Chapter Five

Measurement and Instrumentation

The Administrator's Misconception: Subjective Perception vs. Objective Measurement of the Number of Children Participating in Multiple Treatment Programs

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Introduction

In the autumn of FY2001, the Vermont Agency of Human Services (AHS), an umbrella agency, was increasingly being criticized for a perceived lack of service coordination within a fragmented system of care. In response AHS management acknowledged the problem and began to develop plans to address it. The magnitude of the problem within the agency that served over 250,000 clients was perceived to be substantial.

A variety of approaches to addressing this problem were proposed. At the bureaucratic level, proposals ranged from large-scale reorganization of the agency, to co-location of agency offices within regions of the state and redrawing regional boundaries. At the clinical level, proposals focused on various approaches to coordinated case management. At the technology level, discussion focused on the creation of an integrated agency-wide information system to be based on a single unique person identifier and include a common core intake.

Before moving ahead, AHS administration requested an analysis of existing AHS databases to determine the true scope of the problem. Results indicated that the number of clients who were served by multiple programs was much lower than had been perceived by program managers.

This paper describes the mathematical procedure that provided the quantitative estimates of the number of individuals served by specified numbers of AHS programs, applies this analytical approach to children (under age 18) served by the agency, and discusses some sources and some consequences of the "administrator's misconception" that involved a massive overestimation of the complexity of the AHS caseload (see Figure 1).

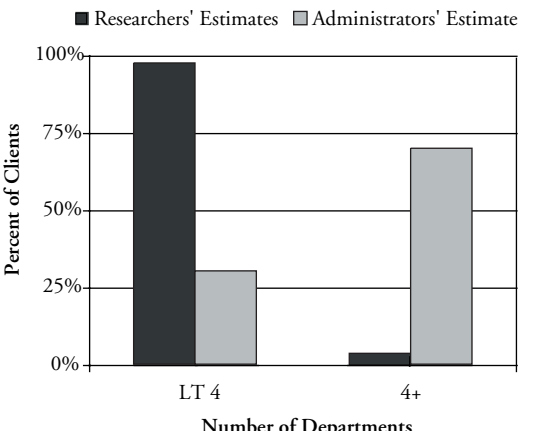
Method

The Vermont AHS includes 7 major programs that provide direct services to children and adolescents. In order to determine the number of young people served by 1, 2, 3… programs, this project developed a three step analytical process. The process relied exclusively on analysis of existing administrative databases to describe complex systems of care as we have recommended elsewhere (Pandiani, 2000; Banks, Pandiani, 2001a; Banks, Pandiani, Simon & Nagel, in press).

Step One

In order to determine the number on the caseload of only one program, two quantities were estimated. One quantity is agency-wide. It is the unduplicated count of individuals on the caseload of any AHS program. The second

Figure 1
Two Estimates of Caseload Complexity



quantity is program specific. It is the unduplicated number of individuals on the caseload of all programs but the specified program. Both of these unduplicated counts were determined using Probabilistic Population Estimation (PPE; Banks & Pandiani 2001b). PPE is a statistical procedure for estimating the unduplicated number of people represented in a data set based on the distribution of dates of birth and genders in a data set. The number of individuals on the caseload of only each specified program is the difference between the total number served in AHS and the number on the caseload of any program other than the specified program. The number on the caseload of only one AHS program is the sum of the numbers of individuals who are only on the caseload of each individual program.

The determination of the number of individuals on the caseload of exactly two programs requires an elaboration of the procedure described above. This elaboration involves the construction of three data sets that relate to every possible pair of programs. The first data set is the caseload of one of the programs. The second data set is the caseload of a second program. The third data is the combined caseload for all other programs. PPE is used to determine the number of individuals who are on the caseload of both of the specified programs but are not on the caseload of any other program. The number of young people on the caseload of exactly two programs is the sum of the numbers of individuals who were on the caseload of both of each possible pair of programs, but were not on the caseload of any other program.

Step Two

A procedure was developed to estimate the maximum possible numbers of individuals on the caseload of all of the 7 programs. This procedure is based on the observation that if an individual were on the caseload of all seven programs, his or her date of birth and gender would appear in the caseloads of all seven programs. We estimate the maximum possible number of unique individuals on the caseload of all seven programs by applying PPE to the number of unique dates of birth and genders that were represented in every program. It is an overestimate of the true value to the degree that different individuals with the same date of birth were served by different AHS programs. We found no date of birth and gender combination observed in each of the 7 data sets. This procedure was repeated for exactly 6 and exactly 5 programs.

Step Three

In order to determine the number of individuals served by the remaining numbers of programs, we used linear programming. Linear programming is a method for determining the maximum (or minimum) value for a specific quantity given a series of equations and constraints establishing relationships among the variables in the system. In this case the constraints were provided by the results provided by steps 1 and 2.

Steps 1 and 2 provided estimates of the number of individuals served by only 1, exactly 2, and exactly 5, 6, and 7 programs. In order to determine the number of individuals served by exactly 3 and exactly 4 programs, we begin with two mathematical observations. First, if we denote "a" as the number of individuals in exactly 1 program, "b" as the number of individuals in exactly 2 programs, through "g" the number of individuals in exactly 7 programs, the unduplicated count of individuals is the sum of "a" through "g." Second, the duplicated count of individuals is the sum of 1*a + 2*b + 3*c + 4*d + 5*e + 6*f + 7*g. Substituting the known values for a, b, e, f, and g, linear programming provides the maximum possible number of individuals who were served by exactly three and exactly four programs.

Findings

During FY2002, the caseloads of Vermont AHS direct service programs included 26,724 (±107) unique children and adolescents (under 18). Three programs shared more than half of their clients with at least one other program. These included: the Department of Corrections (52%), the Department of Social and Rehabilitation Services (55%), and the Office of Alcohol and Drug Abuse Programs (57%). Statewide, however, only 21% of the children were on the caseload of more than one program (see Figure 2).

The vast majority of the AHS children's caseload 79% (±0.7%) was on the caseload of only one of the seven programs. Another 17% (±0.5%) were served by exactly two programs. Very few were served by more than two programs (less than 4.4% were served by exactly three programs, less than 2.7% were served by exactly four programs, and less than 0.05% were served by exactly 5 programs). No children or adolescents were on the caseload of more than five of the seven child serving AHS programs during FY2002. Involvement with more than one AHS program was greater for adolescents (age 13-17; see Figure 3).

Figure 2
Overall Direct Service Caseload Complexity

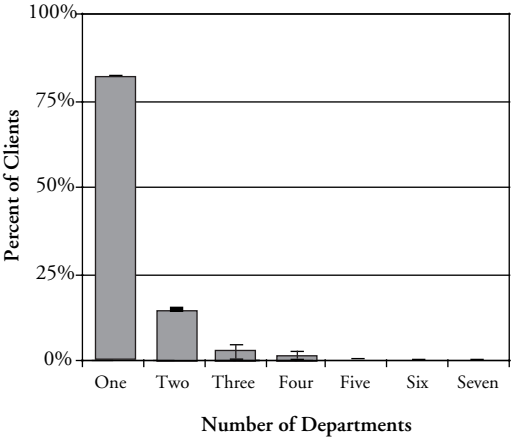
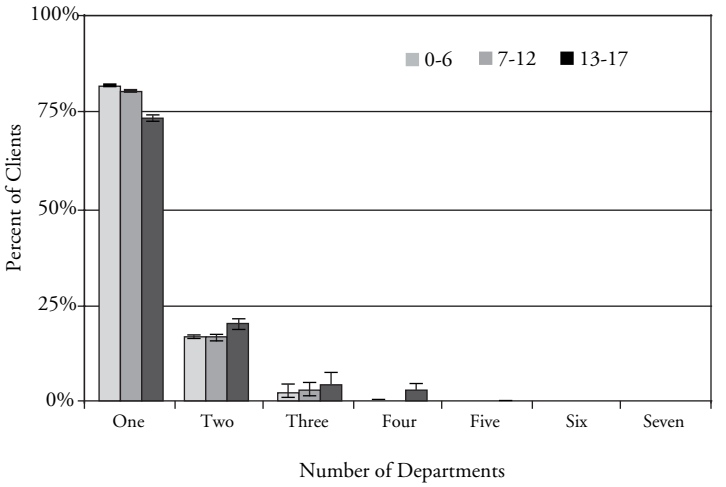


Figure 3
Direct Service Caseload Complexity
by Children's Age Groups



Discussion

Following Cohen and Cohen (1984) we have characterized the difference between the perspective of program administrators and the results of statistical analysis as an "administrator's misconception." Where managers had believed that 70% of their clients were served by four or five departments, statistical analysis indicated that fewer than 5% received direct services from three or more departments, and fewer than 2% received direct services from four or more departments. Eighty percent of their clients had received direct services from only one department.

