Eastern Band of the Cherokee Nation. A companion study resulted in the identification of 431 American Indian youth[1], ages 9, 11, and 13, 80% of whom participated in the study. Combining the above samples resulted in a total sample of 1,420 youth that entered the study. Each youth and a parent were interviewed separately and in-person at baseline and annually thereafter. Parents were contacted every three months between annual waves to provide updated information on service use. GSMS data are weighted so that the two samples can be combined to represent the general population (Costello et al., 1996).

Our analyses focused on three subgroups: (1) children who had ever been in foster care (n = 142); (2) children who had been in contact with county-level departments of social services but who had never been placed in care (n = 218); and (3) children living in poverty (defined by the federal poverty level) with no known contact with social services or foster care (n = 419). The resulting subsample includes 779 youth.

The measures used included the Child and Adolescent Psychiatric Assessment (CAPA; Angold, Prendergast, Cox, Harrington, Simonoff, and Rutter, 1995) to assess psychiatric symptomatology and associated functional impairment. The CAPA is a structured interview concerning the onset, duration, frequency, and intensity of psychiatric symptoms (Angold & Costello, 1995; Angold & Costello, 2000). To simplify the data, we classified youth into one of three mental health categories: diagnosis plus impairment [serious emotional disturbance (SED)]; impairment only or diagnosis only; and neither diagnosis nor impairment.

The Child and Adolescent Services Assessment (CASA; Farmer, Angold, Burns, and Costello 1994) gathers information from parents and youth about service use from a range of providers. The current analyses focused on lifetime mental health service use reports in three sectors: (1) specialty inpatient and outpatient services, (2) school-based services, and (3) services provided by general medical providers.

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[1] *Note: The term "American Indian" is used because the Eastern Band of the Cherokee Nation prefers this designation*

Results

The sample ($N = 779$) was half male and predominantly Caucasian (82%). Seventeen percent had been in foster care. Thirty percent had been in contact with social services but were never placed in care. Half lived in poverty during the study period but reported no contact with social services. Seventy-six percent of these youth showed a mental health problem during the study period: 30% met criteria for SED; 42% had significant functional impairment; and 5% met criteria for a psychiatric diagnosis but did not display functional impairment. Eighty percent of the sample had received a service to address a mental health problem at some point. Most youth received services through their schools (68%); nearly half (47%) used specialty mental health services; and 29% received mental health services through a primary medical care provider.

All three groups showed similarly high rates of mental health needs. Diagnosis, impairment, or both (SED) was evident in 78% of children who had been in foster care, 80% of children who had been in contact with DSS, and 74% of children in poverty. Children who had been in contact with social services (with or without foster care) were more likely to meet criteria for SED than children living in poverty who had not had contact with social services (social service contact vs. poverty: $\chi^2(1) = 6.97$, $p < .01$; foster care vs. poverty: $\chi^2(1) = 9.12$, $p < .01$).

Over 70% of youth who lived in poverty had received mental health services, while more than 90% of youth who had been in contact with social services or who had lived in foster care received such services (social service contact vs. poverty: $\chi^2(1) = 36.0$, $p < .0001$; foster care vs. poverty: $\chi^2(1) = 21.9$, $p < .0001$). Children who had been in contact with social services or in foster care were more likely to receive services from each of the focal sectors than were children in poverty.

We examined rates of service use by youth who met criteria for a psychiatric diagnosis, impairment, or both. Nearly all youth who had been in contact with DSS (whether in foster care or not) and who had a mental health problem had received some type of mental health service. Among youth who had been in foster care, 97% had received such services, as had 93% of youth who had been in contact with DSS. Among youth in poverty, 77% of youth with a mental health problem received some service. As seen previously, many youth received services via schools. Looking more specifically at service use from specialty mental health, 84% of youth who had been in foster care, 73% of youth who had been in contact with social services, but only 37% of youth in poverty had received such specialty services (social service contact vs. poverty: $\chi^2(1) = 43.4$, $p < .0001$; foster care vs. poverty: $\chi^2(1) = 42.6$, $p < .0001$). Youth who had been in foster care and youth who had been in contact with social services were equally likely to receive such services ($\chi^2(1) = 3.1$, $p = .08$). This pattern of increased service use for youth in contact with social services or foster care is also replicated among the subset of youth who displayed the most severe mental health problems (social service contact vs. poverty: $\chi^2(1) = 4.2$, $p < .001$; foster care vs. poverty: $\chi^2(1) = 4.2$, $p < .001$).

To ensure that the bivariate results did not occur because contact with social services and foster care served as proxy variables for other factors, we performed logistic regression analyses. The first set of models for each service sector included race, gender, and severity of mental health problems. Controlling for these factors, children who had been in foster care were more than five times as likely as children in poverty to receive specialty mental health services ($OR = 5.42$, $p < .001$). They were also more likely to receive school-based services (OR = 3.47, $p < .01$) and services from a primary care provider ($OR = 4.09$, $p < .001$) than the poverty group. Youth who had contact with social services were also more likely to receive services from all three sectors than were children living in poverty ($OR = 4.17$, $p < .001$ for specialty services, $OR = 3.65$, $p < .001$ for school-based services, $OR = 2.33$, $p < .01$ for primary medical provider).

These results suggest high rates of mental health problems among all three groups of youth, but significantly higher rates of service use among youth who have been in contact with social services (with or without a foster care placement). To rule out the possibility that public health insurance status was driving these results, we added public health insurance to the model. Public health insurance enrollment during the GSMS period did not differ for the three groups (χ^2 (2) = 3.02, p = .22).

Public health insurance enrollment was associated with increased service use from all examined sectors (specialty mental health: $\chi^2(1) = 9.34$, $p < .01$; education: $\chi^2(1) = 20.38$, $p < .0001$; general medicine: $\chi^2(1) = 8.47$, $p < .01$). For specialty mental health services, the effect of public insurance was significant only for youth living in poverty, where 32% of those with coverage received services compared to 2.3% of youth without ($\chi^2(1) = 18.82$, $p < .0001$). For youth who had been in contact with social services or in foster care, rates of service use were much higher but were similar for youth with and without public health insurance. For services from education and general medical providers, public health insurance was associated with increased rates of service use among those in poverty as well as youth who had been in foster care. However, it was not associated with higher rates of service use among youth who had been only in contact with social services.

Discussion

The results of this analysis show high rates of mental health problems among all three groups compared. They suggest that social services contact was associated with increased use of services, particularly specialty mental health services even after race, gender, severity of mental health problems, and public health insurance were considered. Future research should explore the role of social services in accessing mental health care and the need to provide access for youth who are not in contact with social services. Additional research is needed on each group to understand observed patterns of service use and to develop services that could more adequately meet the needs of these youth.

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Mental Health Service Use by Youth in Treatment Foster Care

Elizabeth M.Z. Farmer, Barbara J. Burns, Melanie S. Dubs & Jesse T. Richards

Introduction

Treatment foster care (TFC) offers an appealing possibility of providing intensive individualized treatment for youth with severe problems within a community and family setting. For these reasons, and because of its substantially lower cost than other out-of-home placements, TFC is viewed by many as a key element of a continuum of care for youth with severe behavior problems (Meadowcroft & Trout, 1990). Evidence from several randomized studies in model programs has shown that TFC can produce positive outcomes for youth (Chamberlain, 1994; Chamberlain & Reid, 1991; Chamberlain & Weinrott, 1990). However, very little is known about TFC as it is implemented in "real world" practice. The current discussion explores how TFC fits into a broader system and continuum of care by examining patterns of service use by youth in TFC.

Method

Data come from Treatment Foster Care in a System of Care, an ongoing NIMH-funded study being conducted in North Carolina. The sample includes all youth in the "at risk" program (formerly known as the Willie M. Program) who received TFC during 1999-2000. Data from the state Management Information System were accessed on a monthly basis to determine which youth moved into TFC during the previous month. Once consent was obtained from the youth's legal guardian, Treatment Parents were contacted (via mail and then phone) to invite them and the child to participate. In-person interviews were conducted with Treatment Parents and youth at the time of study entry (baseline) and again near the time of discharge from TFC. In addition, data were collected every four months via telephone calls with the Treatment Parents while the youth remained in their home. Data for the current analyses come from baseline interviews with Treatment Parents. Interviews gathered information on a wide range of issues, including information on other services the youth had received while in TFC. These data were collected using the Child and Adolescent Services Assessment (CASA; Ascher, Farmer, Burns, & Angold, 1996; Farmer, Angold, Burns, & Costello, 1994), an interviewer-based measure for assessing service use from a variety of providers and sectors.

Results

Sample Description. The sample included 137 youth and their Treatment Parents. Youth ranged in age from 4-19 years (mean = 14). Forty percent of the youth were African American, and 77% were male. The sample included all youth who had been in TFC during the designated period. Therefore, it contained youth who were recently admitted to TFC as well as youth who had been in TFC for an extended period. At the time of the baseline interview, 23% had been in TFC for less then 6 months, 31% from 7-12 months, 25% from 13-24 months, and 21% had been in TFC for longer than 24 months.

Service Use. We examined what other services youth were receiving while they resided in TFC. The CASA was used to obtain information on services used during the four months preceding the baseline interview (or since admission to TFC, for youth who had been in TFC for less than four months). On average, youth received six services in addition to TFC during this period (range = 0-13). The most commonly used services were: case management (90%), outpatient therapy (82%), and special education (78%). In addition to these nearly universal services, six additional types of help were each used by at least 20% of the sample. These included: probation (20%), in-home treatment (21%), recreation/mentor services (22%), help from peers (22%), help from non-professional community adults (22%), and vocational services (used by 21% of youth ages 15-19).

We next examined what factors were related to receipt of these additional services. For these analyses, total number of additional services was the dependent variable. Independent variables included the child's age, race, gender, length of time in TFC, and severity of problem behaviors (as measured by the Parent Daily Report; Chamberlain, 1994). Bivariate relationships between each independent variable and the number of services showed that only race was significantly associated with service use. Here African-American youth were over-represented among youth who received very few services (three or fewer) or very many services (eight or more) ($\chi^2(2) = 6.4$, $p < .05$). Examination of which types of services were being utilized showed a significant over-representation of African-American youth in justice facilities (training schools, jails, prisons). Thirteen percent of African-American youth in TFC had been incarcerated in such a facility in the past four months compared to 3% of Caucasian youth ($\chi^2(1) = 5.5$, $p < .01$). A multivariate regression model that included all of the independent variables in a prediction of service use showed that, net of everything else in the model, only severity of problems was related to number of utilized services ($t = 2.8$, $p < .01$).

Discussion

These analyses provide the first information about how TFC fits within a broader system of care. TFC is clearly not a “stand alone” service. It is important, therefore, to gather information about other services that youth in TFC are using. Research on outcomes of TFC must include information on this broader range of services. Without such information, it is impossible to know what youth received, and thereby, what may be driving outcomes.

This inclusion of additional services clearly adds methodological and analytic complexity to research on TFC. Researchers must make decisions about how to best obtain information on other services and how to include this information in analyses. For the current discussion, we have included Treatment Parents’ reports of service use. Preliminary comparison with administrative data suggest that these reports are quite complete and accurate. However, it is possible that differences in Treatment Parents’ involvement in the treatment process and/or in administration of TFC programs may be systematically related to the quality of these data. At present, there are no standard conventions for including information about complex service patterns into data analyses. Therefore, researchers must devise methods for adequately including essential information in a way that captures the complexity of services but allows meaningful and interpretable results.

This set of findings and implications highlights the importance of considering the broader service context in research on a single treatment modality. Like TFC, many services are delivered in the context of a broader system of care and represent just one component of a youth’s total intervention. Including such information in research leads to much more complex methods and analyses. However, omitting such complexity may lead to misleading or erroneous conclusions about effective care.

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Children's Mental Health Benchmarking Project: First Report on a National Research Effort

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Introduction

The Children's Mental Health Benchmarking project, developed by Dougherty Management Associates (DMA) and funded by the Annie E. Casey Foundation, has begun systematically to review and compare data on the performance of public mental health systems for children in a variety of states and counties. The goal of this work is to offer state and county systems the ability to benchmark, or compare, their performance.

Although systems differ significantly from one another, we believe it is quite useful for public mental health authorities and other stakeholders to learn how their own programs compare with those being implemented elsewhere. We expect the benchmarking of performance data to become an increasingly important way to evaluate the success of changes in public mental health systems for children.

This project grew out of experiences DMA has had in attempting to collect reliable and comparable performance data for our clients. We found that the growth of the literature about performance indicators has not resulted in a corresponding, systematic growth in the actual collection, analysis, or dissemination of performance data, especially with regard to children.

