Chapter Four

Wraparound & Community Supports

John Burchard Wraparound Research Symposium
Research on the Wraparound Team Process

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Symposium Introduction

With the expansion of systems of care initiatives and wraparound programs across the country, program administrators, practitioners, and researchers have begun to ask questions about how to improve the effectiveness of service coordination teams (Walker, Korloff, & Schutte 2003; Walker & Schutte, 2004). The dynamics of the service planning and wraparound team process is theorized to be a key determinant of outcomes for families participating in systems of care initiatives. The papers in this symposium present models for understanding team functioning, focusing in particular on decision-making processes, use of web-based systems to support teams, different types of team structures, and the specific roles of team members. Each of the papers explores different dimensions of team structure or functioning. Together, the authors highlight the complexity of the team process and the importance of focusing more research attention in this area in order to improve the effectiveness of wraparound programs.

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Integrating Data-based Decisionmaking into the Wraparound Process within a System of School-wide Positive Behavior Supports (PBS)

Lucille Eber & Kelly L. Hyde

Introduction

Traditionally, the wraparound process has been used by mental health and other agencies to provide comprehensive supports for youth with emotional/behavioral disabilities and their families in community-based settings (Burchard, Bruns, & Burchard, 2002; Eber & Keenan, 2004). Although evaluation data of wraparound-based projects around the country have indicated the potential for positive outcomes, a research-base is lacking (Burns & Hoagwood, 2002; Burns, Goldman, Faw & Burchard, 1999; Duchnowski, Kutash, & Friedman, 2002; Eber & Keenan, 2004).

Illinois has a history of implementing wraparound through school and community-based initiatives and has been attempting to integrate the wraparound process through their school-wide positive behavior support (PBS) initiative. In the 2001-2002 school year, the Illinois State Board of Education, Emotional and Behavioral Disabilities/Positive Behavior Interventions and Supports (ISBE EBD/PBIS) Network developed a process to support the following two evaluation goals:

- integratation of data-based decision-making into the student/family wraparound team process, and
- consistent measurement of common benchmarks of progress for students who are provided the most individualized and intensive level of service within the three-tiered school-wide PBIS approach.

Finding exisitng evaluation tools lacking, the IL School-wide Positive Behavior Support Network developed a portfoliio of the tools and processes useful to guide wraparound teams in designing, implementing, or monitoring the effectiveness of their teams and plans. As part of the evaluation, a data-based decision-making process is in development to assist wraparound team facilitators as they guide child/family wraparound team and plan development.

The PBIS/EBD Network continued the implementation of wraparound and data-based decision making through schools years 2002-2004. This paper presents two-year outcomes data for a sample of 22 youth while illustrating how the evaluation tools developed have been integrated into the school based wraparound process.

Methods

The purpose of this study was to evaluate the impact on students receiving intensive school-based wraparound ("wrap") planning within a system of positive behavioral supports. Participants in this study were Illinois public school students receiving intensive school-based wrap planning between July 1, 2002 and June 30, 2004. During this time, approximately 42 students received intensive school based supports. Data were collected on students at baseline and at three month intervals until discharge or graduation from the model. This study includes only those students with data at both baseline and three months.

A total of six assessment instruments were used to collect data on the students included in this study. The assessment tools included the following:

- Student/Family Referral Form (Baseline Only)
- Educational Assessment
- Youth and Family Checklist
- Parent Satisfaction
- Youth Satisfaction (When age appropriate)
- Quarterly Disposition of Critical Education Demographics and Indicators

The tools selected for this study were tools used during a statewide evaluation of wraparound through interagency community-based Local Area Networks from 2000-2002 with over 1,500 students receiving wraparound statewide. The original tools were used in a state-wide interagency evaluation of wraparound (results never aggregated/analyzed due to funding cuts) and they were revised to fit with school-based usage and timeframes. The group met monthly for 2 years to develop the tools. These tools were developed to support the features of wraparound including strengths-based, needs-driven intervention planning among a team representing the strengths/needs of the student and his or her family.

Data on the instruments were collected by a designated member of the Wrap Team and/or Wrap Coaching Facilitator, with the participation of the student and family. The designated data collector was also responsible for entering the data into the Full Evaluation Automated Student Tracking System. The system stores the assessment data and also allows for instant graphing of select variables across the six instruments. Data collectors are encouraged to come to the Wrap Team meeting with data generated in graph form to assist the Team members with making informed decisions relative to the best interests of the child and family.