Clearly, the Agency of Human Services administrators' estimate described a system of care with much more caseload overlap than was actually the case. More important, the policy implications and the resources required to address a problem that affects 1 or 2% of a caseload are very different from those necessary to address a problem that affects 70% of the caseload.

These findings demonstrate that program administrators' subjective perceptions of organizational complexity (as measured by client participation in multiple treatment programs) can include substantial overestimation of the number of service recipients with involvement in multiple treatment programs. We believe this overestimation can have serious consequences for management decisions, including clinical staffing levels necessary to coordinate treatment across programs, and information technology necessary to manage complex cases. Exclusive reliance upon subjective information can have serious consequences for management decisions, especially regarding the organization, reorganization, and management of human service programs.

Program administrators' subjective perceptions should play a key role in the identification of values that guide the system of care and the application of those values to the interpretation of quantitative indicators. Such discussions could focus on the relative value of specialized vs. generalized services for children, and the individual child vs. the family unit as the focus of intervention, for instance. This discussion of human service values, however, should be informed by quantitative indicators that provide a more accurate description of the system of care. This information regarding the structure and functioning of complex systems of care is one of the key elements in understanding and improving our systems of care.

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Measures of Child Strength and Family Functioning: The Reliability and Validity of their Spanish Translations

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Introduction

Hispanics are the fastest growing minority group in the United States and according to the Annual Demographic Supplement to the March 2002 Current Population Survey of the U.S. Census Bureau, there are more Hispanics under the age of 19 than non-Hispanic Whites (Ramirez & De la Cruz, 2002). Available information suggests a high level of mental health problems among Hispanic-American children, however the availability of reliable and valid Spanish-translated instruments to assess and plan services for Hispanic children and to evaluate service interventions is extremely limited (e.g., Fisher, et al., 2002; Flores, et al., 2002; Vazsonyi & Flannery, 1997; USDHHS, 2001).

The Comprehensive Community Mental Health Services for Children and Their Families Program has funded 85 communities across the United States and its territories to develop community-based family-driven culturally appropriate services systems for children with serious emotional disturbance from a variety of race/ethnic groups. Recent reports indicate that approximately 20% of the near 50,000 children referred into these service programs between 1993 and 2002 are Hispanic (Walrath & Liao, in press).

Data gathered as part of the mandated national evaluation of this federal initiative includes the collection of information on child behavior, functioning, and strengths as well as family functioning and experiences. Each of the instruments included in the national evaluation are translated into Spanish. The size and scope of the national evaluation provides the opportunity to begin investigation into the basic psychometric properties of these Spanish-translated instruments. The purpose of this study is to assess the internal consistency and convergent validity of the Spanish-translated Behavioral and Emotional Rating Scale (BERS; Epstein & Sharma, 1998) and Family Assessment Device (FAD; Epstein, Baldwin, & Bishop, 1983).

Method

Participants. The current study uses a subset of baseline data collected as part of Child and Family Outcome Study of the national evaluation. This data was collected between 1997 and 2003 from 45 communities across the United States. Children enrolled in the Outcome Study with valid data on the Spanish-translated Behavioral and Emotional Rating Scale (Epstein & Sharma, 1998) and/or the Family Assessment Device (Epstein, Baldwin, and Bishop, 1983) were included in the current study sample (N =126). Children in the current study sample were approximately 13 years of age on average (M =13.1, SD =3.3). Nearly three-quarters of the study sample was male (73.6%) and over 97.6% was Hispanic. Over 80% of children in the study sample lived in homes with annual family incomes of less than $15,000.

Measures

Target measures and validation measures. There were two categories of Spanish-translated measures included in the current study: target measures (i.e., Spanish-translated BERS and FAD) and validation measures (i.e., Spanish-translated CAFAS, CBCL, CGSQ).

The Behavioral and Emotional Strength Rating Scale (BERS) is a standardized norm-referenced instrument that measures the emotional and behavioral strengths of a child (Epstein & Sharma, 1998). The reliability (e.g., Epstein, Ryser, & Pearson, 2002) and validity (e.g., Epstein, Nordess, Nelson, &

Hertzog, 2002) have been demonstrated for the five subscales and overall Strength Quotient of the BERS when administered in English. In the current study, the Spanish-translated BERS was administered via structured interview to caregivers (N =116) at the time of their child's intake into service.

The Family Assessment Device (FAD) assesses how families interact, communicate, and cooperate (Epstein, Baldwin, & Bishop, 1983). Reliability (e.g., Perosa & Perosa, 1990) and validity (e.g., Fristad, 1989) have been demonstrated for each of the subscales of the FAD in its English version. In the current study, the General Functioning scale of the Spanish-translated FAD was administered to caregivers (N =117) at the time of their child's intake into service, as a part of a structured interview.

Three measures, also included in the Child and Family Outcome Study, were selected for use as convergent validation measures because of their expected relationships with the target measures, their widespread use in the children's mental health services field, and/or their prior use with Spanish-speaking populations.

Child and Adolescent Functional Assessment Scale (CAFAS). Functional impairment was assessed across eight life domains at intake into services using the CAFAS (Hodges, 2000). As indicated in Table 1, inverse relationships were expected between the five subscales and overall strength quotient on the BERS and the relevant subscales and total score on the CAFAS, respectively. An inverse relationship was expected between the home role performance scale of the CAFAS and the general functioning score on the FAD.

Table 1
Internal Consistency Estimates for the Spanish-translated BERS and FAD

Target Measures & Subscales	*Cronbach's Alpha (n)*
Spanish-translated BERS	
Overall Strengths Quotient	.969 (76)
Interpersonal Strengths	.929 (76)
Intrapersonal Strengths	.854 (76)
Family Involvement	.870 (76)
School Functioning	.914 (76)
Affective Strengths	.827 (76)
Spanish-translated FAD	
General Functioning Scale	.764 (111)

Reliability (e.g., Cross and McDonald, 1995) and validity (e.g., Hodges, Doucette-Gates, & Kim, 2000; Hodges 1996) have been documented for the eight subscales and total score of the English version CAFAS. While no psychometric data is currently available for the Spanish translation of the CAFAS, the CAFAS is widely used and has been used with Spanish-speaking populations (e.g., Zima, Bussing, Crecelius, Kaufman, Belin, 1999). Spanish-translated CAFAS ratings for N =101 children are used in the current study.

The Child Behavior Checklist (CBCL) is a widely used standardized norm-referenced caregiver report measure of child competencies and problem behaviors/emotions (Achenbach, 1991). The problem behavior scales and subscales were used in this study; higher scores indicate greater levels of problem behavior. As indicated in Table 1, negative relationships were expected between the problem scales and the strength scales.

The reliability and validity of the problem scales of the English version CBCL (McConaughy, 1993) and the Spanish version of the Child Behavior Checklist have been demonstrated (e.g., Achenbach, 1991; Rubio-Stipec, Bird, Canino, & Gould, 1990). The Spanish version CBCL data included in the current study was collected from caregivers (N =92) at the time of their child's entry into service.