Moreover, in the extensive work our company has done related to performance indicators and benchmarks, we have often found that the available indicators and benchmarks are far more likely to apply to adults (or to all consumers, adults and children) than to children alone. Policy makers responsible for children's mental health services are therefore often frustrated in their efforts to find useful and relevant information that can guide them in their decision making. Projects like this one will soon be able to help change that situation.

Methods

Relying on indicators found in previously published performance indicator initiatives, we selected those that appeared to be most relevant to children, most useful and most likely to be available. This selection process resulted in a core set of indicators related to access, utilization, financial performance, and what we call "intersystem involvement." Specifically, we looked at such indicators as penetration rate, inpatient utilization, expenditures per capita, and out of home placement rate.

We initially approached 38 state and local (primarily county) mental health agencies, out of which 22 indicated their willingness to participate in the project. We asked each of the 22 sites to complete a brief survey instrument about the availability of, and the feasibility of collecting, information from their data systems on the indicators in which we were interested. We then conducted a telephone interview with each person who responded to the feasibility questionnaire. Finally, we mailed a list of data elements to each person we had interviewed. In general, our respondents were overly optimistic about what data they would be able to produce within a reasonable time frame. On average, fewer than five sites reported data on each variable.

Preliminary Findings

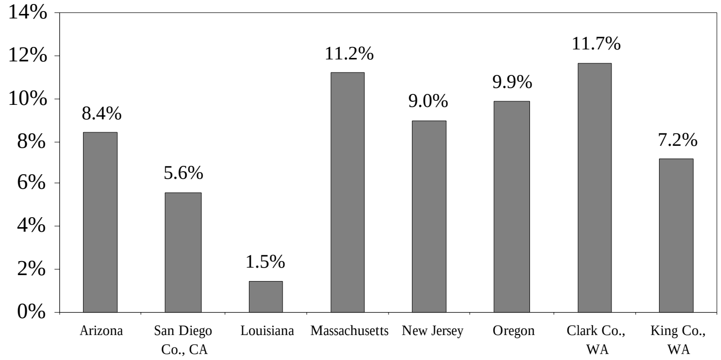
After extensive correspondence with sites that had expressed interest, we ultimately received data from nine states, three counties, and the District of Columbia. Although DMA had only selected indicators that had been identified and defined by significant national groups, no more than eight jurisdictions were able to provide data for any indicator. Some of the results follow.

The report narrative and the data collection instrument are available online at www.doughertymanagement.com

Medicaid Penetration Rate

Penetration rate, the percentage of covered individuals who have received at least one mental health service during a specified period of time, is a global indicator of access to health care. We received data on Medicaid penetration rate from five states and three counties. For seven of the eight sites, rates ranged from 5.6% to 11.7%, and averaged 9.0%. For the remaining state, the calculated rate was significantly below the expected range (see Figure 1).

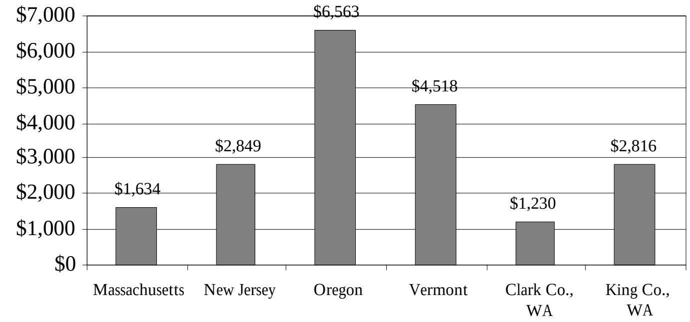
Figure 1
Percentage of Children Enrolled in Medicaid Who Received at Least One MH Service in a Year by Site



Direct Service Expenditures

The study gathered data on both Medicaid and total (Medicaid and non-Medicaid) direct service expenditures per child served. While six jurisdictions provided data for each indicator, only three of them provided data for both indicators. This project is not the first to find that state level expenditure data are difficult to gather. For example, in their *Health Care Reform Tracking Project—1999 Impact Analysis*, Pires, Stroul, and Armstrong (2000) report that "interviews in all 10 states revealed that data on cost per child served or cost per eligible child remain unavailable." Average Medicaid expenditures ranged from $1,230 to $6,563 (see Figure 2), and average total expenditures ranged from $2,524 to over $9,000 per child. The magnitude of this variation relates both to differences in mental health benefit packages and to differences in overall funding levels. In future work on this project, DMA will seek a clearer understanding of the variations.

Figure 2
Medicaid Direct Service Expenditures per Child Served by Site



Acute Care Average Length of Stay

Only three jurisdictions were able to provide data that enabled calculation of average length of stay in acute care inpatient treatment (at non-state hospitals); their numbers clustered closely together, and ranged from 12 to 15 days.

Intersystem Measures: Out-of-Home Placement, Juvenile Justice and Schools

Communication among child serving agencies is generally assumed to lead to improvement in policies and services. CASSP, the Child and Adolescent Service System Program, includes among its guiding principles that "Children with emotional disturbances should receive services that are integrated, with linkages between child-serving agencies and programs and mechanisms for planning, developing, and coordinating services" (Stroul, 1996). It is therefore worthy of note that we received so little intersystem data from our respondents. DMA attempted to find out what information mental health agencies had about their clients' relationships to other child-serving agencies (e.g., child welfare, juvenile justice and education). Six jurisdictions were able to provide data on the percentage of children receiving mental health care who were in out-of-home placements at any time during the year. Their rates ranged from 5.8% to 40.3%. This indicator clearly requires further investigation. Only four jurisdictions were able to indicate how many children receiving mental health services also had an encounter with the juvenile justice system, and virtually no state or county even expected to be able to provide data on school absenteeism among children in the mental health system.

Discussion

Caution is necessary in interpreting the project's findings and in drawing conclusions. There are several important considerations in this regard: (1) only a small number of jurisdictions provided data, and some of them are reporting on small numbers of cases; (2) the systems that offered data are very different from one another; (3) many key pieces of data are missing, and; (4) there are one or two extreme outliers, or wide dispersions of data, on most indicators.

Although we have thus far received a relatively small amount of data, and have therefore been able to calculate relatively few statistics, we believe this project is well worth its effort and cost, and should be continued. As is well known, providing care for children with mental health needs is an astonishingly complex endeavor. In conducting experiments on systems of care to determine which ones work best, we can neither hold all of the important variables constant over time, nor randomly assign children to different states. We can, however, gather comparable data across systems and over time within systems, and try to determine, in a naturalistic way, which kinds of programs seem to lead to preferred outcomes. This project has taken some initial steps in that direction.

Future Steps

With further funding from the Annie E. Casey Foundation and additional support from the Center for Health Care Strategies as well as the Robert Wood Johnson Foundation for 2001, DMA will gather data from the same states and counties for another year, and will be adding new jurisdictions as well. In the fall of 2001, DMA hopes to sponsor a meeting of respondents to discuss the project's findings and share information on the data gathering process and how it might be improved. The goal of the project will continue to be to develop meaningful benchmarks related to mental health care for children served in the public sector, and to increase the utility of data collected by the project to stakeholders.

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Evaluating and Researching Mental Health Programs from Different Points of View

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Steven M. Banks

Introduction

During the past year, the state of Vermont conducted two major evaluations of its ten regional child and adolescent mental health programs. The first evaluation surveyed adolescent clients of these programs; the second evaluation surveyed case workers and supervisors employed by the state child protection and juvenile justice agency. The results of these two surveys were analyzed and reported from two distinct perspectives. First, from a program evaluation perspective, the results were used to compare the performance of the ten local regional programs. Second, from a services research perspective, the results were used to explore the following important issues: (1) the relationship between the services received by individual young people and their evaluation of the care received, and (2) the nature of the relationship between levels of caseload integration and child protection workers' evaluation of community mental health services.

Method

These findings are based on responses to two mailed surveys: (1) a survey of young people (ages 14-18), who had received services at a Center for Mental Health Services (CMHS) site, and (2) a survey of district office staff at the Department of Social and Rehabilitation Services (SRS), Vermont's child protection and juvenile justice agency. Both surveys were mailed to all potential respondents, rather than a sample of respondents, to provide an adequate basis for comparing the performance of relatively small community programs. A single follow-up survey was sent to non-respondents after about two weeks. Responses to the survey were confidential but the respondents were not anonymous. Each questionnaire was clearly marked so that research staff could link responses to information in other databases and follow-up with respondents if any problematical situations were indicated. Almost 30% of the young people served ($N = 314$) and more than 80% of the SRS case workers ($N = 124$) responded.

Survey responses were scored using four composite scales: an *Overall* scale, and three subscales evaluating *Staff*, *Service Quality*, and *Outcomes*. The scores on each scale indicated the proportion of respondents who had given favorable ratings. The results of the surveys were statistically risk adjusted to account for differences in the caseloads of the agencies. Also, a statistical finite population correction was applied to both surveys to provide appropriate confidence intervals for all measures derived from the responses. These techniques were applied to assure fair comparisons of the performance.

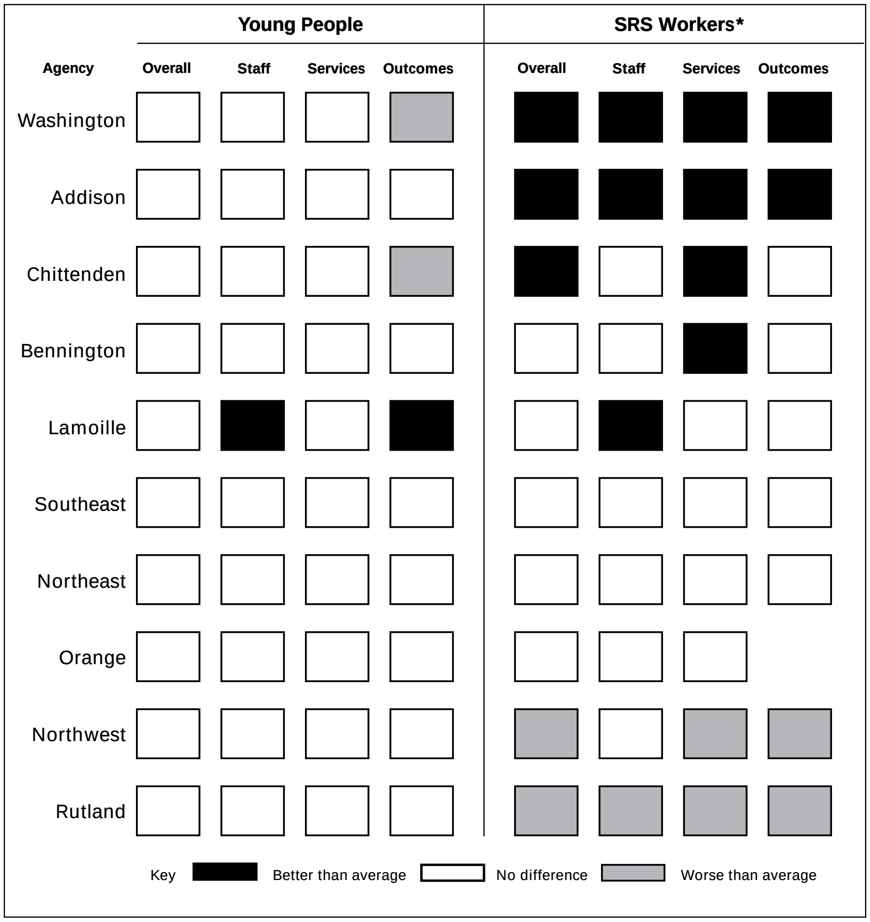
Program Evaluation Results

Survey of Young People

Most of the young consumers rated their programs favorably. The most favorably rated items were "The staff listened to what I had to say" (77% positive) and "I liked the staff who worked with me" (76%). The least favorably rated items related to involvement in choice of services (50% positive) and the volume of service received (less than 50% positive). On the four composite scales, over 66% of consumers rated programs favorably *Overall,* and the *Staff* scale received significantly more favorable responses (70%) than the *Service Quality* scale (60% favorable) or the *Outcomes* scale (59% favorable).

There were significant differences between consumers' evaluations of local Child and Adolescent Community Mental Health Programs (see Figure 1). The Lamoille program received the most favorable consumer assessment in the state, scoring significantly higher that the statewide average on two of the four scales (*Staff* and *Outcomes*). Young people's evaluations of seven of the other programs were not statistically different from the statewide average on any of the scales. The programs in Washington and Chittendon were rated below the statewide average on one scale (*Outcomes*).