Results

Twenty-two of the 42 students referred for intensive supports between school years 2002 and 2004 (52%) met the criteria for inclusion in the full evaluation analysis. These criteria included students who had full data sets at both baseline and three months following baseline. While all selected students received wraparound services at school, not all were enrolled in PBIS schools. Demographic data reveal similar characteristics between those included verses not included in the study.

The data revealed that the study participants (N = 22) were more likely to attend a school with the PBIS program (77% verses 56%) and, those students in PBIS schools were more likely to be enrolled in the program for a longer length of time than their counterparts (15.4 months verses 6.4 months). Correlational analysis suggests that longer lengths of time in the program were also significantly associated with students attending PBIS Schools (.475, p < .026), increases in positive classroom behavior (.431, p < .035), increases in positive social functioning in school (.545, p < .009), increases in positive behavioral functioning in the home (.492, p < .010), and decreases in high risk school behaviors (-.783, p <.001).

Educational Assessment

Need for Behavioral and Academic Supports in the Classroom. Data revealed that at baseline the study participants' need for additional behavior supports in the classroom was rated as a high area of need (1.9 rating out of 2.0, with 1.0 equaling no need, and 2.0 equaling definite need) while the need for academic supports in the classroom was less noticeable (M = 1.4). Three months later the need for behavior supports in the classroom significantly decreased by 40%, $t(22) = 2.94$, p < .05, while the need for academic supports in the classroom increased by 20%, $t(22) = -1.45$, p = .16. These findings suggest that as the need for student behavioral support decreases, the need for academic assistance within the classroom may become more apparent.

Classroom Behavior. Twelve behaviors were collectively assessed as a construct of classroom behavior. These behaviors were assessed at the start of services and again three months later. The classroom behaviors measured included appropriate classroom behavior with peers, appropriate behavior with adults, participation in extra curricular activities, etc. The scale used a score of 1 to reflect *poor classroom behavior*, and a score of 4 to reflect *excellent classroom behavior*.

The assessment of classroom behavioral functioning revealed that at baseline the students were "sometimes" exhibiting positive classroom behavior (M = 2.5). Three months later the students were assessed on the same set of classroom behaviors. The findings did demonstrate that classroom behaviors collectively improved by .3 (M = 2.8) however, the difference between the two means was not significant $t(22) = -2.02$, p = .06.

Academic Performance. Academic performance for the study participants was rated on a scale where 1 indicated *academic performance of 59%* or *below or failing*, and a rating of 5 equaled an *academic rating of 90%* or *above or excellent academic performance*. At baseline, the students assessed averaged a rating 2.4, the equivalent of unsatisfactory academic performance. After three months, the mean academic performance had significantly increased by .60 (from 2.4 to 3.0; $t(22) = -2.59$, p < .01) from a rating of unsatisfactory at baseline to a rating of satisfactory three months later.

Youth and Family Checklist

The 22 students were assessed using the Youth and Family Checklist at baseline and approximately every three months thereafter. The Checklist was used to assess health and safety, social, emotional, behavior and spiritual/cultural domain functioning in the home, school and community environments. The instrument included at least five sub-areas per functional domain area. Each sub-area question was rated on a scale with 1 indicating a, *high area of need*, and 4 equaling, *high area of strength*. These questions were rated for functioning in the home, school and community environments. The sub area questions were then aggregated by functioning domain and a mean score obtained for each domain of functioning. The mean scores for each domain of functioning, by environment area, were then compared across assessment period (see Table 1).

Home Functioning. At baseline, the mean scores for all domains of functioning in the home environment (health and safety, social, emotional, behavioral, spiritual/cultural) were assessed. The mean baseline domain scores ranged from a low score of 1.9, or *high area of need*, in the area of emotional functioning, to a high score of 3.0, or *somewhat of a strength*, in the area of health/safety functioning.