The Caregiver Strain Questionnaire (CGSQ, Brannan, Heflinger, & Bickman, 1998) is a measure designed to assess the potential strain experienced by caregivers in caring for a child with emotional/behavioral problems, and was selected as a validation measure for the FAD. The 21 items on the CGSQ generate three dimensions of caregiver strain. Higher scores on these three dimensions indicate higher levels of strain. As indicated in Table 1, positive relationships are expected between the general functioning scale of the FAD and the objective and externalized subjective subscales of the CGSQ.

Reliability (e.g., Brannan, Heflinger, & Bickman, 1998) and validity (e.g., Lambert, Brannan, Heflinger, Breda & Bickman, 1998) of the English version CGSQ dimensions has been demonstrated.

While no specific psychometric data is available on the Spanish version of the CGSQ, the study of race/ethnic differences on the CGSQ has begun (e.g., Kang, Brannan, Heflinger, under review). Spanish version CGSQ data included in the current study was collected from caregivers (N =117) at the time of their child's intake into service.

Design and Analysis

Internal consistency reliability estimates were estimated separately for the five subscales of the BERS, the overall strength quotient of the BERS, and the general functioning scale of the FAD using Cronbach's coefficient alphas (Cronbach, 1951). Convergent validity was estimated by assessing the relationship between the target measures and the validation. The specific (sub)scales used as validation measures for each of the target measures are presented in Table 1, along with the expected direction of the relationships.

Results

Behavioral and Emotional Rating Scale (BERS). The internal consistency reliability estimates for the Spanish-translated BERS overall Strengths Quotient and five subscales ranged from .827 (affective strength) to .969 (overall Strength Quotient). These high estimates indicate homogeneous sets of items for each of these (sub)scales and are similar to those reported for the BERS when administered in English (see Table 2).

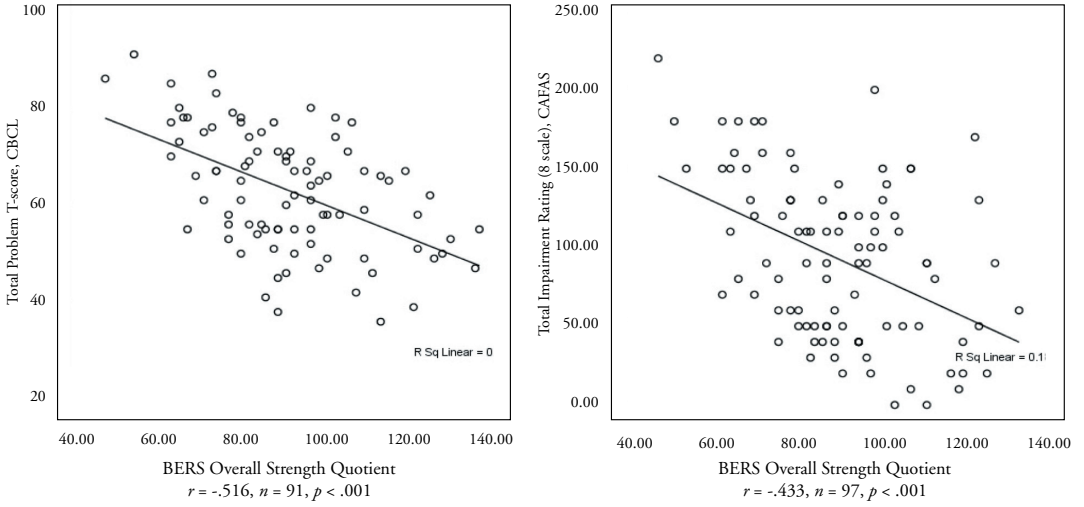
Table 1 indicates significant correlation coefficients, in the expected directions, between the Spanish-translated BERS (sub)scales and the majority of validation measures. The relationships between the Overall Strength Quotient of the BERS, and the Total Problem Score of the CBCL and Total Impairment Rating of the CAFAS are also presented graphically in Figure 1.

Table 2
Target Measures, Associated Validation Measures, and Convergent Validity Estimates

Target Measures and Subscales	*Convergent Validation Measures and Subscales*	*Expected Direction of Relationship p*	*Pearson r (n)*
Spanish-translated BERS			
Overall Strengths Quotient	CAFAS: Total Impairment	Negative	-.433 (97)**
	CBCL: Total Problems	Negative	-.516 (91)**
Interpersonal Strengths	CAFAS: Behavior Toward Others	Negative	-.345 (97)**
	CBCL: Social Problems	Negative	-.389 (89)**
Intrapersonal Strengths	CAFAS: Moods and Emotions	Negative	-.361 (97)**
	CBCL: Withdrawn	Negative	-.557 (91)**
	CBCL: Anxious/Depressed	Negative	-.498 (89)**
Family Involvement	CAFAS: Home Role Performance	Negative	-.398 (96)**
School Functioning	CAFAS: School Role Performance	Negative	-.333 (78)**
Affective Strengths	CAFAS: Moods and Emotions	Negative	-.255 (97)*
	CBCL: Anxious/Depressed	Negative	-.298 (91)**
	CBCL: Withdrawn	Negative	-.363 (89)**
Spanish-translated FAD			
General Functioning	CAFAS: Home Role Performance	Negative	-.232 (96)*
	CGSQ: Objective Strain	Negative	-.303 (112)**
	CGSQ: Externalized Subjective Strain	Negative	-.345 (111)**

*p < .05 (2-tailed); **p< .01 (2-tailed)

Figure 1
Convergent Validity of the BERS Overall Strength Quotient



Correlation coefficients estimated for the overall Strength Quotient are medium to large and indicate 19% to 27% shared variance between this target measures and the validations measures. In addition, the correlation estimates across the validation measures for the Intrapersonal Strengths and School Functioning were moderate to large, whereas those estimated for the Family Involvement and Affective Strengths subscales were in the small to moderate range. Significant correlations of moderate size were found between the Interpersonal Strengths target measure and the behavior toward others and social problems validation measures, whereas no relationship was found between the Family Involvement subscale of the BERS and the Social Competency subscale of the CBCL

The Family Assessment Device (FAD). As presented in Table 2, the internal consistency estimate for the Spanish-translated General Functioning scale (.76) is acceptable and similar to those found in studies that have administered the FAD in its English version (e.g., Perosa & Perosa, 1990).

Table 1 includes the Pearson correlation coefficients estimates used to assess the convergent validity of the General Functioning scale of the Spanish-translated FAD. The relationship between the two CGSQ subscales and the FAD were in the moderate range, and higher than that estimated for the relationship between the CAFAS Home Role Performance and the General Functioning scale of the FAD.

Discussion

Evidence in support of the internal consistency reliability and convergent validity of the Spanish-translated BERS and the General Functioning scale of the Spanish-translated FAD was found. While additional investigation into the factor structure and the cultural appropriateness of these Spanish-translated measures is warranted, preliminary evidence suggests that the basic properties of internal consistency reliability and convergent validity are present in these translated versions.

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Assessing Trauma Exposure Using the Traumatic Events Screening Inventory (TESI)

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Introduction

The problem of traumatic stress in children has been evident for many years, but recently the federal government elevated the issue to the national stage. The Donald J. Cohen National Child Traumatic Stress Initiative was established in 2001 to improve access to care, treatment, and services for children and adolescents exposed to traumatic events and to encourage and promote collaboration between service providers in the field, through a series of grants. These grants, awarded by the Center for Mental Health Services (CMHS), Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services, were provided in order to establish the National Child Traumatic Stress Network (NCTSN). Included in this network is the Healing the Hurt Program.

Healing the Hurt is a partnership that includes three providers in Pinellas County, Florida (Directions for Mental Health, Inc., Family Service Centers and The Hospice of the Florida Suncoast). Healing the Hurt is a Community Treatment and Services Program site that was designed to:

- improve treatment quality for children with traumatic stress,
- enhance the current delivery system for services,
- increase access to services, and
- provide community education and training.

Directions for Mental Health, Inc., is a community mental health center in Clearwater, Florida currently serving children and adolescents, aged 0-18, who present with mental health symptoms and a history of trauma. The Hospice of the Florida Suncoast and Family Service Centers have traditionally provided intervention to children and adolescents who have recently experienced trauma related to death or the serious illness of a family member, or from sexual assault, respectively.