Figure 1
Evaluation of Community Mental Health Programs by Region



	Young People				SRS Workers*			
Agency	Overall	Staff	Services	Outcomes	Overall	Staff	Services	Outcomes
Washington	□	□	□	▨	■	■	■	■
Addison	□	□	□	□	■	■	■	■
Chittenden	□	□	□	▨	■	□	■	□
Bennington	□	□	□	□	□	□	■	□
Lamoille	□	■	□	■	□	■	□	□
Southeast	□	□	□	□	□	□	□	□
Northeast	□	□	□	□	□	□	□	□
Orange	□	□	□	□	□	□	□	
Northwest	□	□	□	□	▨	□	▨	▨
Rutland	□	□	□	□	▨	▨	▨	▨

Key ■ Better than average □ No difference ▨ Worse than average

* Outcome scale scores are not reported for Orange because fewer than half the respondents answered outcome items on the survey

Survey of Case Workers

The SRS case workers reported widely differing opinions of their local child and adolescent mental health programs. The three most favorably rated items related to staff: "I like the staff who work with me" (81%), "The staff listen to what I have to say" (75%) and "I feel respected by the staff" (72%). The least favorably rated item (17%) related to the capacity to provide the services needed. Of the four composite scales, 37% of the respondents rated programs favorably on the *Overall* scale, and the *Staff* scale received significantly more favorable responses (46% favorable) than the *Services* and *Outcomes* scales (28% and 23% favorable, respectively).

Ratings of individual programs on each of the four composite scales were compared to the statewide average for each scale. These comparisons showed considerably more variation between ratings of providers than did the youth survey (see Figure 1). The programs at Washington and Addison were the most favorably rated, with scores higher than the statewide average on all four scales. Chittenden received higher ratings on two of the four scales and the programs in Bennington and Lamoille received higher ratings on one scale. Northeast and Southeast regions were rated no differently than the statewide average on any of the scales. The Orange program received lower ratings on one scale, Northwest lower ratings on three scales, and Rutland had the least favorable ratings with scores lower on all four scales.

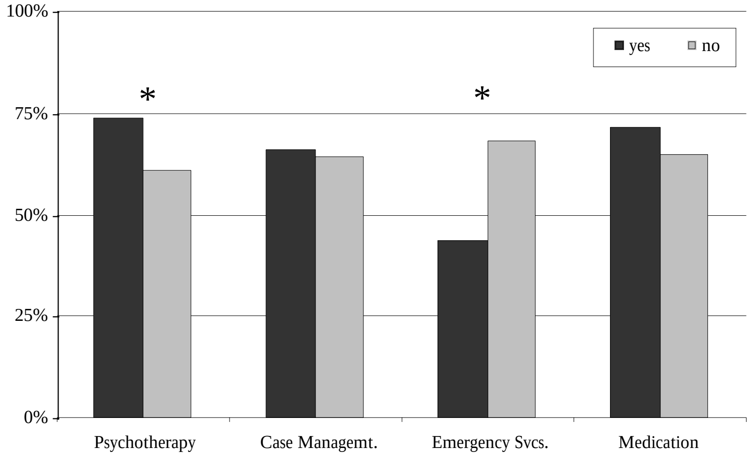
Services Research Results

Services Received and Assessment of Services by Young People

To examine the relationship between the types of services received by individual respondents and their evaluation of the programs providing those services, four broad service categories were identified: psychotherapy, case management, emergency services, and medication therapy. Data on services received in the six months prior to the survey came from computerized monthly service reports submitted to the state mental health agency by community providers. Using this services dataset, each respondent was identified as having received or not received each of the four types of service.

Clear patterns were revealed by a comparison of the four scale scores for young people who had received each type of service with the scale scores for those who had not received services. First, there were no statistically significant differences, on any of the four scales, in assessment of local program performance between young people who had received case management services and those who had not, and between young people who had received medication services and those who had not. However, as illustrated in Figure 2, those who had received psychotherapy services rated the programs significantly higher on the *Overall*, *Service Quality*, and *Outcomes* scales combined than those who had not received psychotherapy services. Young people who had received emergency services rated the programs significantly lower on all four scales combined than those who had not received emergency services.

Figure 2
Young People's Overall Evaluation
of Community Mental Health Programs
by Type of Services Received



* Overall evaluation by young people receiving service (yes) significantly different (p <.05) to overall evaluation by youngpeople not receiving service (no).

Caseload Integration and Assessment of Services by SRS Workers

In examining the relationship between levels of service system integration and case workers' assessments of local programs, integration was measured in three ways: (1) at the level of the individual respondent (i.e., each SRS worker's response to the question "How many of your clients received services from [specified CMHC]?"); (2) at the group level (i.e., the proportion of all young people on the SRS caseload who were also on the caseload of the local CMHC); and (3) on the basis of the Caseload Segregation/Integration Ratio (C-SIR; Pandiani, Banks, & Schacht, 1999). The C-SIR measures the degree of caseload sharing among multiple agencies (i.e., mental health, SRS, and Special Education). These last two measures were derived by probabilistically estimating caseload overlap of anonymous datasets obtained from each of the three service sectors.

Caseworkers' assessments of local community mental health programs were found to correlate with measures of caseload integration at all three levels. Positive correlation for all four scales with caseload integration was found at the individual level (r = .26 - .36) and at the group level (r = .26 - .49). At the C-SIR level, overall integration among mental heath, SRS, and Special Education (Emotional and Behavioral Disorders; EBD) caseloads was positively correlated with three of the four scales (r = .12 - .18).

Discussion

Results of this analysis suggest that it is important to evaluate programs from multiple perspectives. First, programs were evaluated from the perspectives of (1) the service recipient, and (2) the service providers. Second, survey results were analyzed and interpreted from the perspectives of (1) program evaluation, and (2) services research.

Our findings indicate that direct service recipients rated their programs very differently than did other service providers. We believe that both perspectives should be respected. These results also indicate the need to invite a variety of stakeholders, including educators, parents, and law enforcement personnel, to evaluate community mental health programs. Vermont is currently surveying school personnel and has plans to survey parents of young people receiving services.

This analysis also demonstrates the value of applying a services research perspective to data collected for program evaluation. The value of survey results for services research is significantly enhanced when survey results are linked with other data from existing administrative data bases. In the future we hope to link survey results with data regarding caregivers to further expand the utility of these data for services research.

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Barriers to Social Network Interventions: A Survey of SOC Service Coordinators

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Introduction

Care coordination has been advocated as a crucial component for providing integrated services for children with emotional and behavioral disabilities within systems of care (Friedman, Kutash, & Duchnowski, 1996). However, in the adult services literature, a number of barriers to case management have been cited: paperwork requirements, lack of community resources, community stigma/bias, caseload size, lack of needed services, lack of time, and lack of funding (Tracy & Biegel, 1994; Hromco, Lyons, & Nikkel, 1995). In a survey of mental health case managers for adults, Biegel, Tracy, and Song (1995) investigated case managers' perceptions of obstacles to social network interventions. The case managers reported few major barriers that pertained to their own level of knowledge (although gaps were revealed), abilities, or enthusiasm for social network interventions.

Since social network interventions (i.e., forming linkages with natural support networks and mobilizing community-based resources) are major foci in implementing systems of care for children, we gathered similar information from care coordinators working with children and families. A modified version of the survey used by Biegel et al. was administered to child and family service coordinators in order to identify the barriers they encounter in such efforts. Questions about the knowledge of social network interventions in the original survey were not included in the current investigation, as they seemed specific to a local training curriculum. We substituted an attitudinal measure of providers' beliefs about parents, and asked about providers' knowledge and referral to parent support organizations.

Method

Participants

Information was gathered from case managers/service coordinators and supervisors/directors with experience working within North Carolina system of care projects. The names of current and past service providers were obtained from program directors at mental health area programs participating in system of care initiatives. The resulting list consisted of 40 employees to whom surveys were sent. Twenty-eight (70%) of the employees returned the surveys. Respondents ranged in age from 23 to 56 years of age. They were mainly Caucasian (81%), women (79%), with a bachelor's degree (64%), and working in eastern North Carolina (67%).

Instruments

The questionnaire consisted of demographic information and three separate surveys: (1) Providers' Beliefs about Parents (PBAP; Johnson, Cournoyer, & Fisher, 1994); (2) Perceived and Experienced Social Network Obstacles, and; 3) Role in a System of Care.

The PBAP is a 33-item instrument based on the concerns parents have expressed as communicated by professionals, and on behaviors frequently cited in the literature about parent-professional collaboration. The PBAP assesses providers' beliefs in five categories: (1) parents' competence, pathology, credibility, and roles in the origin of children's problems; (2) the value of information-sharing with parents; (3) use of psychotropic medication with children and adolescents; (4) the provision of explicit directives to parents, and; (5) the perceived importance of research-based knowledge about child and adolescent psychopathology.

The Perceived and Experienced Social Network Obstacles study employed the items in the scale used by Biegel et al. (1995), with the addition of five items we wrote to identify barriers relating to parent-professional collaboration. Providers were asked to rate their perceptions of obstacles, and to indicate which of the items they had personally experienced as obstacles in trying to build or enhance client support systems.

The Your Role in a System of Care survey consisted of eight questions, asking providers to relate the percentage of time they spent on various activities/functions, the degree to which they felt their work is relevant to the system of care values, and their perceived role within a system of care as compared to a similar role not in a system of care. Two training and education items on the survey addressed suggestions for being better prepared to provide services in a system of care, and three additional items addressed knowledge and involvement in parent support groups.

Procedure

The surveys were mailed to participants, along with instructions to return the survey, a demographic sheet, and a postage-prepaid envelope. Two weeks after the original mailing, an additional letter and survey were sent to each non-respondent. Surveys were identified by a numerical code on the return envelope; names were not linked.

Results

Respondents

Respondents were mainly from the social work discipline (82%), worked in outpatient child/teen mental health settings (68%), held the position or title of case manager/service coordinator (71%), had been in the position for six months to four years (68%), and had been in human services primarily for 17 to 25 years (46%), or one to eight years (37%). Forty-six percent considered their predominant orientation to be from a family systems approach, while 30% reported a variety of orientations. Of those reporting a variety of orientations, 80% included family systems and cognitive-behavioral approaches . The minimum number of caseloads involving children was eight, and the maximum number was 50 (M = 18.95, SD = 9.47). Over one-half (55%) of the workers had sixteen cases or more.

Providers' Beliefs About Parents

Five categories identified by Johnson et al. (1994) in the PBAP were used in the analysis. Table 1 presents the mean scores for these belief categories. Providers agreed the most with statements expressing validating attitudes toward parents. They also agreed with statements advocating open sharing of information with parents and telling parents explicit ways of helping their children. More ambivalence was evident with respect to parent-blaming and the helpfulness of psychotropic medication to treat emotional and behavioral problems. Overall, the mean summary score for seeing medication as helpful was almost midway between agreement and disagreement. Respondents varied between agreement and disagreement with parent-blaming statements, with a slight tendency toward disagreement.

Table 1
Mean Scores for Belief Categories on the Providers' Beliefs About Parents Questionnaire (PBAP)

Belief Category	*Mean*	*SD*
Parents are validated (are doing their best, are experts about their own children).	1.86	.50
Information should be fully shared with parents.	1.92	.51
Professionals should give parents explicit instructions about how to help their children.	1.93	.63
Medication is helpful.	2.46	.48
Parents are to blame for their children's problems.	2.81	.50

Note. Scoring: 1 = strongly agree, 2 = agree, 3= disagree, 4 = strongly disagree.

Point-biserial correlations were used to analyze the relationship among the five categories. Scores on the categories were correlated positively with each other, with the exception of the score on blaming parents. A negative correlation existed between blame scores and scores on the other four categories. The more service providers validate a parent, the more likely they are to share information, and the less likely they are to blame the parent for the child's emotional problems. Further analysis revealed no significant relationship among the additional five categories related to years in current or past system of care position, caseload size, or knowledge of parent support groups. Lower educational attainment (bachelor's degree versus master's degree) did not result in a higher percentage of blaming attitudes toward parents or a lower percentage of beliefs pertaining to informing, validating, or instructing parents, or viewing medication as helpful.