Table 1
Changes in Functioning within Youth and Family Checklist Domains

	Home Environment			*School Environment*		
Domain	*Rating Baseline*	*3 months*	*p*	*M Rating*	*3 months*	*p*
Medical/Safety functioning	3.1	3.2	$p < .21$	3.0	3.4	$p < .08$
Social Functioning	2.5	2.8	$p < .07$	2.2	2.3	$p < .5$
Emotional Functioning	1.9	2.4	$p < .001$**	1.7	2.0	$p < .15$
Behavioral	2.2	2.5	$p < .01$*	2.0	2.2	$p < .09$
Spiritual Functioning	3.1	3.2	$p < .60$	3.0	3.2	$p < .43$

Note. * indicates significant difference ($p < .01$); ** indicates highly significant difference ($p < .001$).

While all areas of functioning increased between baseline and the three month assessment, two of the five areas of functioning increased significantly. The greatest increase noted was in the area of emotional functioning, which increased from a functioning level of *somewhat of a need* to a functioning level approximating *somewhat of a strength* (from 1.9 to 2.4; $t(22) = -3.73$, $p = .001$). The areas of emotional functioning assessed included anger control, feelings of belonging, knowing when and how to ask for help, responding with appropriate emotional maturity, etc. This change suggests that when team generated positive behavior support planning is initiated in the school, the positive effects are also noted in the home.

School Functioning. The same five domains of functioning within the school environment (health and safety, social, emotional, behavioral and spiritual cultural) were assessed for change across the two assessment periods. The mean domain scores ranged from a low of 1.7 *or high area of need*, in the area of emotional functioning, to a high rating of 3.0, or *somewhat of a strength*, in the area of health/safety, and spiritual/cultural. While all domains demonstrated increases between the two periods of assessment, there were no statistically significant changes in the means scores for the five domain areas between baseline and three months.

The greatest increase in functioning in the school environment between baseline and the Time 2 assessment was in the area of health and safety functioning. This domain is a measure of the student's ability to make responsible choices relative to health and safety. In the school environment this can include knowing when to ask for help, demonstrating life survival skills, and making choices that decrease the likelihood of involvement in violence and crime.The mean score at baseline however was 3.0, suggesting that at baseline health and safety function was somewhat of a strength. The mean domain score three months later increased by .40 to a score of 3.4, $t(22) = -1.84$, $p = .08$. This increase, while not significant, suggests that students demonstrated the greatest gains in health and non-violent decision making.

High Risk Behaviors. The Youth and Family Checklist also assessed the presence or absence of approximately 15 high-risk behaviors. A rating of 1 was given if the student had not demonstrated the behavior in the last three months, and a rating of 2 was given if the student had displayed the behavior at least one time in the last three months. Examples of the high-risk behaviors rated included danger to self, danger to others, verbal aggression, lying, etc.

At baseline, 18 of the 22 youths in the study were rated as having demonstrated high risk behaviors at least one time within the past three months (see Table 2). When assessed at Time 2 for the presence of the same high risk behaviors, three of the identified high risk behaviors had significantly decreased. The most significant decrease was noted in the area of oppositional defiance in the school, which decreased by 40% from a mean baseline score of 1.9 to a three month score of 1.5, $t(22) = -3.64$, $p < .01$. Lying and verbal abuse also significantly decreased by 30%, $t(22) = -2.76$, $p < .01$.

Table 2
Changes in Presence of High Risk Behaviors

Behavior	*Baseline*	*3 months*	*p*
Oppositional Defiant	1.9	1.4	$p < .001$**
Lying	1.75	1.4	$p < .01$*
Verbal Abuse	1.5	1.2	$p < .01$*
Aggression	1.5	1.4	$p < .10$
Danger to Others	1.4	1.3	$p < .10$
Mood	1.6	1.4	$p < .08$
Destroys Property	1.4	1.2	$p < .08$
Theft	1.3	1.2	$p < .10$
Substance Abuse	1.3	1.2	$p < .10$
Truancy	1.3	1.1	$p < .08$
Gang Involvement	1.2	1.1	$p < .10$
Suicidal	1.1	1.0	$p < .08$
Sexually Aggressive	1.1	1.0	$p < .08$

* Indicates significant difference ($p < .01$).
** Indicates highly significant difference ($p < .001$).

Parent Satisfaction

Parents were asked to fill out a questionnaire at baseline and approximately every three months thereafter which included an18 item scale that assessed their overall satisfaction with the wrap planning process.. On this scale, a score of 1 reflected a response of, *not at all satisfied*, a score of 4 indicated a response of *a great deal satisfied*. For this analysis, the 18 items were aggregated and a mean scale score was derived for each assessment period. The change between assessment periods was then analyzed for significant change over time.