Method

Between the months of April and August, 2003 the partnership conducted a pilot study utilizing the Traumatic Events Screening Inventory (TESI; Ribbe, 1996). The primary purpose of the pilot was to allow the project to better define the nature of the traumatic experiences of the children it serves. A secondary goal was to sensitize the clinicians to the multiple traumas experienced by the children.

Subjects. During the pilot study, each of the three partner agencies was asked to use the TESI during their initial assessment of new cases to their agency. These cases had not been specifically identified as being trauma-related. Each of the subjects was between the ages of 0 and 20 years of age (126 were between the ages of 4 and 18, one subject was 20 years old). In total, 127 subjects are included in the analysis: 90 from Directions for Mental Health, 31 from Family Service Center, and six from The Hospice of the Florida Suncoast.

Instruments. Trauma exposure was assessed by using the TESI-Self Report Revised. This involved a semi-structured clinical interview with the children as well as with the caregivers when they were available. When interviewing the caregivers, the TESI-Parent Report Revised (Ippen et. al, 2002) was employed. Both versions of the TESI are 24-item self-report scales that are used as guides for a clinical interview. The TESI "is designed to help clinicians systematically focus on the primary domains of

trauma for children, which include direct exposure to or witnessing of severe accidents, illness or disaster, family or community conflict or violence, and sexual molestation" (National Center for PTSD, 2003).

Analytic Approach. In total, 127 cases are included in this analysis. In six of the cases, the results reflect the child self-report only. In an additional six cases, the results reflect only the caregiver report. The remaining 115 cases included in this analysis, represent a composite of the self-report and caregiver responses. If either of the respondents endorsed an item, it was included as a *Yes* response (Ford et. al, 2000). Since the TESI is a screening tool, it is believed that clinicians would rather err on the more conservative side of reporting potential traumatic experiences. The composite responses were then collapsed into nine trauma indices of related items (see Table 1): Accident/Disaster, Illness/Injury, Death, Separation, Physical Violence, Domestic Violence, Community Violence, Sexual Maltreatment, and Emotional Abuse/Neglect. For a subset of subjects (n = 90), these indices were then crossed by various demographic and clinical characteristics. Findings related to age and gender are presented in this write-up.

Table 1
Trauma Indices Developed for Analysis

Index	*Item(s)*	
Accident/Disaster	1.1	Been in a serious accident where someone could have been (or actually was) severely injured or died.
	1.2	Seen a serious accident where someone could have been (or actually was) severely injured or died.
	1.3	Been in a serious natural disaster where someone could have been (or actually was) severely injured or died.
Illness/Injury	1.4a	Experienced the severe illness or injury of someone close.
	1.5	Undergone any serious medical procedures or had a life threatening illness. Or been treated by a paramedic, seen in an emergency room, or hospitalized overnight for a medical procedure.
Death	1.4b	Experienced the death of someone close.
Separation	1.6	Been separated from someone who you depend on for love or security for more than a few days OR under very stressful circumstances.
	2.4	Been kidnapped.
Physical Violence	2.1	Been physically assaulted. Or punished and caused physical injury or bruises. Or attacked with a gun, knife or other weapon.
	2.2	Directly threatened with serious physical harm.
	2.3	Mugged or tried to steal from. Or been present when a family member, or other caregiver, or friend was mugged
Domestic Violence	3.1	Seen, heard, or heard about people in your family physically fighting, hitting, slapping, kicking, or punching each other. Or shooting with a gun or stabbing, or using any other kind of dangerous weapon.
	3.2	Seen or heard people in your family threaten to harm each other.
Community Violence	4.1	Seen or heard people outside your family fighting, hitting, pushing, or attacking each other. Or seen or heard about violence such as beatings, shootings, or muggings that occurred in important settings such as school, neighborhood, or neighborhood of someone important.
	4.2	Been directly exposed to acts of war, armed conflict, or terrorism.
	4.3	Seen or heard acts of war or terrorism on the television or radio.
Sexual Maltreatment	5.1	Made to see or do something sexual.
	5.2	Been present when someone was being forced to engage in any sort of sexual activity.
Emotional Abuse/ Neglect	6.1	Repeatedly been told that you were no good, yelled at in a scary way, or had someone threaten to leave or send you away.
	6.2	Gone through a period when appropriate care was lacking.

Results

The children included in this analysis experienced, on average, over nine (M = 9.35) of the 24 traumatic experiences included on the TESI. This number ranged from experiencing two types of traumatic events to experiencing 21 of the possible 24. Due to the wide range, other measures of central tendency were considered—the median response was nine traumatic experiences, and the modal response was eight.

Overall findings are presented both for a total sample and by agency due to the differing nature of the referral issues of the children being served by the agencies (see Table 2). Even though the referral reasons differ, the trauma histories of these children are alarmingly similar (e.g., high percentages of children endorsing domestic violence items). The findings are presented based on the nine trauma indices developed for this study. (It is important to note the varying sample sizes when the findings are separated by agency.)

Table 2
Summary of Partner Agencies and Trauma Indices Experienced by Clients Screened

	Partner Agencies			
Trauma	*Directions for Mental Health (N=90)*	*Family Service Centers (N=31)*	*The Hospice of FL Suncoast (N=6)*	*Total (N=127)*
Mean Traumas Reported	8.73	11.07	9.67	9.35
Mean Indices Reported	5.13	6.45	6.17	5.92
Accident/Disaster	46.7%	83.9%	66.7%	65.8%
Illness/Injury	65.6%	67.7%	100.0%	77.8%
Death	66.7%	67.7%	100.0%	78.5%
Separation	54.5%	87.1%	83.3%	74.9%
Physical Violence	51.1%	54.8%	50.0%	52.0%
Domestic Violence	64.4%	61.3%	66.7%	64.1%
Community Violence	95.6%	77.4%	83.3%	85.4%
Sexual Maltreatment	23.3%	74.2%	16.7%	38.1%
Emotional Abuse/Neglect	48.9%	71.0%	50.0%	56.6%

Demographic and clinical information was available for the 90 subjects screened through Directions for Mental Health. Of those, the majority (n = 52, 58%) was male (see Table 3) and White (n = 55, 61%).

Table 3
Trauma Indices Experienced by Clients Screened by Gender (Directions for Mental Health only)

	Partner Agencies	
Trauma	*Female (n=38)*	*Male (n=52)*
Percent of Total Respondents	42.2%	57.8%
Mean Traumas Reported	10.26	7.89
Mean Indices Reported	5.87	4.67
Accident/Disaster	47.4%	46.2%
Illness/Injury	68.4%	63.5%
Death	73.7%	61.5%
Separation	68.4%	44.2%
Physical Violence	55.3%	50.0%
Domestic Violence	84.2%	50.0%
Community Violence	92.1%	98.1%
Sexual Maltreatment	42.1%	9.6%
Emotional Abuse/Neglect	57.9%	42.3%

Twenty-three percent (*n* = 21) were Black, and 12% were Hispanic. The remaining children and youth were of various racial and ethnic backgrounds including Asian, American Indian, and Indian. The average age of the subset was 12.83 years at the time of the TESI completion. The majority (*n* = 56, 62%) were 12 years or older (see Table 4).

Table 4
Trauma Indices Experienced by Clients Screened by Age Group (Directions for Mental Health only)

	Age Group				
Trauma	*0 - 5 (n=1)*	*6 - 11 (n=32)*	*12 -14 (n=13)*	*15 -18 (n=42)*	*19+ (n=1)*
Percent of Total Respondents	1.1%	35.6%	14.4%	46.7%	1.1%
Mean Traumas Reported	8.00	8.97	8.77	8.55	15.00
Mean Indices Reported	5.00	5.37	5.78	4.81	9.00
Accident/Disaster	0%	34.4%	53.8%	54.8%	100%
Illness/Injury	100%	65.6%	46.2%	69.1%	100%
Death	100%	53.1%	69.2%	72.8%	100%
Separation	100%	65.6%	46.2%	47.6%	100%
Physical Violence	0%	71.9%	53.9%	33.3%	100%
Domestic Violence	100%	78.1%	61.5%	52.4%	100%
Community Violence	100%	93.8%	100%	97.6%	100%
Sexual Maltreatment	0%	21.9%	38.5%	16.7%	100%
Emotional Abuse/Neglect	0%	59.4%	69.2%	35.7%	100%

Discussion/Conclusion

Two cautions should be noted when reviewing the findings from this pilot study: (1) the sample size is small and findings cannot be generalized, and (2) this is not a general population sample—these children were referred to one of the three partner agencies for some emotional or behavioral intervention.