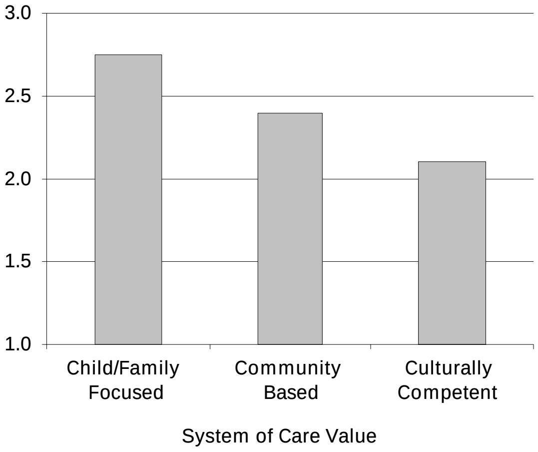
Obstacles to Social Network Interventions

Service providers both perceived and have experienced a number of obstacles that affect their ability to develop social network interventions for their child and family clients. The five obstacles experienced by the highest percentage of respondents included: (1) lack of community resources (60.7%); (2) paperwork requirements (57.1%); (3) lack of case manager time (42.9%); (4) geographic isolation of clients (39.3%), and; (5) high caseloads (35.7%). There was a significant relationship between the blame category on the PBAP and number of experienced obstacles reported by respondents ($r = -.53$, p = .011). Service coordinators who were more blaming of parents tended to identify fewer other obstacles. Those who had less knowledge of parent support groups tended to identify more obstacles ($rpb = -.43$, $p = .045$). Higher frequency of experienced barriers was not related to a higher caseload size.

Role in a System of Care

Respondents agreed that their services were child-centered and family-focused, but were mixed on whether the services were community-based and culturally competent (see Figure 1). When respondents were asked whether they felt they were educationally prepared for their role in a system of care, more than half answered yes (61%). Respondents who had a master's degree did not feel more prepared, compared to those with a bachelor's degree. Knowledge of parent support groups varied. The minimum number of groups reported ranged from none to 16. Those with fewer years of experience working in a system of care showed less knowledge of parent support groups in their area. The number of referrals providers made to parent support groups varied from 0 to more than 40 within the past year, with an average of 5-6 referrals. Figure 2 shows the case managers' and supervisors' estimates of the percent of time spent in various activities.

Figure 1
Mean Values for Perceptions of System of Care Values



Note: 1 = Disagree, 2 = Agree, 3 = Strongly agree

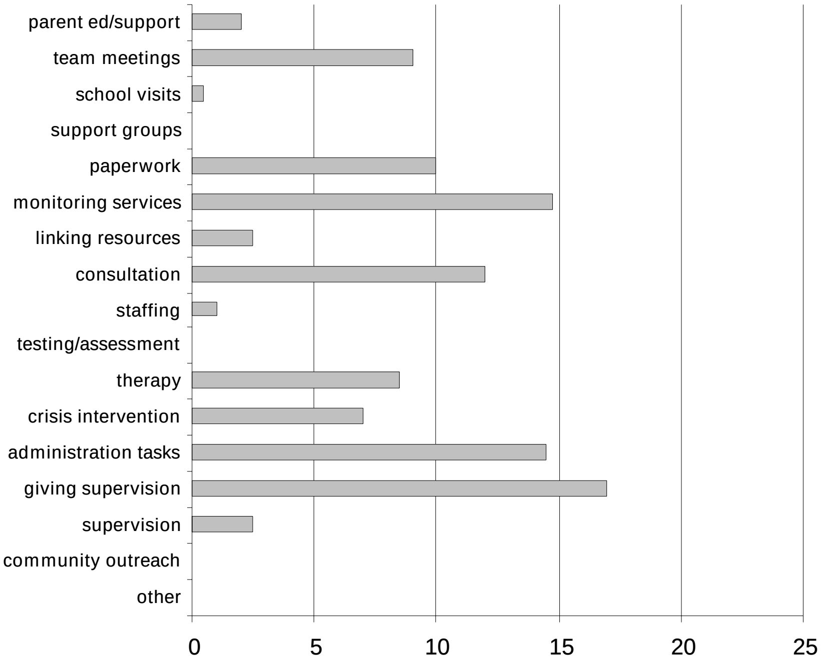
Discussion

Obstacles relating to the case manager and parent-professional collaboration were the least frequently reported by service providers in the present study. Findings also indicated that the levels of barriers were significantly interrelated, i.e., those who reported more obstacles on one scale reported more obstacles on other scales. Barriers cited most frequently included lack of needed services, too much paperwork, client/family not choosing to work on social support goals, lack of time to do everything, and community stigma/bias.

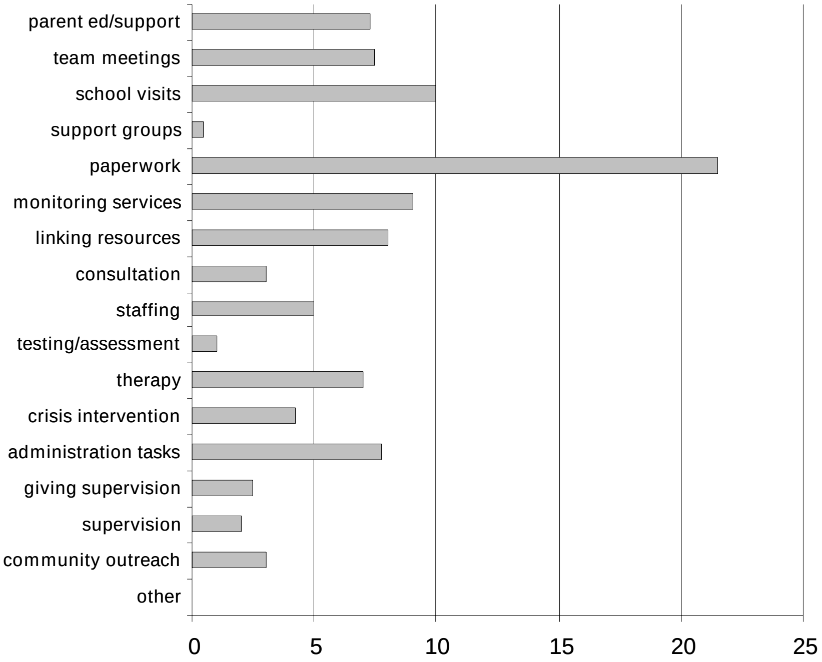
Another finding is the significant relationship between knowledge of parent support groups and experienced obstacles; knowledge was lower when the number of experienced obstacles was higher. In

Figure 2
Percentage of Time Spent on Various Activities Based on an Average Week

Supervisors



Case Managers



addition, lack of knowledge of parent support resources was among the top ten cited perceived obstacles. The finding that service coordinators who were more blaming of parents tended to identify fewer other obstacles suggests that once a provider has identified parent behaviors as a problem, the provider may not be aware of, nor seek to identify, other factors which may be obstacles. This indicates a significant gap in the level of success that can be achieved when working with parents and trying to establish a successful collaboration.

Training implications include the need to teach service coordinators how to identify and update information on informal community resources. They also need to be trained on how to serve in a resource developer role; this is particularly important in more rural areas. The finding that master's level providers feel no more prepared than bachelor's level providers suggests that graduate programs are not providing sufficient focus beyond the value of network interventions; these programs need to include more instruction on how to create and maintain network interventions at the level of practice.

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Race, Minority Status, Cultural Isolation, and Psychiatric Diagnosis in Children in Public Mental Health

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Andrés J. Pumariega
Charles Licata

Introduction

Acculturation of a child from a minority background involves dealing with the impact of a host culture's values on an individual's identity development. During this bicultural adaptation process, the individual builds an ethnic identity that integrates his minority culture into the majority. Such a process may be complicated by lack of sufficient peer support, family support, and role models from the culture of origin. Membership in an ethnic minority group may cause problems for individuals if they experience significant distress that interferes with their daily functioning (Phinney & Rotheram (1987).

There is sparse evidence that minority status may have adverse consequences for children. Previous studies have identified ethnicity as a risk factor in psychiatric disorders such as depression (Roberts & Chen, 1994). Other studies have pointed out significant differences in psychiatric diagnosis as a function of ethnicity (Flaskerud & Hu, 1992a; Kilgus, Pumariega, & Cuffe, 1995; Flaskerud & Hu, 1992b). Each has found significant differences in diagnosis correlated with race, but with no concurrent analyses across minority status and/or urban and rural environments. Racial differences in coping style have been shown to play a role in dealing with stress. Munsch and Wampler (1993) also noted the importance of social support networks for adolescents dealing with school stress. However, it is difficult to distinguish whether such relationships exist because of the impact of minority status, or due to biases in diagnosis or help-seeking patterns.

We found only one major U.S. study addressing the issue of rural-urban differences in psychopathology among children. That study found higher rates of total disturbances among all urban children, schizoid anxiety among urban boys, and social withdrawal among urban girls. But no analysis of racial/ethnic differences across rural and urban settings were performed (Zahner, 1993).

To our knowledge, there has been no large-scale study of psychiatric diagnosis versus ethnicity while controlling for minority status and rural-urban status. Such a study could help determine whether observed differences are attributable to any of those variables or even to racial/ethnic bias in diagnostic assessment.

Specific aims. This study examined the relationship between race, minority status, and cultural isolation on presenting psychopathology in a large population of referred children and youth served by a large public system of care. The study also controls for other demographic factors such as gender, age, income, and rurality.

Null hypothesis. We hypothesize no significant difference in proportions of diagnoses due to race, minority status, and cultural isolation. We also hypothesize that rural ethnic minority youth will not be over-represented in diagnoses of anxiety and impulsive-disruptive disorders.

Information gained from this study may be useful to guide clinicians in considering further sociodemographic factors besides race for assessment and treatment of psychiatric disorders.

Methods

Subjects

Data from the study included all children and youth served by the South Carolina Department of Mental Health (SCDMH) in local Community Mental Health Centers during the 1993-1994 fiscal year. Ages ranged from birth to 18 years old. Records were indexed by each patient's unique identification number, so there were no duplicate records. A total of 17,723 cases were reported. All of the data fields, except service category and amount of utilization, were used in this study.

Measures

The SCDMH database consists of demographic information (age, gender, race / ethnicity, and monthly family income), county of residence, community mental health center used, category of service delivered, number of visits or units of service for each category, and DSM-III-R diagnosis for each patient. Data limitations required the original database's six race categories to be consolidated into "White," "Black," and "Other." Since the SCMDH database did not have a coding scheme for "age not reported," the age of some patients was reported incorrectly as "0." Those records were omitted from age-specific analysis. Additional demographic data were added from the United States Census Bureau's STF3A database (U.S. Bureau of the Census, 1990). For each patient, *county of residence* was used to cross-reference information on that county's rural population and population by race.

A Rurality score was calculated for each county and inserted into each individual's record. The score was calculated from the STF3A data of the U.S. Census Web Site as: Rurality = (Farm + Other Non Urban Population)/Total County Population. The rurality score ranges from 0 to 1, with a value of 1 indicating that an individual lives in a totally rural county.

We also developed math formulas to operationalize minority status and cultural isolation. Minority Status is defined as the proportion of persons within the county population who are not of same-ethnicity as the patient: Minority Status = (1-proportion of individual's own race) This number ranges from 0 to 1, with a value of 1 indicating that individual is in the absolute minority in his county. Cultural Isolation is defined as the product of Rurality multiplied by Minority Status. It is a mathematical approximation of the patient's lack of interaction with persons of the same ethnicity: Cultural Isolation = Rurality x Minority Status. This is a second-order variable that ranges from 0 to 1, with a value of 0 indicating that the patient lives in a county with a dense population of same-ethnicity peers, while a value of 1 suggests the patient lives in a sparse population with no same-ethnicity peers.

Each patient's primary DSM-IIIR diagnosis was further grouped into one of ten diagnostic categories to simplify data analysis:

Category and Diagnostic Grouping

1. Mental Retardation, Pervasive Developmental and Learning Disorders
2. Impulse, Disruptive, and Attention-Deficit Disorders
3. Anxiety Disorders
4. Somatic, Sleep, and Eating Disorders
5. Alcohol or Substance-induced Disorders
6. Schizophrenia and Other Psychoses
7. Mood Disorders
8. Adjustment Disorders
9. V-Code Disorders
10. Diagnosis Deferred

After this grouping, 16,338 valid cases remained (92.2% of total). Diagnostic codes were missing for 1,237 cases, and 148 cases had erroneous diagnoses or diagnoses which did not fit into any of the groups. The distribution of the Diagnostic Groups is shown in Table 1, both for the total population as well as for whites, blacks, and other ethnic / racial groups.

Results

Analysis was rendered with SPSS (Statistical Program for the Social Sciences, PC version 8.0). Crosstabulation, Chi-square Tests, and Logistic Regression were performed for each diagnostic category. Significant racial differences were found in all diagnostic groups except in *Somatic/Sleep/Eating Disorders* and in *Diagnosis Deferred* categories (see Table 1).