Data were available for 22 parents at both the baseline and Time 2 assessments. The baseline satisfaction score derived for the participating parents was a mean score of 2.94, suggesting that the parents were slightly satisfied with the entire wrap planning model. When the same parents rated their satisfaction three months later, they were significantly ($t(22) = -7.04$, $p < .001$) more satisfied with a mean satisfaction rating of 3.73, suggesting that they were extremely satisfied with the program. The overall parent satisfaction findings suggest that there is an initial and significant positive increase in the satisfaction level of the parents participating in the wrap planning process.

Discussion

Despite the small sample size, the data presented demonstrate evidence that students receiving intensive school-based wrap planning within a system of positive behavioral supports do demonstrate improved functioning at school, home and in the community. Some improvements are noted for students within three months of initiating the wraparound process. This is encouraging considering the history of systems failure with these students, who typically experience decreased functioning rather than improved functioning. There is also evidence suggesting that students receiving these services are more likely to maintain or decrease their level of educational restrictiveness, increase academic performance, increase functional classroom behavior, decrease high risk behaviors, and significantly improve emotional functioning in the home environment.

These early improvements shown in these data suggest that when students receive intensive wrap planning and positive behavioral supports through a team based process they can demonstrate significant gains in many life domains and areas of functioning. Future research should continue to evaluate the effectiveness of the wrap planning models in an environment of school-wide positive behavioral supports. Efforts should be made to increase the numbers of students served using similar models of care. In addition, validation of assessment instruments needs to occur to assure the validity and reliability of the data gleaned from such efforts.

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The Structure of Service Coordination Teams: An Empirical Study

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Introduction

Service coordination teams within a system of care have been reported as being an effective approach to assisting youth with serious emotional disorders (SED; Bickman, 1996a, 1996b, 1996c; Glisson, 1994; Glisson & James, 1992). However, it is unclear whether the actual makeup of these teams (i.e., the existence or absence of particular roles) has an impact on client outcomes. In order to better understand the influence that the structure of service coordination teams may have on the likelihood of successful program completion, this study examines the demographic, clinical, and team composition characteristics of a sample of youth in a system-of-care initiative in Indianapolis (Anderson, Wright, Kooreman, Mohr, & Russell, 2003).

Method

The data for this study come from an ongoing evaluation of the Dawn Project (DP), a system-of-care in Indianapolis dedicated to coordinating services for youth and families served in two or more children's social service systems. As in many systems of care, the DP uses service coordination, or child and family teams (CFTs), to develop individualized treatment plans and ensure that needed services are obtained, coordinated, and directed toward common goals for enrolled youth and their families. Subjects in this analysis included young people who had been eligible to participate in the evaluation and who had been discharged from the DP. The demographic characteristics, referring agency (child welfare, juvenile justice, special education, or mental health), final program outcome, and CFT composition were identified in the electronic treatment record for each subject and coded by a trained research assistant.

The reason for each young person's discharge from the DP was obtained from the DP's electronic charting system and used as the outcome measure for this study. Successful outcomes were those in which the client was discharged due to having met their initial treatment goals. All other reasons for discharge were considered unsuccessful outcomes.

The participating members on each CFT were obtained from team meeting minutes available in the electronic chart. Research assistants read all available CFT meeting minutes for each client and recorded the name, gender, role on the team, and agency affiliation of each unique person who attended any CFT meeting.

The severity of a young person's behavioral and emotional symptoms was assessed by using the Total Problems Scale of the Child Behavior Checklist (CBCL; Achenbach, 1991)

Results

Demographic characteristics

A total of 299 young people who had been discharged from the DP were included in this analysis. Most of the young people in the sample were African-American or biracial (57.30%) and male (70.23%). Most of the youth were referred from the juvenile justice system (36.79%). The average age at enrollment to the program was 12.80 years (*SD* = 2.66), with an average stay in the DP of 11.95 months (*SD* = 6.40). The most commonly diagnosed psychiatric conditions were Conduct Disorders (52.51%), Attention Deficit Disorders (46.49%), and Mood Disorders (42.47%).