Even with that in mind, however, this pilot has generated discussions about the traumatic stressors being experienced by the children served by Healing the Hurt. The majority of the children in the sample have experienced almost all of the traumas as defined by the trauma indices—the only exception is sexual maltreatment. The most common traumatic experiences are:

- Community violence is experienced/witnessed by 85.4% of the children in the sample.
- The death of someone close has been experienced by 78.5% of the children.
- 77.8% of the children have experienced a severe illness or injury of someone close or been ill or been injured themselves.

Further, these children have experienced multiple traumas over the course of their lives, on average 9.35 traumatic experience types.

This pilot study achieved both of its stated goals. First, the partnership is more aware of the complexity of the traumas experienced by the children they serve; and second, the clinicians are far more aware of the histories of the children they serve. This is a valuable first step in improving the treatment quality for children experiencing traumatic stress. Beyond the scope of the partnership, these findings support the need of child-serving clinicians to gather full trauma histories for all children served, not only those presenting with specific trauma(s).

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Symposium
State Level Endeavors to Monitor CAFAS Outcomes and Introduce Evidence Based Treatments

Chair
Kay Hodges

Authors
Helen Snyder et al.
Margaret Rea et al.
Melanie Barwick et al.

Symposium Introduction

Introducing change at a state level poses significant challenges because state administrators typically have influence over policy and funding decisions, yet have little direct control over services delivered. Administrators in a rural state, West Virginia, present data on the relationship between service intensity and diagnosis and functioning level of clients. Monitoring outcome in Michigan led to identifying a training need, which the state responded to by offering training on cognitive behavioral treatment for depression. Critical lessons learned from this endeavor are discussed. Sustaining a successful outcome-monitoring program requires being able to maintain reliability over time. The last paper presents an assessment of rater drift for the CAFAS.

Diagnosis and CAFAS Functioning for Medicaid-Funded Levels of Care in a Rural State

Helen Snyder & Warren B. Galbreath

Introduction

In today's world of managed behavioral health care, knowledge about children who receive mental health services from the state behavioral health system is very valuable to policy makers as they attempt to allocate scarce mental health dollars. Establishing a state-wide data collection system is important to the monitoring of services provided to adolescents receiving mental services through the public sector. This has been well documented in the literature (Fields & Ogles, 2002; Liao, Manteuffel, Paulic, & Sondheimer, 2001; Rosenblatt & Rosenblatt, 2000), however, in each of these states the focus is on youth served in urban or metropolitan communities. Rarely has there been a study conducted to describe youth served in a state that is mostly rural. This study describes one rural state's effort to describe the youth who receive behavioral health services through the Medicaid Clinic, Rehabilitation and Targeted Case Management Options. Findings from this study of youth receiving mental health services in a rural state suggest there are differences among the youth placed at different levels of care.

Background

Within West Virginia, the Department of Health and Human Resources (DHHR) has the responsibility of providing mental health and child welfare services to children with behavioral health needs and their families. Historically, this department has had difficulties providing sufficient services for a growing population with increasingly scarce Medicaid and child welfare dollars. The state has frequently had to rely upon out-of-state providers to care for their most severely disturbed youth, particularly sex offenders and those with co-occurring disorders (Galbreath, 2001). Additionally, Federal Health and Human Service's monitors were concerned about the state's use of Medicaid funds and required the state to develop a corrective action plan or the state would be at risk of losing federal dollars.

As part of their effort to address these issues, the state entered into an agreement with APS Healthcare, Inc. to provide utilization management services related to the Medicaid Clinic, Rehabilitation and Targeted Case Management Options. As part of this contract with DHHR, APS Healthcare, Inc. has the responsibility for conducting provider profiling to help determine which providers have the best improvement rate for certain populations of consumers. Preliminary to specific provider profiling, APS developed methods to examine outcomes for consumers in specific diagnostic groups and levels of care. The initial analysis looked at all youth who were admitted into a level of care

between January 1, 2002 and June 30, 2002. This study examined this sample and compared key data elements for children with similar diagnoses admitted to different levels of care. This descriptive analysis was conducted to evaluate functional and symptom differences between children with similar diagnoses admitted to various levels of care. The study focuses on findings related to functioning levels as measured by the scores reported on the Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 2000). The CAFAS is a multidimensional scale designed to measure the youth's functioning level (Hodges & Wong, 1996); higher scores indicate lower functioning.

Method

The sample for this initial analysis was defined as all children (age birth to 17 years, 11 months) who were new admissions (case status marked as *new admission* and the date of request was between January 1, 2002 and June 30, 2002). Children were then assigned to one of the following levels of care groups depending upon the services being provided:

- Crisis Support - (i.e., emergency shelter care).
- Low Outpatient Services – Outpatient services for youth living at home
- High Outpatient – Outpatient services for youth placed in foster care or intensive outpatient services to maintain youth in the home and/or community.
- Residential Level I – The least intensive residential care provided in the state.
- Residential Level II – Moderate intensity residential care program.
- Residential Level III – The most intensive residential care program available.

Select demographic data, CAFAS total score, all eight CAFAS subscale scores, and Axis I diagnosis at the time of admission for each youth in the sample were used in the analysis. Frequencies of demographic and diagnosis data were examined by level of care.

Results

The majority of the youth (64%) received Low Outpatient services. There were also differences in level of functioning as measured by the Child and Adolescent Functioning Assessment Scale (CAFAS; Hodges, 2000) total score. Scores tended to demonstrate more impaired functioning as the level of care increased, supporting the need for a more intensive intervention/level of care. The selection method described above resulted in a sample of 4,702 youths who were admitted during the designated period. The sample was comprised of mostly lower levels of care, as illustrated in Table 1.

Levels of Care

There were 634 youth, or 14% of the sample, admitted to Crisis Support during the period. Fifty-three percent of this group was in the age range of 13 to 15 years of age. Youth in Crisis Support were predominately male (55%) and Caucasian (88%). The most frequently occurring total CAFAS score was 120, although the average score was lower. Of those with significant impairments in functioning, severe impairments in School/Work and Home subscales of the CAFAS were prominent. The predominant diagnosis related group (DRG) for this level of care was Oppositional Defiant Disorder.

Table 1
Level of Care Distribution for Entire Sample

Level of Care	*Percent of Youths Admitted*
Crisis Support	14.0%
Low Outpatient	64.0%
High Outpatient	14.0%
Residential I	0.5%
Residential II	5.0%
Residential III	2.0%
Other	0.5%

Low Outpatient services were the most common services for new admissions. There were 3,025 youth, or of 64% of the sample, in this group. The majority (64%) were in the age range of birth to 12 years of age and were younger than residential service users. Over half (57%) of

those authorized for this level were male and most were Caucasian (93%). The most frequently occurring total CAFAS score for this level was 70, although the average score was slightly higher. Of those with significant impairments in functioning, moderate to severe impairments in School/Work were most frequently noted, along with moderate impairments in Home, Behavior Toward Others and Moods/Emotions. The predominant DRG for this level was Attention Deficit Disorder.

There were 651 youth, or 14% of the sample, with admissions to the High Outpatient level services. Again, this group was younger than the residential services group, as the majority (75%) of the youth were between the ages of birth and 12. Youth authorized for this level were predominately male (64%) and Caucasian (93%). The most frequently occurring total CAFAS score for this level of care was 80, although the average score was higher. Of those with significant impairments in functioning, moderate to severe impairments in School/Work and Home were most frequently noted, along with moderate impairments in Behavior Toward Others and Moods/Emotions. The predominant DRG for this level of care was Disruptive Behavior Disorder.