Table 1
Cross Tabulation of Diagnosis * Race

			Race			*Total*	*Cross Tabulation (2df)*	
			White	*Black*	*Other*		*PearsonChi-Square Value*	*PearsonChi-Square Significance*
Total		Count	9649	6455	234	16338		
		% within Total	59.1%	39.5%	1.4%	100.0%		
		% within Race	100.0%	100.0%	100.0%	100.0%		
Diagnostic Category	MR, Perv Dev, Learng	Count	218	225	11	454	23.724	0.000
		% within Diagnostic Category	48.0%	49.6%	2.4%	100.0%		
		% within Race	2.3%	3.5%	4.7%	2.8%		
	Impulse, Disrup, ADD	Count	3723	3272	85	7080	211.390	0.000
		% within Diagnostic Category	52.6%	46.2%	1.2%	100.0%		
		% within Race	38.6%	50.7%	36.3%	43.3%		
	Anxiety	Count	864	357	25	1246	68.796	0.000
		% within Diagnostic Category	69.3%	28.7%	2.0%	100.0%		
		% within Race	9.0%	5.5%	10.7%	7.6%		
	Somatic, Sleep, Eatg	Count	98	48	1	147	3.996	0.136
		% within Diagnostic Category	66.7%	32.7%	0.7%	100.0%		
		% within Race	1.0%	0.7%	0.4%	0.9%		
	Alcohol, Substances	Count	79	16	0	95	23.527	0.000
		% within Diagnostic Category	83.2%	16.8%	0.0%	100.0%		
		% within Race	0.8%	0.2%	0.0%	0.6%		
	Schizo, Other Psycho	Count	72	123	5	200	43.734	0.000
		% within Diagnostic Category	36.0%	61.5%	2.5%	100.0%		
		% within Race	0.7%	1.9%	2.1%	1.2%		
	Mood	Count	1342	701	28	2071	34.321	0.000
		% within Diagnostic Category	64.8%	33.8%	1.4%	100.0%		
		% within Race	13.9%	10.9%	12.0%	12.7%		
	Adjustment	Count	1802	819	49	2670	106.995	0.000
		% within Diagnostic Category	67.5%	30.7%	1.8%	100.0%		
		% within Race	18.7%	12.7%	20.9%	16.3%		
	V-code	Count	1121	631	23	1775	15.019	0.001
		% within Diagnostic Category	63.2%	35.5%	1.3%	100.0%		
		% within Race	11.6%	9.8%	9.8%	10.9%		
	Diagnosis Deferred	Count	330	263	7	600	4.646	0.098
		% within Diagnostic Category	55.0%	43.8%	1.2%	100.0%		
		% within Race	3.4%	4.1%	3.0%	3.7%		

Table 2 outlines the results of regression analyses run for each diagnostic category as a dependent variable, with *Race, Minority Status, Rurality, Cultural Isolation, Age, Gender,* and *Income* as independent variables:

- Race was a significant independent variable only in Mental Retardation, PDD, Learning Disorders and Mood Disorders when controlled for other demographic variables.
- Minority Status, however, was a significant independent variable for several diagnostic categories: Impulsive/Disruptive/Attention-Deficit Disorders, Anxiety Disorders, Schizophrenia/Other Psychoses, Mood Disorders, and V-Code Diagnoses.
- Rurality was a significant independent variable for Alcohol/Substance-Induced Disorders, Mood Disorders, and Adjustment Disorders.

- Cultural Isolation was a significant independent variable for Alcohol or Substance-Induced Disorders, Mood Disorders, Adjustment Disorders, and V-Code Diagnoses. This appears to be an effect independent of that due to Rurality or Minority Status.

See Table 2 for diagnostic categories for which Age, Gender, and Income were significant independent variables.

Table 2
$P < 0.05$ Occurrences for Diagnostic Groups Versus Independent Variables*

Diagnostic Category	*Independent Variables*							*Logistic Regression (7df)*	
	Race	*Minority Status*	*Rurality*	*Cultural Isolation*	*Age*	*Gender*	*Income*	*Model Chi-Square Value*	*Model Significance*
MR, Perv Dev, Learng	0.0389				0.0000	0.0000		84.322	0.0000
Impulse, Disrup, ADD		0.0073			0.0000	0.0000		1418.370	0.0000
Anxiety		0.0516			0.0000	0.0000	0.0056	310.439	0.0000
Somatic, Sleep, Eating					0.0003	0.0369		20.281	0.0050
Alcohol, Substances			0.0148	0.0425	0.0000	0.0002		206.697	0.0000
Schizo, Other Psycho		0.0391			0.0000			183.627	0.0000
Mood	0.0211	0.0002	0.0000	0.0000	0.0000	0.0000		1061.566	0.0000
Adjustment			0.0062	0.0003	0.0038	0.0000		250.852	0.0000
V-code		0.0035		0.0000	0.0000	0.0000	0.0030	231.066	0.0000
Diagnosis Deferred						0.0011		34.299	0.0000

*A blank in any box indicates significance $P > 0.05$.

Concluding Remarks

Limitations of this study include:

- The sample is not an epidemiological sample, but a clinical sample with an inherent referral bias. However, given its size, it can be assumed to be fairly representative of clinical samples for this region of the U.S.
- Reliability of data coding in the SCDMH data systems. (For example, there was no code for “Age Not Reported,” so records with the age of zero were not included in age-sensitive analyses.)
- Diagnoses assigned were clinically derived, with clinicians of different levels of expertise making diagnoses. However, this public system does not have any adverse financial incentives that distort the diagnostic process. Many third party payer systems have such financial incentives working against them in terms of diagnostic validity.
- The low number of non African-American minorities, which limited analyses to include a group of “Other” races.

In terms of findings, the differences among so many diagnostic categories across racial groups go strongly against our null hypothesis, and initially suggest that race is a significant factor in clinical diagnosis. This has already been demonstrated in many studies. Race is much less significant in most associations with diagnoses once other covariates are considered. Age and Gender are the most powerful covariates which are predictive in almost all diagnoses. Minority status and cultural isolation appear to account for many of those differences when included in regression analyses along with race and other demographic variables. This is consistent with theory that suggests that proximity and frequency of contact with other ethnic groups is important for adaptation and development (Pumariega & Cross, 1997).

Implications of Findings

- Possible referral bias toward minority and culturally isolated children.
- Possible diagnostic bias against minority and culturally isolated children.
- Possibility of minority status and/or cultural isolation being risk factors for the development of different psychiatric disorders.

Implications for Future Studies

- Population-based studies of psychopathology with epidemiological samples are needed which identify minority status and culturally isolated populations of children.
- Such studies need objective diagnostic measures to control for clinician bias.
- Additional data is needed on the association of peer and family supports with risk for psychopathology (e.g., number of friends, relatives, and adult role models from the child's same cultural / racial background).

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Understanding Item Bias in Children's Mental Health Measurement Through Cognitive Interviews

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Introduction

The need for culturally sensitive assessment is patently clear if we are to make accurate decisions regarding the service needs of children and their families. Research investigations reveal significant differences in the ways in which people of different cultural backgrounds present and describe symptoms of mental disorders, seek help, and respond to treatment (Kleinman, 1995). Since the goal of mental health services is to improve social and emotional functioning, it is imperative that assessment practices are accurate so that appropriate treatment can be prescribed accordingly. Clinicians, however, cannot provide the most effective treatment for their clients if the client has been improperly diagnosed as a result of culturally inappropriate or biased assessment measures.

The issue of culturally sensitive assessment practices is even more pressing for children and youth of color, since they are generally served by adults of differing cultures in multiple service sectors (schools, mental health, child welfare, juvenile justice, etc.). Additionally, minority children and adolescents may run a higher risk of being misdiagnosed when they are referred for treatment. They must depend not only on their families, but also on other adults (teachers, coaches, etc.) to recognize their distress. The fact that these other adults may not share/understand the child's cultural/ethnic background contributes to reporting of symptoms colored by misunderstanding of cultural factors not necessarily incorporated in current mental health diagnostic procedures.

Dana (1996) describes four major criteria for culturally competent assessment services:

1. Service delivery in the first language of clients,
2. Evaluation of cultural orientation (acculturation and ethnic identity),
3. Feedback to clients, and
4. Appropriate methodology and tests.

The fourth criterion is the concern of this project. In this presentation, we outlined a method for detecting bias in measures of children's mental health and emotional health. The goal of the study will be to fill the research gap between detecting differential item functioning (DIF) for different cultural groups on assessment measures and the determination of the source of that difference. We are currently piloting this method.

Differential Item Functioning (DIF)

Cultural bias is demonstrated by the lack of comparable measurement results among varying cultural groups. The recognition and critique of culturally biased measures is not a new phenomenon, but a continuing one (Jensen, 1980; Rudner, Getson, & Knight, 1980; Van de Vijyer, 2000). In 2000, Van de Vijyer divided the source of cultural bias into three areas:

1. Construct bias, engendered by the theoretical construct;
2. Method bias, produced through the mode of test administration; and
3. Item bias, experienced when the interpretation of an item is tainted by cultural perceptions.

This study focuses on item bias, using new methodologies to determine the extent to which an assessment or test item yields culturally biased results.

According to Camilli & Shephard (1994) three steps are typically used to detect item bias: "First, statistical methods are used to find items for which there are unexpected differences in performance between two groups" (p. xiii). This is referred to as *differential item functioning* (DIF). "Second, each potentially biased item is examined for the reasons it is relatively more difficult for a particular group of examinees. Third, an item is considered to be biased if it can be established that the source of the unexpected difference or 'extra' difficulty for one group is not relevant to what the test measures" (p.xiii).

Whereas many sound statistical procedures have been developed to detect DIF (e.g., Rudner et al., 1980), methods to detect the *source* of bias are not as refined. Sometimes judgmental consensus methods are used for this purpose. That is, a group of experts of the specific cultural group judges the appropriateness of measurement items (Kehr Tittle, 1982). Rather than depend upon a consensus of judgment, we will use another method often employed in developing valid survey questionnaires: cognitive interviews.

Cognitive interviews

Cognitive interviewing is a technique used to trace the mental processes involved when the person being tested solves problems or answers question items. Specifically, question interpretation, information retrieval, judgment formation, and response editing done by respondents are investigated (Levine, 1999; Johnson, 2000). Cognitive interviews have recently been applied widely and successfully in examining survey instrumentation for possible measurement error. The use of cognitive interviews can provide insight into cultural insensitivity or bias by examining issues such as conceptual equivalence (i.e., that the concept in question is the same across cultures) (Kalsbeek, 2000).

Method

We will recruit school-age youth within the Nashville area who are receiving services from a community mental health center. Participants will represent two cultural groups: African-American and Caucasian. Because we are exploring two areas (i.e., *what* children consciously think of when completing assessment items, as well as *how* they interpret the items on the measures), we will apply a two-wave design.

Children will first complete items taken from the Functional Behavior Inventory: Youth Version (Bickman & Doucette, 2000) and the Hopefulness Scale: Youth Version (Doucette & Bickman, 2000), both of which have been found to have DIF. After completion of the items, the first phase of interviewing will be conducted using non-directive probes to determine the conscious cognitive processes of the respondents; specifically, what issues or dimensions arise when youth answer the questions. By using non-directive probes, we will be able to discover what domains (e.g., relevant settings, people, experiences, events) are most salient to the respondents during the interview process. We will also be able to discern if there are different domains in each group's references.

In the second stage we will use open-ended directive probes concerning key dimensions of the items as determined by the researchers. This phase will provide an illustration of how respondents interpret each question and its respective answer options. If there are differences in the interpretation of items, this phase is likely to detect those differences.

Data analysis will proceed in three phases based upon procedures suggested by the grounded theory approach (Strauss & Gorbin, 1990). Briefly, grounded theory is an iterative deductive-inductive procedure of analyzing and structuring the qualitative data (interviews, observation, narratives, etc.) with the goal of developing a theory that is grounded in the data. In phase one we will analyze the raw data of the interview in an open coding process and produce basic units named concepts. In phase two we will organize these concepts in an axial coding process resulting in a categorical structure. In the third phase this categorical structure will be used to compare the results of the open coding process used with both ethnic groups. We will also compare this categorical analysis to the findings of the previously conducted quantitative DIF analysis.

Discussion

Using cognitive interviews to investigate the source of differential item functioning has numerous implications for the field of mental health, both in terms of research and practice. This methodology will enhance understanding of bias in assessment measures used in research studies. In addition it will help researchers construct and validate instruments that have minimal bias. Determining whether and why assessment measures differ across cultural groups will enable mental health practitioners and service providers to use the most accurate measures for assessing their clients, as well as to interpret existing measures accurately. This will allow practitioners and service providers to provide the most appropriate and, in turn, the most effective treatment for the children referred to their care.