Cluster Analysis

Initially, participant categories were identified from the CFT meeting minutes. Fifteen role categories were identified:

- mother (including adoptive or step-mother)
- father (including adoptive or step-father)
- the youth
- grandparent
- other family member
- non-kin community support
- DP service coordinator
- child welfare staff member
- juvenile justice staff member
- education staff member
- community-based mental health provider
- residential treatment provider
- mentoring agency staff member
- foster care agency staff member
- legal representative

Each team was dummy-coded for the existence of the 15 categories (1 = *role present*).

The results of the hierarchical cluster analysis indicated that a four, five, or six cluster solution would be appropriate. Follow-up K-means cluster analyses (Hair, Anderson, Tatham, & Black, 1995) were performed specifying four, five, or six cluster solutions. After reviewing the results of each analysis, it was determined that the five cluster solution best described the available data. Table 1 lists the image and identity matrices for the five cluster solution. Table 2 describes the various demographic characteristics of young people in each of the five clusters.

Table 1
Image and Identity Matrices for Five Cluster Solution

	Mother	Father	Grand Parent	Other Family	Youth	Non-Kin Support	Dawn Project Staff	Juvenile Justice	Education Staff	Child Welfare Staff	Community-Based Mental Health Staff	Residential-Based Mental Health Staff	Mentoring Staff	Foster Care Staff	Legal Representatives
Child Welfare Cluster	.70	.23	.19	.46	.82	.27	1.00	.20	.25	1.00	.78	.39	.28	.61	.51
Intensive Juvenile Justice Cluster	.74	.52	.41	.80	.98	.52	1.00	1.00	.65	.24	.98	.59	.81	.46	.06
Standard Juvenile Justice Cluster Mother Head of Household	.97	.31	.03	.27	.91	.11	1.00	.94	.13	.06	.76	.33	.21	.11	.00
Standard Juvenile Justice Cluster, Other Family Member Head of Household	.03	.16	.72	.69	.84	.13	1.00	.72	.09	.41	.66	.41	.06	.16	.16
Education Cluster	.93	.40	.13	.27	.93	.25	1.00	.13	.95	.13	.92	.33	.82	.02	.02
Child Welfare Cluster	1	0	0	0	1	0	1	0	0	1	1	0	0	1	1
Intensive Juvenile Justice	1	1	0	1	1	1	1	1	1	0	1	1	1	0	0
Standard Juvenile Justice Cluster Mother Head of Household	1	0	0	0	1	0	1	1	0	0	1	0	0	0	0
Standard Juvenile Justice Cluster, Other Family Member Head of Household	0	0	1	1	1	0	1	1	0	0	1	0	0	0	0
Education Cluster	1	0	0	0	1	0	1	0	1	0	1	0	1	0	0