Only 20 youth (15%) were admitted for Residential I services. This number is low because many youth receiving this service remain in this service for some time and, therefore, available slots for new admissions are low. Half of those youth authorized for Residential I services were between the ages of 13 and 15. Youth admitted to this service were predominately male (70%) and Caucasian (85%). The most frequently occurring total CAFAS score was 80, although half had scores below 80. Of those with significant impairments in functioning, moderate impairments in Home, Community and Behavior Toward Others were most frequently noted. The Predominant DRG for this level of care was Conduct Disorder.

There were 235 youth with admissions for Residential II services. This consisted of 5% of the sample. The majority (62%) of these youth were between the ages of 13 and 15. Youth authorized for services were predominately female (52%) and Caucasian (89%). The most frequently occurring total CAFAS scores for this level were 120 and 130. Of those with significant impairments in functioning, severe impairments in School/Work and Home were most frequently noted with moderate impairments in Community, Behavior Toward Others and Moods/Emotions. The predominant DRG for this level of care was Oppositional Defiant Disorder.

There were 112 youth with admissions to Residential Level III. This was 2% of the sample. The majority (64%) of youth in this level were between the ages of 13 and 15. Youth authorized for services were predominately male (76%) and Caucasian (90%). The most frequently occurring total CAFAS score for this level was 120, although more than half of those in this level had scores over 120. Of those with significant impairments in functioning, severe impairments in School/Work and Home were most frequently noted, along with moderate impairments in Community, Behavior Toward Others and Moods/Emotions. A greater percentage authorized for this service had severe impairments in Substance Use than in other levels of care. The predominant DRG for this level of care was Oppositional Defiant Disorder.

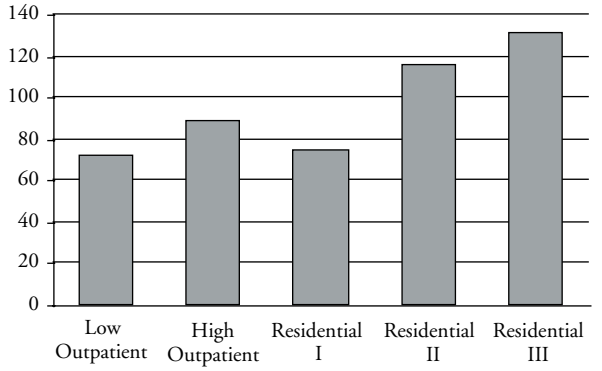
Average CAFAS Total Scores by Level of Care

Figure 1 depicts the average CAFAS total score by levels of care. This graph shows that the CAFAS total scores tend to increase as the level of care increases. In addition, youths in Residential II and III care appear to be more impaired than the remaining youths who are receiving other less intense services.

Discussion

In this sample, the majority of admission authorizations were for Low Outpatient services (64%), followed by High Outpatient services (14%), Crisis Support (13%), and Residential services (8%). There appear to be differences in age ranges for children authorized for Outpatient services versus Residential services. Most youth placed in Residential care (90%), were in the age range of 13 to 17. In contrast, the majority (66%) of youth in Outpatient services were preadolescents (i.e., younger than 12 years old).

Figure 1
Average CAFAS Total Scores by Levels of Care



There are also differences in CAFAS subscales. Youth authorized for Outpatient services tended to have less impairment reported in Community than youth in other levels of care. Youth in Residential services showed greater impairment in Community and Behavior Toward Others. For youth in Residential II and III care, there was a higher representation of Oppositional Defiant Disorder. These findings suggest further study because these levels of care may be used for structure and behavior control as much as for treatment. It should also be noted that Oppositional Defiant Disorder was among the top three DRGs across all levels of care. Overall, this study acts as a springboard for additional studies, which will focus on profiling provider agencies, including the types of youth they serve, as well as on describing the impact of treatments and services.

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Training State Mental Health Workers in Cognitive Behavioral Treatment for Depression: A Pilot Study

Margaret Rea, Kay Hodges, Jim Wotring, Kerri Schultz, Bobette Schrandt, & Joan Asarnow

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Introduction

The Michigan Association of Community Mental Health Boards initiated the current project in an effort to bring new treatments supported by evidenced-based research into their clinics. Specifically, the goal of the project was to develop and implement a training program for community mental health workers in cognitive-behavior therapy (CBT) for depression in adolescents using a manualized treatment protocol. The goal was then to evaluate the impact of this training on provider knowledge, behavior, and practices as well as on outcomes for depression. Further, it was hoped that the trained clinicians could then provide dissemination of the CBT skills throughout the state of Michigan, whereby there would be a broad and effective use of this evidence-based practice for the treatment of depression in adolescents. The project could then act as a model for other states hoping to implement evidence-based practices within their mental health systems.

Method

Participants

Participants included 23 trainees from 12 different community mental health clinics throughout Michigan. There were 19 females. All had a master's degree, and their professional affiliations were: certified social worker (17), limited licensed psychologist (5), and marriage and family therapist (1). Participants were volunteers selected by their supervisors and approved to participate by their agency director. Each participant completed an application that was reviewed by a committee consisting of state administrators and the trainers. With the exception of one clinic, two trainees from each site participated to increase the likelihood that training would impact clinic practices and increase the support at the clinic level for the program and the likelihood of broader dissemination at the clinics. It was hoped that this would lead to clinic-wide quality improvement programs, with the trained providers assuming the role of expert leaders at their respective clinics.

Training Program

Group training was conducted during a three day workshops using, *Stress and mood: A manual for individuals* (Asarnow et al, 2003). This manual was an adaptation of *Stress and your mood: A manual for groups*, authored by Asarnow and colleagues (2003), which was developed and used in Youth Partners in Care, a large multi-site project funded by the Agency for Health Care Research and Quality aimed at improving care for depression through primary care. Training included independent review of the manual, demonstrations by the trainers, role-plays, and consultation to follow up on skill development.

The workshop was followed by weekly case consultation for six months by the workshop leaders regarding implementation of the CBT model with adolescent clients who received a diagnosis of Major Depression or dysthymic disorder. This was done in groups of four trainees during a phone conference call.

Quality assurance logs were completed to assess whether the components of the CBT were completed as well as track any impediments to completing the CBT components. This log was used as both a measure of adherence to the treatment model as well as a tool for the consultation process. The adherence

logs were devoid of names or any other confidential information. In addition, on the first day of training each trainee completed a questionnaire on the extent to which they used CBT while treating individuals with depression.

This training had minimal financial resources available due to its reliance on limited funding provided by the Michigan Department of Community Health.

Results

Of the 23 original trainees, seven terminated their participation in the program. Two of these terminations were due to job relocations that prevented participation. There were 15 trainees who continued training. Due to the small sample size, statistical comparisons were not conducted. To examine the extent of participation in the training experience for these 15 trainees, the participants were divided into those who participated in half or more of the weekly consultations and those that participated in fewer than half of the consultations. The groups were referred to here as: Dropped Out, Poorer Attendance, and Better Attendance.

Trainee Characteristics

Table 1 summarizes information obtained at the onset of the training workshop on gender, professional degree, whether the trainee had previous CBT training, whether the trainee used CBT currently in half or more of their cases, and whether half or more of the trainee's caseload included individuals with depression. In addition, information on whether the trainee was able to complete an entire case that utilized CBT to treat depression before the end of the consultation was noted. Further, whether the trainee was able to achieve at least six sessions with a selected training case before the end of supervision was also examined.