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The Role of the Equipo Model in Systems Reform

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Introduction

In 1994, the Annie E. Casey Foundation launched the Mental Health Initiative for Urban Children to promote neighborhood-driven systems reform to improve the emotional well being of children and families in poor, inner city communities. The neighborhood of East Little Havana in Miami was one of the communities funded by Casey, in a partnership with the State of Florida and Dade County. East Little Havana is a Latino community comprised predominantly of recent immigrants from Central American countries torn by economic and political strife.

The residents of East Little Havana, with their state and local partners, developed a blueprint for changing the way services and supports were traditionally delivered to make them more responsive to the needs, strengths and cultural characteristics of families in the neighborhood. Two essential elements of this plan for systems change were the concept of reciprocity—i.e., giving back to the community for help received—and the importance of drawing on the strengths of residents as natural helpers. Both concepts reflected the cultural perspectives of Latino families in the neighborhood about the importance of "giving back" to the community and cultural pride in the inherent strengths of Latino families. Both concepts also addressed the cultural realities regarding unfamiliarity and distrust of government services and formal "helping" systems felt by families who had come from countries with politically oppressive regimes. The system reform plan sought to make service systems more understandable and less threatening to families and, at the same time, avoid fostering a long term dependency on formal helping systems. The blueprint recognized that, to accomplish these objectives, traditional service systems would have to change the ways in which they did business, and residents would have to develop the capacity to play critical roles in the delivery of services and supports.

Method

Within the East Little Havana system reform initiative, the Equipo model evolved as a key component. Equipo is a frontline practice change strategy that partners natural helpers, called "Madrinas" and "Padrinos" (godmothers and godfathers) in East Little Havana and professionally trained providers to deliver services and supports. The Equipo model inherently addresses key objectives embodied in the East Little Havana system reform plan.

By its nature, Equipo requires changes in the way traditional services and supports are delivered. Providers (and their supervisors) and residents must acquire new attitudes, skills and knowledge to work hand-in-hand in providing services and supports to families. Providers must learn the strengths of natural helpers, the role of social support structures in service delivery, the appropriate use of natural helpers and limitations in use, and must strengthen partnering and team building skills. Natural helpers, too, must strengthen these skills and learn what various providers bring to the table and sort through their role versus that of those who are professionally trained. Both must also address issues of confidentiality and trust.

In addition to the capacity building objectives Equipo addresses, it also inherently encompasses the notion of reciprocity that is part of East Little Havana's plan. Madrinas and Padrinos are themselves neighborhood residents who have benefited from services and supports. Equipo provides a structured vehicle for residents to "give back" to the community.

As a systems change mechanism that is built on cultural relevancy, the Equipo approach provides a means to improve outreach and access to services and supports for families who otherwise might be reluctant to seek help. The interventions of natural helpers provide a less threatening, more embracing way to engage families in need of help than do typical traditional system approaches, which tend to be either passive (i.e., little happens until crises occur) or aggressive (as seen, for example, in some child welfare systems).

A major aspect of Equipo's system change potential is that the traditional child and family serving systems that fund providers—e.g. child welfare, mental health, health, education, substance abuse—must also acquire new attitudes and knowledge to support the Equipo model. Trust and credibility have to be engendered by the model, and the traditional systems, in turn, have to shift the ways in which they support service delivery if they are to support Equipo.

Results & Discussion

In East Little Havana, several of the traditional systems are supporting the Equipo model. The child welfare system, for example, is contracting with the program, essentially on a case rate basis, to provide family support and family preservation services through the Equipo model to East Little Havana families who become involved with, or are at risk for, involvement with child protective services (but whose children have not been removed from home). Use of the Equipo approach is part of a larger systems reform agenda to change the way in which child welfare services traditionally have been provided in Dade County, i.e., to encompass a neighborhood focus, build on neighborhood and family strengths, emphasize prevention and early intervention, reduce the isolation of families by connecting them to natural support systems and peer supports, and wrap services *and* supports around children and families at risk. The potential exists to expand Equipo's reach into the development of neighborhood-based foster care and adoptive home capacity as well.

Potential also exists for the Equipo approach to be used in development of alternatives to detention for youngsters who come into contact with the juvenile justice system and their families and for development of school based approaches for children involved in special education and for those at risk of dropping out of school.

As a frontline practice change strategy tied to larger systems reform, the Equipo model does not develop overnight. A certain level of readiness on the part of potential partners, e.g. residents, providers and systems, is required. Structured training of natural helpers and providers (and their supervisors) also is needed, as well as continuing education for all parties, development of protocols around such issues as confidentiality, continual trust building, quality improvement mechanisms and feedback loops.

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Replication Challenges and Opportunities of the Equipo/Team Model in Two Diverse Communities

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Introduction

Equipo is a front-line practice strategy for community/resident capacity building, to strengthen neighborhood systems of family support. Equipo was originally developed to enable the full participation of the Spanish speaking residents of the East Little Havana community in implementation of their service delivery system for families served by the Annie E. Casey Mental Health Initiative for Urban Children's Abriendo Puertas Family Center in Miami, Florida. Originally designed to build bilingual capacity, it embraces and acknowledges the cultural diversity in a community and can be translated and adapted to other communities and other languages. Equipo's objectives include the following:

- Form professional/natural helper partnerships to effectively utilize and combine formal with informal supports to support and care for families;
- Increase knowledge and capacity to mobilize community resources and develop new ones;
- Increase the capacity to reach families that have been under-represented in our formal systems of support and involve them in meaningful ways;
- Increase our capacity to develop individualized service and support plans that are family-centered, strength-based, community-based and culturally competent;
- Increase capacity to do child and safety planning;
- Achieve greater coordination and integration of services and all helping efforts; and,
- Strengthen community leadership to establish and sustain a neighborhood system of care.

The Equipo strategy also recognizes that professionals and bureaucrats alone are not able to solve all problems facing families. There is ample evidence that over-reliance on professional helpers and formal agencies, and systems solutions can fail to create strategies fully relevant to specific communities. In addition, the lack of flow of resources between formal and informal systems prevents families from receiving supports on a twenty-four hour, seven day a week basis. Separating natural helpers and professional roles places unnecessary constraints on roles and can make both less effective.

Acknowledged as an inherently culturally competent model and strategy of front-line practice reform, Equipo was funded in October of 1999 by the THINK (Tampa-Hillsborough Integrated Network for Kids) Initiative, one of the sites for the Center for Mental Health Services' Comprehensive Community Mental Health Services for Children and Their Families Program. THINK objectives are to reach out to under-served populations and areas of the county, and to ensure the cultural competency of the services system by providing meaningful participation by representatives of minority and rural communities. THINK funded the implementation of Equipo in two diverse communities. One community is in an urban area and is focused on families of Latino ethnicity and served by a local collaborative of child and family serving agencies called the Puentes Initiative. The families in this community are also served by the Hispanic Services Council. The other site is a primarily rural housing development whose families are mostly African American and served by a grassroots organization called Neighborhoods United, Inc. The participants in the latter community have named themselves and the training process, Change-Makers (Community Helpers Achieving 'N Group Excellence).

Method

As formal systems move from institution based to community based, from provider focused to a family focused, from individual to family centered, from a deficit-based to a strength-based model, and from clinical approaches to a shared social support approach, training and on-going support are required to make these shifts. In addition, moving from professional control to partnership with families is a desirable and necessary practice. Equipo/Change-Makers creates substantive opportunities for service providers and natural helpers in the community to learn to work as a team and initiate a team building process that can multiply and sustain the partnership of formal with informal supports in the future. The goal of the Equipo model is to bring together formal and informal helpers, and lead the group, as a learning community, through a process and series of skill building information-sharing exercises. Participants engage in five phases of the Equipo capacity building and training process:

1. Planning/Engagement of Participants
2. Preparation of Natural Helpers & Service Providers
3. Equipo Training Implementation
4. Debriefing
5. Training of Trainers

The planning/engagement stage begins with the successful engagement of the site and commitment to implement the Equipo training process, and involves the development of a plan that includes:

- Assessment of site readiness, i.e. efforts to link formal with informal supports, organizational commitment and resources to support the process;
- Identifying and preparing the participants;
- Obtaining organizational support from service providers, i.e. program managers, and a back up system for service providers during training sessions;
- Identifying the supports needed to enable parent/natural helpers participation during training sessions, i.e. child care, stipends to replace loss of wages, etc.;
- Identifying the site and infrastructure needed for the training sessions, as well as logistical support such as communication with participants, food, space etc.; and,
- Developing a time line for implementation and debriefing sessions.

In order to implement Equipo, a trust-building engagement period is needed to build the relationship between trainees and trainers. This relationship of trust becomes the foundation upon which the training sessions, which require a great deal of involvement and active participation, are implemented. To accomplish this, trainers conduct site visits to meet with stakeholder representatives of both formal and informal communities. Key people and community groups are identified who can take on leadership roles and serve as liaisons and support for planning and implementation.

During this stage, there is a functional assessment of the site readiness to implement the Equipo training process, including: (a) level of development in linking formal with informal supports, (b) existing strengths and resources, (c) readiness of service providers to work in partnership with natural helpers, (d) site experience in utilizing natural helpers to support family service plans, (e) resident/family involvement in the design and development of a neighborhood system of family care, (f) existence of a service team, (g) extent of site implementation of family centered approaches, and (h) organizational resources to support planning and implementation of the Equipo approach in the targeted community over time.

This planning/engagement stage requires substantive conversations and on-site consultation and capacity building sessions held with formal and informal stakeholders. During the site visit the stakeholders respond to the functional assessment questions, are introduced to the Equipo approach and training curriculum, and begin to articulate the goals they want to achieve with the training.

Discussion

After substantive structured meetings and informal reflection sessions with Equipo training participants, including community residents/families and formal service providers, administrators, and technical assistant providers, the challenges, opportunities and lessons learned in replicating this model are being identified. The challenges and opportunities which have surfaced with a model, utilizing natural helpers as informal supports in the community, of front-line practice change as it has been replicated and adapted in two diverse communities, include:

- Self-selection process of the participating neighborhoods;
- Training process reliance on building on the strengths of the community and the strengths of the formal system;
- Lessons learned regarding building on current and past initiatives;
- Curriculum's use of the neighborhoods own stories for training;
- Curriculum's flexibility to incorporate learning opportunities, not just in the exercises, but in it's content;
- Acknowledging the participants understanding and knowledge of their communities; building on indigenous qualities of the communities;
- Taking action, even when you don't feel ready;
- Importance of and utilizing a cultural and competent team approach;
- Importance of utilizing a participatory evaluation process; and,
- Importance of reflection, acknowledging that only after we recognize our limitations do we understand what our next steps must be.

The lessons learned from the Equipo replication experience for the development of partnerships between formal and informal service providers, between families and providers, between community residents and larger systems, are many. The process yields an enormous amount of information about system of care development, much of which has yet to be documented, analyzed, interpreted and shared. Perhaps most importantly, the Equipo model and philosophy can help to provide an array of quality and culturally competent services to the children, adolescents and their families in the neighborhood.

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Treatment Effectiveness, Comorbidity and Youth Having SED: Linking Treatment Outcomes to Diagnostic Categories

Linda Wilmshurst

Introduction

The present research program was designed to address several child treatment issues: (1) the need for controlled research comparing residential and community based alternatives; (2) the need to evaluate longer term (one year post-treatment), as well as short term treatment implications; (3) the need to explore the impact of comorbidity on treatment outcomes for youth having a serious emotional disability (SED); and (4) the need to link treatment outcomes to diagnostic categories.

Methodology

Youth having SED (ages 6 - 15) were randomly assigned to one of two treatment alternatives: the family preservation program (FP Program), a home based approach (n = 50); and a residential program (RP Program) offering a short term alternative to home placement (n = 36). In addition to providing two distinct methods of service delivery, the programs also differed in treatment methods and philosophy. Although both programs offered crisis management and shared common goals of providing family-centered and strengths based services, treatment within the FP Program was based on cognitive behavioral methods, while the RP Program adhered to principles of brief solution-focused therapy. Both programs provided three months of intensive treatment. The FP Program offered workers available on call 24 hours a day for 7 days a week, for 8-12 hours a week. The average family contact time during treatment was 48 hours. The RP Program offered flexible residential placement, 5 days per week, with family sessions held at the agency (for approximately one hour, every two weeks). The average family contact time for the RP program was 26 hours.

Parents, teachers and youth completed the Standardized Client Information System (SCIS; Boyle et al., 1993) and the Social Skills Rating System (Gresham & Elliot, 1990). Parents also completed the Family Assessment Device (FAD; Miller, Bishop, Epstein & Meitner, 1985) and the CES-D scale of Caregiver Depression (Radloff, 1977). All questionnaires were completed at pretreatment, post-treatment (after 3 months of intensive treatment) and one year after the termination of treatment.

Analysis of pretreatment demographic and outcome information revealed that the population matched characteristic projections for families at high risk for conduct problems, including: low income, low education and single parenthood (Offord, Adler & Boyle, 1986). Over 90% of youth scored at clinical levels (T greater than 70) for Conduct Disorder (CD), while over 69% of youth demonstrated comorbid internalizing (Separation Anxiety, Overanxious Disorder, Depression) and externalizing disorders (Conduct Disorder (CD), Oppositional Defiant Disorder (ODD), Attention Deficit Disorder (ADHD).

Results & Discussion

Initial data analysis was conducted with 2 (treatment groups) by 3 (time) mixed ANOVA with outcome measures as the dependent variables. Subsequent analysis involved measures of clinically significant change (RCI). Results revealed that youth in both programs demonstrated significant long term reduction of symptoms of CD, ODD and behavior problems and significant increase in Social Competence. These results were statistically significant and demonstrated that brief intensive interventions which adhere to a prescribed treatment philosophy (cognitive behavioral or brief solution focused therapy) can be successful in the long term reduction of externalizing behaviors and can increase prosocial behaviors.

However, differential treatment effects were evident for several of the outcome measures. In addition to significant symptom reduction for CD and ODD, youth who had been involved in the FP Program also noted significant reduction in symptoms for Total Internalizing compared with pretreatment levels, while youth from the RP Program demonstrated an escalation in symptoms beyond pretreatment levels. A significant percentage of children who had participated in the RP Program noted deterioration in symptom increases for overanxious disorder, separation anxiety and depression. Whether deterioration was due to possible iatrogenic effects resulting from peer aggregation in the RP Program (Dishion, McCord & Poulin, 1999) or increased anxiety levels were due to fears of removal from home again, at some future date, remains speculative.

The research program addressed two important child treatment issues: (1) the need for additional controlled studies comparing community based alternatives, and (2) the need to link treatment methods to diagnostic outcomes (Report of the Surgeon General, 1999). Results support previous research which has demonstrated that community based alternatives can be successful for difficult to serve populations (Chamberlain & Reid, 1998; Schoenwald, Borduin & Henggeler, 1998). The inclusion of outcome measures for internalizing, as well as externalizing disorders, was instrumental in detecting significant between program differences. The study emphasized the need to consider internalizing and externalizing disorders in studies designed to link treatment effectiveness to diagnostic outcomes for EBD youth. The FP Program employed cognitive behavioral methods which can be an important therapeutic approach for symptom reduction in youth with ADHD (Kendall & Braswell, 1993) Anxiety Disorders (Kendall, 1994) and Depression (Stark, Reynolds & Kaslow, 1987). Future replication of the study using cognitive behavioral methods across both programs and further investigation of the impact of increased integration of program supports within the school system is recommended.

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Functional Outcomes of Youth Admitted and Not Admitted to an Adolescent Crisis Unit

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Introduction

The need for evaluations of the effectiveness of systems of care is essential for the children's mental health field. In the epidemiological literature, prevalence rates of at least one psychiatric disorder in community samples of children and adolescents range from 15% to 25%. In an internationally recognized study of the prevalence of mental health problems among children in Ontario, Offord and his colleagues (1989) demonstrated that 18.1% of children and youth aged 4 to 16 suffer from diagnosable psychiatric disorders. These emotional disabilities seriously disrupt the child's ability to interact effectively with family, at school, and in the community.

A strong consensus exists concerning the problematic fashion in which mental health services are typically provided to children. Many children do not receive any services, and others receive inappropriate services (Bickman & Heflinger, 1995). The vast discrepancy between the number of children and youth in need of mental health services and the number who receive appropriate services has been emphasized (Stroul & Friedman, 1986). With the focus on the development of community-based programs, there has been less recent research on hospitalization of children and adolescents. In particular, we have little knowledge of the services offered to children in hospitals, the process of linking children to services at discharge, and how these aspects of treatment are related to outcomes such as functioning in school, home and the community (Sondheimer & Evans, 1995).

Nurcombe (1995) provides an overview of three reviews of research on the outcome of hospitalization and states that all reviews noted deficiencies in the research available. Ethical constraints encumbered the introduction of controls or comparisons; for example, the random assignment of dangerously suicidal or violent patients between hospital and control settings is unethical. Few studies were found to be prospective. The measure of outcome used varied in objectivity and reliability, and data were rarely reported in a sophisticated manner (many lacked means and standard deviations). Nurcombe also noted that more powerful analytic methodologies such as multivariate statistical techniques are required. Therefore, Nurcombe recommends that strong quasi-experimental designs should also be used.

East Metro Youth Services (EMYS) is a fully accredited children's mental health center located in a suburb of Toronto, Ontario that provides a wide range of mental health services to youth and their families. One such service is access to the Adolescent Secure Crisis Unit (ASCU) at Whitby Mental Health Centre. It is critical to a build a knowledge base on how current services are accessed and used. While a variety of mental health care models are being used in the community, gaps exist in our knowledge base, particularly in the Canadian context. To our knowledge, there has not been a similar study following a group of adolescents eligible for admission to an inpatient psychiatric unit, particularly those admitted *and* those not-admitted.

This exploratory pilot study addresses some of the limitations identified by previous research on the hospitalization of youth. It is a prospective study that utilizes a strong quasi-experimental design and reliable outcome measures. This study offers a unique opportunity to systematically follow a group of youth in need of crisis services: one group was admitted to an adolescent crisis unit and the other group was not admitted.

Method

A non-equivalent comparison group designs approach was used in the study. The quality of this design rests on the capacity to find two or more comparison groups that are as similar as possible. Because both groups in this study were assessed as being eligible for admission, they were similar in terms of the nature of the crisis. Youth in both groups were followed for six months.

Data were collected at intake for all referrals deemed appropriate for admission to the Whitby ASCU. The East Metro Youth Services (EMYS) Intake Form was used to document basic demographic information, presenting problem, diagnosis, treatment history, service use, and family living arrangements. The Child and Adolescent Functioning Assessment Scale (CAFAS; Hodges & Wong, 1996) was administered by a research assistant who was trained in the use of the CAFAS; high reliability ratings were achieved.

All youth judged appropriate for admission were either admitted to the ASCU or placed on “alert” and on a waiting list. Youth placed on “alert” were placed in the “not-admitted group.” Those youth who were not admitted upon intake, but were admitted within 30 days, were considered to be in the “admitted” group. The individuals in these two groups (i.e., “admitted” and “not-admitted”) were followed from time of intake for six months. A telephone interview with the child’s parent/ guardian or mental health worker was conducted for each of these individuals at one, three and six months. This follow-up telephone interview involved a brief survey to monitor services used, current living arrangements, and length of time on the waiting list. It also included a re-implementation of the CAFAS. Descriptive statistics were computed and differences between groups were analyzed using chi-square, *t*-tests and analysis of variance. At time of intake, the number of youth entered into the study was 130 (n = 78 in the admitted group; n = 52 in the not-admitted group). The number of participants at the six month follow up dropped to 29 in the admitted group and 23 in the not-admitted group; this was much lower than anticipated due to the difficulty in follow up over time. This small sample size must be taken into consideration when reviewing findings.

Results

Demographics

The two groups did not differ in terms of age (mean age of 16.3 years in the admitted group and 15.4 years in the not-admitted group), gender (51.7% female in the admitted group and 39% female in the not-admitted group) or educational level (average of 9.8 years of schooling in both groups). For the admitted group, the mean time spent on the waiting list was seven days (*SD* = 5.8) and the mean number of days in hospital was 25.5 (*SD* = 14.5). Diagnoses reported at six months changed very little (18% had a diagnosis that changed) from those reported at the one month interview. Mood disorder emerged as one of the most frequently diagnosed in both groups, followed by schizophrenia-related illness in the admitted group and post traumatic stress disorder in the not-admitted group. Approximately two-thirds of the admitted (64%) and not-admitted groups (68%) were on some form of medication at six months. Notably, more not-admitted participants were taking an anti-depressant (p = .017, chi-square = 6.12) than were youth in the admitted group.

Service Use

The majority of individuals in both admitted (96%) and not-admitted (95%) groups were receiving some form of treatment or service. Close to three-quarters of youth in both groups were receiving professional services, which included a psychologist, psychiatrist, social worker, or family counselor; most of which were attached to a mental health center or clinic. Many youth in the admitted groups were still inpatients of the psychiatric hospital at six months. This was due to residence at units other than the crisis unit. The number of not-admitted youth who were inpatients of a psychiatric hospital at six months represented youth who were not admitted until after 30 days following the intake call. Youth in the admitted group were significantly more likely to be involved with a special school. This is not surprising, given their inpatient status and the special schooling available within the hospital for these youth. Service use was examined in terms of the number of services utilized at each time period. It was found that the majority of youth in both groups were receiving one service only at each time period. Very few individuals used two services and even fewer used three.

Functional Status of Youth in Admitted and Not-Admitted Groups

CAFAS: Severity of Youth at Intake. The severity of impairment of the youth at intake can be summarized in three ways: (1) the mean (average) for the total score, (2) overall level of dysfunction, as indicated by CAFAS total score, and the (3) number of individual scales on which the youth was rated as severely impaired.

Mean, Median and Mode for Total Score at Intake. There were no differences in the means for the total CAFAS score between the admitted and not admitted groups at intake. The mean for the CAFAS total score at time of intake was 169.71 (*SD* = 29.68) for youth admitted and 170.00 (*SD* = 39.89) for those youth not admitted. The scores ranged from 100 to 240, with a median of 170 and a mode of 180 for the admitted group. For the not-admitted group, the scores ranged from 60 to 230, with a median of 180 and a mode of 210.

Overall Level of Dysfunction at Intake. Another way of describing the sample at intake is to examine the frequency of youth whose total score at intake fell into each of the five categories of general functioning (0-10: none or minimal dysfunction; 20-30: mild impairment; 40-60: moderate impairment; 70-80: marked impairment; 90 or higher: severe impairment). The total scores at intake suggest intensive treatment is needed. Of the youth admitted, 79.3 percent had total CAFAS scores of 90 or more, and 82.6% of the not-admitted group had total CAFAS scores of 90 or more.

Frequency of Individual Scales Rated at the Severe Level of Impairment. For each client, the proportion of individual CAFAS scales on which the youth was rated as having a severe impairment (i.e., received a score of 30) was summed. For School, 83% of admitted and 83% of not-admitted scored 30; for Home, 90% of admitted and 96% of not-admitted scored 30; for Community, 31% of admitted and 52% of not-admitted scored 30; for Behavior, 83% of admitted and 65% of not-admitted scored 30; for Moods, 97% of admitted and 87% of not-admitted scored 30; for Self Harm, 695 of admitted and 74% of not-admitted scored 30; for Substance Use 3.4% of admitted and 9% of not-admitted scored 30; for Thinking, 86% of admitted and 44% of not-admitted scored 30.

Change in CAFAS Scores over Time

The indicators used to describe youth at intake can be used to assess change over time, comparing the first CAFAS rated at intake with the CAFAS rated at six months.

Mean for Total Score. Change over time was compared with a paired *t*-test which compared the CAFAS at intake with the CAFAS at six months. The test was significant for both the admitted and not admitted groups. As shown in Table 1, for the admitted group, the average CAFAS score at six months was 119.0 (*SD* = 58.8), compared to 173.8 (*SD* = 26.4) at intake. This represents a significant decrease in total CAFAS score over time ($t = 5.111$, $p = .001$). For the not admitted group, shown in Table 2, the average CAFAS score at six months was 112.2 (*SD* = 45.1), compared to 166.1 (*SD* = 36.5) at intake. This represents a significant decrease in total CAFAS score over time ($t = 6.275$, $p = .000$).

Change in Mean Scores for Individual Scales. Using paired comparison *t*-tests, the intake and 6 month scores were compared for each of the eight individual subscales for both the admitted and not-admitted groups. As indicated in Table 1 below, there were significant decreases in the admitted group over time in the CAFAS subscales of Behavior, Moods, Self Harm and Thinking. As indicated in Table 2 below, there were significant decreases in the not-admitted group over time in the same CAFAS subscales of Behavior, Moods, Self Harm and Thinking.