Table 1
Trainee Characteristics and Attendance to Supervision

	Attendance Group		
Trainee Characteristics	*Dropped Out (n=8)*	*Poorer Attendance (n=7)*	*Better Attendance (n=8)*
Gender: female	7	5	7
Degree: Social workers	8	3	7
CBT Training: Yes	8	4	3
CBT use: 1/2 of cases or most cases	8	3	6
Treat depression: 1/2 of cases or most cases	8	3	6
One case completed	0	2	2
One case with at least 6 sessions	1	2	4
Either completed one case or had at least 6 sessions with one case	1	3	5

Table 1 reveals three observations of note: (a) all of the trainees in the Dropped Out group appeared to be the most knowledgeable and experienced in CBT as a group, based on their self report; (b) the Poorer Attendance group had fewer members who were using CBT and fewer cases with depression; and (c) the Better Attendance group had more cases with depression and had the least number of persons who reported having had training in CBT.

Results by Site

In addition, membership in each of the three groups by site was examined. Table 2 presents this information and suggests that if one of the trainees faltered (other than due to genuine job change), the other tended to show the same pattern of behavior toward supervision. Also, it appears that being the only individual in the agency receiving the training did not put the trainee at risk in the cohort.

Trainee Feedback

Feedback from the trainees on their training experience was also collected. Table 3 presents the categorical responses. Of the 23 participants, 18 returned the survey. The number of respondents by group were as follows: Dropped Out, 4/8, Poorer Attendance, 7/7, and Better Attendance, 7/8. Examination of Table 3 suggests that the trainees were very satisfied with the quantity and quality of the training. There were some concerns expressed about: (a) the time burden, given the clinical demands of their jobs; (b) agency support; and (c) access to cases that would be useful for the training. This latter concern is consistent with the observation that some trainees in the Poorer Attendance group did not have appropriate cases. The written comments provided by the trainees were extremely positive about the clinical expertise and the perceived support received from the trainers.

Discussion

The most striking observation was that our program evaluation data failed to confirm two of our hypotheses. One was that having two trainees per site would enhance training success. There was no evidence to support this and, in fact, the actions for the sets of trainees at the sites were very similar in terms of dropping out and attendance patterns. At least for this cohort, having only one trainee from a site did not have a negative impact. Second, the assumption that having little understanding of CBT before training might be negatively related to training success was not confirmed. It was reasoned that some trainees might decide that this type of treatment was not consistent with their own orientation. Based on the written comments in the respondents' feedback, it appears that having more knowledge of CBT was related to not using the training opportunity for some trainees, and related to eagerly using it by others. Some trainees seemed to make an early decision that their skill enhancement was not worth the burden of the training, while others perceived the training as a great enhancement to the knowledge base they already had.

The training discussed above was the first of two to be offered. Currently a second group of 27 clinicians throughout Michigan have gone through the CBT training and are involved in ongoing consultation. The data presented in this paper were used to provide direction for change in the second training session. Modifications of the procedure for training of the second cohort included:

- Closer monitoring of participation in the various training activities and more support for participation
- Providing more specific information about the training burden and the nature of the training before the initiation of training so that the candidates can make an informed choice about committing to the training
- Providing more support to trainees in terms of obtaining the needed release time from their agencies
- Minimizing agencies choosing individuals for training whose work assignment precludes having cases appropriate for learning CBT for depression.

Finally, of note, the original group of trainees received a daylong workshop eight months after the original training. This workshop included a review of the CBT protocols as well as feedback on how best to disseminate the CBT skills to other clinicians. Currently, seven of the trainees have gone on to design programs for dissemination of CBT skills. Approximately 120 clinicians representing nine counties in Michigan are currently receiving training. Thus, Community Mental Health Service Providers in Michigan have begun to meet a goal of this project: to build a core of persons who will help facilitate the use of evidence-based CBT throughout the state.

Table 2
Trainee Attendance by Site

	Attendance Group		
Site	*Dropped Out*	*Poorer Attendance*	*Better Attendance*
1	X, X		
2	X	X	
3	X	X	
4	X	X	
5	X	X	
6		X, X	
7		X, X	
8	X (relocation)		X
9	X (relocation)		X
10			X, X
11			X, X
12			X (1 trainee only from this site)

Note: "X" represents a trainee

Table 3
Trainee Feedback on CBT Training

	Percent Endorsement (n=18)				
Survey Question	*Yes*	*No*	*Yes & No*	*Somewhat*	*No Response*
Did you find the CBT workshop succeeded in training you in CBT?	83.3%	5.6%	5.6%	5.6%	–
Do you find the consultation sessions helpful?	88.9%	5.6%	5.6%	–	–
Do you feel the format of the consultation sessions should be changed in some way?	11.1%	83.3%	–	–	5.6%
Do you feel the consultant gives adequate time to each participant?	88.8%	5.6%	5.6%	–	–
Is there the right amount of trainees on the phone at one time?	83.3%	5.6%	–	–	11.1%
Do you feel the consultation sessions need to be weekly?	55.6%	38.9%	5.6%	–	–
Do you find it a time burden to attend the phone sessions?	44.4%	55.6%	–	–	–
Do you feel your clinic has supported your involvement in the CBT project?	77.8%	11.1%	5.6%	5.6%	–
Do you feel your clinic has made an effort to find you appropriate cases?	72.2%	22.2%	–	5.6%	–
Do you enjoy doing the CBT?	83.3%	11.1%	–	–	5.6%
Do you feel the manual is helpful?	88.9%	5.6%	–	5.6%	–
Do you feel the workbook is helpful?	83.3%	11.1%	–	5.6%	–
Do you see yourself using the CBT in the future?	94.4%	5.5%	–	–	–
Do you see participation in the project a burden	17.6%	77.7%	–	5.5%	–

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Maintaining Reliability in Ontario's Outcome Initiative (CAFAS): Rater Drift and Training Approaches

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Introduction

In 2000, the province of Ontario, Canada instituted a measurement initiative requiring the systematic measurement of functional outcomes for all children ages 6-to-17 years of age who receive mental health services in one of 111 organizations situated throughout the province. The tool selected for outcome measurement is the Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 2000a). Training and implementation support for the CAFAS is the responsibility of a team of health services researchers at The Hospital for Sick Children in Toronto. The initial phase of reliability training took place between 2000-2003 during which time over 3,000 clinicians were trained. One focus during this early time of implementation and adoption has been the assessment of rater drift in order to inform the timing of booster reliability training, and the evaluation of a train-the-trainer method. This study attempts to establish an empirical basis to guide an acceptable time interval between recertification training.

The Child and Adolescent Functional Assessment Scale (CAFAS)

The CAFAS is a clinician-rated measure of functional impairment in children and youth 6 to 17 years of age. It contains a menu of behaviorally-oriented descriptions divided into 8 subscales: School/Work, Home, Community, Behavior Toward Others, Moods/Emotions, Self-Harmful Behavior, Substance Use, and Thinking Problems. Scores are also generated for the youth's caregiver on two scales: Material Needs and Family/Social Support. For each scale, the clinician determines the severity level (e.g., Severe, Moderate, Mild, Minimal) that best describes the youth's most severe level of dysfunction for the time period specified (e.g., the last month). For each subscale and each severity level, there are sets of items describing behavior. The levels of dysfunction are assigned values for purposes of generating quantitative scores. There are no cut-off scores but rather a general framework derived from research with the CAFAS (Hodges, et al., 1997; Hodges & Wong, 1996).

Interrater reliability of the CAFAS has been assessed with lay raters (i.e., undergraduate and graduate students) and with front line clinical staff (Hodges & Wong, 1996). Pearson correlations between the rater trainees and the criterion score (i.e., the "gold standard") for the CAFAS total score were in the high range (.92 to .96). Reliability coefficients for individual subscales ranged from .73 to .99 depending on the subscale. Comparable results were observed when intraclass correlations were determined to examine consistency across raters, ignoring the criterion answers (Hodges & Wong, 1996). There is one unpublished study on rater drift with the CAFAS (Franco, Holden & Hodges, unpublished). Using percent agreement of 80% or higher with the gold standard, it was demonstrated that raters with least drift were more likely to have higher levels of education (i.e., masters or doctorate) and be trained by the national evaluation of The Comprehensive Community Mental Health Services for Children and Their Families Program as opposed to self-training. They reported that effective training materials and workshops are key ingredients to maintaining consistent reliability. In order to guard against rater drift on the CAFAS, it is recommended that clinicians re-establish their reliability with booster exercises or recertification training "annually or every two years" (Hodges, 2003, p. 6).