Table 1
Functional Status of Admitted Group
(N = 29)

CAFAS Subscales or Domains	*ADM Intake Mean*	*ADM Intake SD*	*ADM 6 Month Mean*	*ADM 6 Month SD*	*t-value*
School	27.9	4.9	26.4	9.5	NS
Home	27.6	7.4	25.7	10.0	NS
Community	10.3	14.0	9.6	13.7	NS
Behavior	26.2	9.4	15.0	12.9	4.5*
Mood	29.7	1.9	17.9	11.7	5.6*
Self Harm	23.4	10.8	10.3	12.7	4.5*
Substance Use	2.4	7.4	2.1	6.3	NS
Thinking	26.8	8.6	10.7	13.3	5.1*
Total	173.8	26.4	119.0	56.8	5.1*

* $p < .001$

Table 2
Functional Status of Not Admitted Group
(N = 23)

CAFAS Subscales or Domains	*ADM Intake Mean*	*ADM Intake SD*	*ADM 6 Month Mean*	*ADM 6 Month SD*	*t-value*
School	25.7	10.4	24.3	11.6	NS
Home	29.1	4.2	26.1	8.4	NS
Community	15.7	15.3	7.8	12.8	NS
Behavior	25.2	7.3	14.3	10.4	5.8*
Mood	28.7	3.4	18.7	11.8	4.3*
Self Harm	23.5	11.9	10.4	13.3	4.4*
Substance Use	3.5	8.8	3.5	8.8	NS
Thinking	14.8	14.4	7.9	12.0	3.1*
Total	166.1	36.5	112.2	45.1	6.3*

* $p < .001$

Conclusion

In terms of service use, the majority of both admitted and not-admitted groups were utilizing treatment and support services at six months. The use of a professional such as a psychologist, psychiatrist, or other mental health worker was common for both groups. For youth who do not get admitted to the crisis unit, there were a variety of alternate resources available, including community mental health centers, residential treatment centers, group and foster home care.

To summarize, individuals eligible for admission to the Whitby ASCU were significantly impaired in their functioning according to their total CAFAS scores. CAFAS scores at intake differed between the admitted and not-admitted groups on the Thinking subscale only. The admitted group were significantly more impaired in the Thinking subscale than were the not-admitted youth. This is not surprising, given that it would be expected that youth experiencing psychosis would receive immediate care. This finding does, however, suggest that findings be interpreted with caution. Clearly, a larger sample size and more intensive follow up are required in future research of this nature.

The total CAFAS scores in both admitted and not-admitted groups decreased significantly from intake to six months on several domains. For both the admitted group and not-admitted groups, functioning improved in the areas of Behavior, Moods, Self Harm and Thinking. In addition, the total CAFAS score was significantly lower (indicating improved functioning) for both groups at six months. It appears that both groups benefited from the services/treatment that they received. The admitted group, who demonstrated more impairment in their Thinking, improved significantly more in that subscale than did youth in the not-admitted group.

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Illuminating the "Black Box" of Multi-Component Interventions: In-Home Crisis Interventions

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Introduction

State-of-the-art interventions for children with emotional or behavioral disorders are multi-component and ecologically-based. Interventionists are typically trained in a variety of skills, such as establishing rapport, communication, crisis de-escalation, parent skills training, and other relevant skills. In addition they may have available a number of concrete services such as financial assistance, as well as referral to services including respite, after-school programs, and various therapeutic interventions. The component services are routinely individualized to meet the needs of a child and his/her family. Following assessment of the child and family situation, the interventionist in concert with the family implements various components of the intervention to best meet child and family needs. In practice however, it is more typical than not to have children and their families receiving quite different services even when enrolled in the same intervention. This presents a challenge for researchers: The individualized approach, which may make services more acceptable and effective also serves to complicate systematic evaluation of the intervention as a whole.

To date little work has focused on describing or understanding what services, components or approaches are used by interventionists in these multi-component interventions and how families perceive these services, components or approaches. An exception to this would be manualized, research-based interventions, such as Multisystemic Therapy (Henggeler, Schoenwald, Borduin, Rowland & Cunningham, 1998). These are better understood than many of the interventions in practice, but such standardized approaches to service provision are limited in number. To promote the adoption of many commonly used intervention programs, the field requires a better understanding of the core dynamics underlying these interventions.

This study proposed to illuminate the "black box" of multi-component interventions for children in crisis and their families. From an analysis of interventionists' reports regarding services provided and caregivers' perceptions of three such multi-component program models, this work may be considered as a first step in examining the relationship between patterns of service provision and outcomes experienced by the child and family. Additionally, it is hoped that the lessons shared from this work will serve to encourage further discussion of design and evaluation issues.

Study Design

This study is a secondary analysis of data collected from a research and demonstration project funded in part by a grant from the National Institute of Mental Health and the Center for Mental Health Services (Evans, 1992). The study was conducted in the Bronx, New York, between 1993 and 1996. Details of the study can be found in Evans, Boothroyd, and Armstrong (1997), and Evans et al. (1999).

Respondents

The participants in this study were the 13 clinical staff who provided intensive in-home services to 238 children with serious emotional disturbances and their families. Providers included two case managers in the Crisis Case Management program (CCM), five counselors in the Home-Based Crisis Intervention program (HBCI), and six counselors in the Enhanced Home-Based Crisis Intervention program (HBCI+). Data regarding services provided were collected from 75% of the caregivers ($N = 179$) of children who received services from these 13 clinical staff members.

Program Models

Children presenting at either of two psychiatric emergency rooms, who upon emergency evaluation and subsequent determination that they could safely participate in intensive in-home services as an alternative to hospitalization, were randomly assigned to one of three program models. Each child and his/her family who elected this option received intensive in-home services and supports for a period of 4-6 weeks.

Each of the three programs varied in focus, staffing and staff training, and services provided. CCM emphasized needs assessment, provision of concrete services and linking the child and family to needed services. Each case manager provided service to eight children and their families (four crisis cases and four intensive case management cases). Staff received training in intensive case management and crisis intervention. Services provided included case management, consultation with a child psychiatrist, and in- and out-of-home respite services.

HBCI and HBCI+ both focused on resolving the immediate crisis, teaching skills, improving family relationships and referring to needed services. Each counselor from either program however, worked with only two families at a time. Both HBCI and HBCI+ staff received training in Home-Based Crisis Intervention, but HBCI+ clinicians received additional training in cultural competence and community violence. HBCI clinicians offered intensive in-home services utilizing the single therapist approach while HBCI+ staff emphasized natural and family supports. Both programs offered consultation and in-home services of a child psychiatrist. HBCI did not offer respite services, but HBCI+ offered in- and out-of-home respite, made available by a parent advocate during and following the program, and had access to flexible service dollars for families in need.

Measures and Data Collection

Three measures were used to collect the data for this study. Each of these measures was designed to provide insights regarding the specific services provided and received, from both provider and caregiver perspectives. The *Services Checklist* (Boothroyd & Evans, 1993a), a 107-question self-report measure, was designed for clinical staff to record the clinical techniques and services provided to each child and family who received intensive in-home services. At time of discharge from services, staff used the checklist to record specific information within five categories of clinical techniques (i.e., Child Management/Parent Effectiveness Training, Emotion Management, Interpersonal Skills, Assertiveness, and Other Clinical Services) and two categories of non-clinical services (i.e., General and Family). For each question, staff members were asked to indicate if they used the technique or provided the service as well as if the technique or service was a major emphasis of their intervention.

The second and third measures focused on assessment and comparison of service providers' and caregivers' perspectives regarding projected outcomes of services rendered and service implementation at the time of the child's discharge from his/her respective program. The *Counselor/Case Manager Self-Assessment* (Bureau of Evaluation and Services Research, 1993) was used to measure the interventionists' opinions on the impact of their individual efforts with each family. The *Program Implementation and Fidelity Questionnaire* (Boothroyd & Evans, 1993b) was administered to caregivers at time of discharge to validate provision of services and procedures specific to each intervention as well as to record presence/absence of cultural competence relative to each intervention. Additionally, administrative records regarding provision of respite care and use of flexible service dollars were available to verify implementation of those services.

Results

Considering both *Clinical Services* and *Non-Clinical Services*, statistically significant differences between the three interventions were clearly evident in analyses by way of ANOVA at $\alpha = .05$ (Clinical: $F(2,227) = 102.10$, $p < .001$; Non-Clinical: $F(2,227) = 40.91$, $p < .001$). This is further described in Table 1, in which the most frequently used clinical and non-clinical services are presented for each program. A driving force of differences in the domain of clinical services among the intervention programs was that CCM interventionists more often reported provision of no clinical services of any type. When clinical services were provided by CCM interventionists, this was noted to be within a narrower range than that reported by interventionists from the other two programs. In the non-clinical services domain, it was the HBCI interventionists who most frequently reported provision of no non-clinical services and again, when services were noted, the frequency of non-clinical services was limited in range relative to that of the other interventions.

Table 1
Most Frequent Clinical versus Non-Clinical Services by Program Model

	Clinical Services	*Non-Clinical Services*
CCM	Treatment goals (32%)	Transportation (58%)
	Family Council (30%)	School Problems (33%)
	Emotional Support (28%)	Recreation (30%)
HBCI	Psychoeducation (94%)	School Problems (31%)
	Listening to Clients (89%)	Recreation (30%)
	Use of Reinforcement (86%)	Toys/Equipment (17%)
HBCI+	Listening (88%)	Toys/Equipment (80%)
	Defusing Crises (87%)	School Problems (66%)
	Support/Empathy (86%)	Recreation (66%)

Evaluation of program fidelity centered around three issues: (1) participants should be representative of the target audience, (2) length of stay in treatment should be within the parameters of the programs' design, and (3) caregivers should be aware of services available to them. Table 2 summarizes findings on each of these three points.

Because the three program models were designed to serve the same target audience, the percentage of children within each program model who met the target audience criteria was examined. To be considered in compliance with the program model, the children had to be between the ages of 5 and 18 and score in the clinical range on the *Child Behavior Checklist* (Achenbach, 1991). As can be seen in Table 2, this criterion was easily met in all programs—no statistically significant differences were discerned among the three interventions [$\chi^2(2, N = 234) = 1.33$, p = NS].

A second program implementation fidelity check examined the length of stay among children receiving intensive in-home services. Each program model was designed as a short-term intervention that should serve children and families for six weeks (42 days or less). Fidelity regarding the duration

Table 2
Fidelity by Program Model

Indicator	*CCM*	*HBCI*	*HBCI+*
Target Audience (On Age and CBCL Clinical Range)	97%	95%	93%
Length of Stay (Mean Number of Days)*	54	41	44
Length of Stay (%)*	12%	68%	38%
Use of Respite Care*	23%	N/A	48%
Caregiver Aware of Respite*	42%	N/A	64%

CBCL = Child Behavior Check List; *$p < .01$

of service provision was examined in two ways: (1) the average number of days children received in-home services and (2) the percentage of children whose length of stay was less than 42 days (i.e., six weeks). The average length of stay for children who received HBCI was 41 days and was within the specified program model. This figure was 44 days for children served in the HBCI+, slightly longer than prescribed. For children who received CCM, the average length of stay was 54 days, significantly longer than the lengths of stay for children in either HBCI or HBCI+ [$F(2,220) = 14.20$, $p < .001$]. An examination of the percentage of children served within a six-week period revealed that 68% of the children in HBCI met this standard, 38% of children who received HBCI+ and 12% of children in the CCM program model. These differences among program models were significantly different [$\chi^2(2, N = 223) = 45.81$, $p < .001$].

The final fidelity check examined the respite care services that were available in the CCM and HBCI+ program models. Caregivers' self-reported awareness of the availability of respite care services was the primary measure of program fidelity. Additionally, the actual use of respite care was examined. Sixty four percent of the caregivers in the HBCI+ program indicated that they were aware that respite services were available within this program model. In contrast, 42% of caregivers of children who received CCM reported being aware of the availability of respite care. These differences were statistically significant [$\chi^2(1, N = 147) = 9.46$, $p < .005$]. Not surprisingly, the use of respite care was associated with caregiver awareness as 48% of the families who received HBCI+ used respite care compared to 23% of families who received CCM [$\chi^2(1, N = 147) = 9.46$, $p < .005$].

Discussion and Lessons Learned

The model of case management used in this study was a broker and linkage to services model. That model is reflected in the services offered and the infrequency of direct clinical services being provided by the case manager. The other two models of care are theoretically-based and do include direct clinical services, which was reflected in the counselors' identification of clinical services. It is interesting to note that all three models reported providing services for school problems and recreation.

Results from this study highlight fundamental tenets: Families need to be asked about their goals, and families need to know what options are available relative to their goals. Trends in provision of service and subsequent program fidelity can vary as demonstrated in this study, strongly suggesting the need for close monitoring to ensure program success.

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