Method

To examine rater drift, 315 raters were selected from 1,311 individuals who had achieved initial interrater reliability on the CAFAS and had also completed a booster interrater reliability exercise one year later. Stratified sampling was used to select 35 raters from each of nine provincial regions. Regions differed with respect to raters' years of clinical experience and distribution of education level (see Table 1), but regions did not differ significantly with respect to distribution of job description (e.g., clinicians, clinician managers, executive directors).

To assess whether a train-the-trainer approach is a reliable alternative to the training provided by the CAFAS in Ontario implementation team, interrater reliabilities calculated for 140 raters trained by an in-house trainer were compared to reliabilities for 315 raters trained by the implementation team. Raters trained in-house included professionals from eight of the nine provincial regions (no data were available for one region). Within group analyses showed that regions differed significantly with respect to raters' years of clinical experience but not on education level or job description.

Procedure. Use of the CAFAS requires the practitioner to achieve interrater reliability with the gold standard rating of the CAFAS developer. This is done by rating the 10 case vignettes provided in the CAFAS self-training manual (Hodges, 2000). In Ontario, inter-rater reliability was defined as demonstrating 80% inter-rater reliabilities with the gold standard criterion on each of the 10 CAFAS subscales for 10 case vignettes. Initial reliability training was established over a two-day training workshop led by a CAFAS in Ontario Trainer. One year after having achieved initial rater reliability on the tool,

Table 1
Rater Characteristics

	Ontario Region									
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	
Trained by Implementers										*F/X*
Yrs Clinical Experience (n =297)	13.06	12.54	9.50	15.03	18.77	16.71	12.73	16.41	13.86	4.40****
	(33)	(35)	(34)	(35)	(35)	(24)	(33)	(34)	(35)	
Job Description (n = 299)	(34)	(35)	(35)	(34)	(35)	(25)	(32)	(35)	(34)	18.90
Clinician	30	29	30	27	30	20	27	30	31	
Clinician Manager	4	6	5	7	5	5	5	3	3	
Executive Director	0	0	0	0	0	0	0	2	0	
Education Level (n = 294)	33	34	33	35	34	24	31	35	35	74.24***
Social Service Worker	1	4	1	3	2	2	3	1	4	
Child Youth Worker	8	12	5	12	17	2	8	14	10	
BA, BSW, BSc	6	4	6	7	7	9	8	8	9	
MA, MEd, MSW	17	10	21	12	8	10	12	6	12	
PhD, ED	1	4	0	1	0	1	0	3	0	
MD	0	0	0	0	0	0	0	3	0	
Trained In-House										
Years Clinical Experience (n =89)	4.23	7.96	12.94	8.9	13.5	-	8.2	-	3.0	2.73*
Job Description (n = 98)	(8)	(24)	(18)	(10)	(10)	(1)	(20)	(0)	(2)	4.43
Clinician	8	20	16	10	11	1	19	-	2	
Clinician Manager	0	3	2	0	1	0	2	-	2	
Executive Director	0	3	2	0	1	0	2	-	0	
Education Level (n = 294)	(8)	(25)	(20)	(9)	(12)	(1)	(22)	(0)	(2)	47.05
Social Service Worker	0	0	2	2	0	0	4	-	0	
Child Youth Worker	1	12	2	2	5	1	1	-	1	
BA, BSW, BSc	1	3	8	2	6	0	10	-	1	
MA, MEd, MSW	6	10	7	3	1	0	5	-	0	
PhD, ED	0	0	1	0	0	0	1	-	0	
MD	0	0	0	0	0	0	1	-	0	

*p < .05, **p < .01, ***p < .001, ****p < .0001,

CAFAS raters across Ontario were contacted by electronic mail and asked to complete a booster rating of an additional 10 case vignettes. All ratings were scored in the CAFAS in Ontario office team and kept on file.

Results

Interrater Reliability and Rater Drift

High mean correlations with the criterion were observed for both initial and one-year reliabilities on all the CAFAS subscales. Mean correlations for initial reliabilities (Time 1) ranged from .848 (Caregiver Social Support subscale) to .995 (Self-Harm subscale). One-year reliabilities (Time 2) were also high and ranged from .828 (Caregiver Social Support subscale) to .996 (Substance Use subscale) (see Table 2).

When initial and one-year booster reliabilities are compared, we see statistically higher reliability coefficients on some CAFAS subscales (School, Moods and Emotions, and Substance Use) and statistically significant drift on others (Community, Behavior Towards Others, Self-Harm, and Thinking). No change was observed for the CAFAS Total Score and the Caregiver Social Support subscale. With the exception of Caregiver Social Support and CAFAS Total Score, *t*-tests indicated that changes in interrater reliability were significant at the .05 level. Rater drift could not be assessed for the Caregiver Material Needs subscale due to lack of data for this domain (see Table 2).

Training Method

Mean correlations with the criterion were also high for raters trained by an in-house trainer in the train-the-trainer method, ranging from .839 (Caregiver Social Support subscale) to .993 (Self-Harm subscale). Inter-rater reliability could not be determined for the Caregiver Material Needs subscale due to a lack of data for this domain in Time 1 and for raters trained by an in-house trainer (see Table 3).

A comparison of the inter-rater reliabilities for raters trained by an in-house trainer and raters trained by the implementation team revealed very high mean correlations. With the exception of the Home subscale, *t*-tests indicated no significant differences between training methods at the .05 level. Interrater reliability could not be determined for the Caregiver Material Needs subscale due to a lack of data for this domain (see Table 3).

Table 2
Reliabilities for Ontario Raters at Initial Training and 1-Year Booster

	Reliability (Pearson Correlation)			
CAFAS Scores	*Initial Reliability (m r) (N = 315)*	*1-Year Reliability (m r) (N = 315)*	*Paired t*	*Direction of Drift*
School	.954	.973	-3.542***	↑
Home	.978	.972	2.026*	↓
Community	.973	.961	2.534*	↓
Behavior Towards Others	.954	.878	7.356***	↓
Moods and Emotions	.914	.952	-6.407***	↑
Self-Harm	.995	.970	6.758***	↓
Substance Use	.986	.996	-3.848***	↑
Thinking	.985	.964	6.002***	↓
CAFAS Total	.990	.989	1.898	↓
Material Needs[a]	*No data*	.961	-	*No data*
Social Support[a]	.848	.828	-1.324	↓_

$p < .05$, ** $p < .01$, *** $p < .0001$
[a] $n = 237$

Table 3
Reliabilities for Train-the Trainer Trainees and CAFAS in Ontario Trainees

	Reliability (Pearson) Correlation		
CAFAS Scores	*Trained by In-House Trainer (m r) (N=140)*	*Trained by Implementation Team (m r) (N=315)*	*t*
School	.940	.954	1.683
Home	.971	.978	1.972*
Community	.976	.973	-.467
Behavior Towards Others	.950	.954	.541
Moods and Emotions	.914	.914	.097
Self-Harm	.993	.995	.494
Substance Use	.988	.986	-.368
Thinking	.983	.985	.444
CAFAS Total	.989	.990	.744
Material Needs	-	-	-
Social Support	.839[a]	.847[b]	.598

$p < .05$
[a] $n = 132$
[b] $n = 267$

Discussion

Findings from this study suggest that although some rater drift is evident from a statistical standpoint, reliabilities remain more than adequate across all subscales and total score one year following initial training. From here, our approach will be to request our two samples of raters to complete a second booster exercise with 10 new vignettes two years after their first booster, at which point rater drift will again be assessed. If reliabilities continue to prove adequate after a two-year gap, we will recommend that practitioners re-establish their CAFAS reliabilities every two years. Re-establishing reliabilities for over 3000 practitioners can be done electronically but requires administrative support to score vignettes and provide remedial support. Hence, to do so every two years would be more economical than to do so annually. The reliabilities of practitioners trained by on-site trainers in the train-the-trainer model are sufficiently adequate to warrant continuation of this training approach for new staff.

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