Table 2
Demographic Makeup Within Clusters

	Cluster 1 (N = 83)		*Cluster 2 (N = 54)*		*Cluster 3 (N = 70)*		*Cluster 4 (N = 32)*		*Cluster 5 (N = 60)*		
Variable	*N*	*(%)*	*N*	*(%)*	*N*	*(%)*	*N*	*(%)*	*N*	*(%)*	χ^2
Outcome											24.17***
Met Goals	71	(85.54)	31	(57.41)	35	(50.00)	19	(59.38)	38	(63.33)	
Did Not Meet	12	(14.46)	23	(42.59)	35	(50.00)	13	(40.63)	22	(36.67)	
Race											2.74
White	35	(42.17)	20	(37.04)	34	(48.57)	11	(34.38)	27	(45.00)	
Non-White	48	(57.83)	34	(62.96)	36	(51.43)	21	(65.63)	33	(55.00)	
Gender											11.36*
Male	51	(61.45)	38	(70.37)	51	(72.86)	19	(59.38)	51	(85.00)	
Female	32	(38.55)	16	(29.63)	19	(27.14)	13	(40.63)	9	(15.00)	
Referral Source											
Child Welfare	80	(96.39)	7	(12.96)	2	(2.86)	13	(40.63)	8	(13.33)	189.01***
Juvenile Justice	3	(3.61)	34	(62.96)	58	(82.86)	16	(50.00)	7	(11.67)	133.20***
Education	0	(0.00)	9	(16.67)	3	(4.29)	0	(0.00)	31	(51.67)	93.08***
Mental Health	0	(0.00)	4	(7.41)	7	(10.00)	3	(9.38)	14	(23.33)	22.64***
Team Members											
Mom	58	(69.88)	40	(74.07)	68	(97.14)	1	(3.13)	56	(93.33)	117.09***
Dad	19	(22.89)	28	(51.85)	22	(31.43)	5	(15.63)	24	(40.00)	18.35***
Youth	68	(81.93)	53	(98.15)	64	(91.43)	27	(84.38)	56	(93.33)	11.60*
Grandparent	16	(19.28)	22	(40.74)	2	(2.86)	23	(71.88)	8	(13.33)	70.93***
Other Family	38	(45.78)	43	(79.63)	19	(27.14)	22	(68.75)	16	(26.67)	50.28***
Dawn Staff	83	(100.00)	54	(100.00)	70	(100.00)	32	(100.00)	60	(100.00)	--
Non-kin Supports	22	(26.51)	28	(51.85)	8	(11.43)	4	(12.50)	15	(25.00)	29.73***
Juvenile Justice	17	(20.48)	54	(100.00)	66	(94.29)	23	(71.88)	8	(13.33)	174.32***
Education	21	(25.30)	35	(64.81)	9	(12.86)	3	(9.38)	57	(95.00)	128.78***
Child Welfare	83	(100.00)	13	(24.07)	4	(5.71)	13	(40.63)	8	(13.33)	181.56***
Mental Health	65	(78.31)	53	(98.15)	53	(75.71)	21	(65.63)	55	(91.67)	22.31***
Residential Tx	32	(38.55)	32	(59.26)	23	(32.86)	13	(40.63)	20	(33.33)	11.01*
Mentor Staff	23	(27.71)	44	(81.48)	15	(21.43)	2	(6.25)	49	(81.67)	106.99***
Foster Care Staff	51	(61.45)	25	(46.30)	8	(11.43)	5	(15.63)	1	(1.67)	83.33***
Legal Reps.	42	(50.60)	3	(5.56)	0	(0.00)	5	(15.63)	1	(1.67)	95.55***
Clinical Functioning											
CBCL	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*t*
Internalizing	61.58	(12.57)	64.19	(10.70)	64.58	(11.60)	62.55	(13.34)	66.42	(11.46)	1.26*
Externalizing	67.77	(13.08)	73.51	(10.19)	72.38	(10.96)	72.32	(12.63)	69.90	9.35	2.18
Age at Enrollment	12.46	(2.98)	12.72	(2.11)	13.47	(2.11)	13.69	(2.14)	12.08	(3.16)	3.59**

*p <= .05; **p <=.01; ***p <=.001

Cluster one (C1) might be described as the child welfare cluster because over 96% of the young people in this group were referred from this system. Additionally, this cluster most frequently contained a legal representative and foster care agency personnel. Conversely, C1 teams were less likely to include a father or a juvenile justice representative than other clusters. Finally, cluster one had the highest rate (85.5%) of successful outcomes.

Cluster two (C2) might be characterized as the intensive needs juvenile justice cluster, with 63% of the youth referred by this system. Just over half of the youth on the teams in C2 (57.4%) had successful outcomes. C2 teams had the most heterogeneous membership with fathers, other family members, a non-family support person, and representatives from juvenile justice, mental health, education, and residential treatment all being more likely to appear on teams in this cluster than any other. Mentors and educational personnel also were highly represented on these teams.

Cluster three (C3) was even more strongly associated with the juvenile justice system than C2, with 83% of the youth referred from this system. C3 teams also had the lowest rate (50%) of successful outcomes despite primarily serving young people who require less intensive services than those in C2. The youth in this cluster were older, on average, than youth in any of the other clusters. Teams in this

cluster were more likely than any other cluster to include the youth's mother (97.1%) and were the least likely to include grandparents, non-family supports, child welfare representatives, residential treatment representatives, foster care, or mentor staff.

Cluster four (C4) is the only cluster not clearly associated with a single referral source with about half of the youth referred by juvenile justice and 41% referred by child welfare. Successful outcomes were achieved by 59.4% of the teams in C4. A unique feature of this cluster was the low percentage of mothers (3%) and fathers (15.6%) participating on the treatment teams. Additionally, these teams were the least likely to include education representatives, mentors, and mental health team members. Conversely, these teams were the most likely to include grandparents and the second most likely to include other (non-parent) family members on the teams.

Cluster five (C5) could be considered the education cluster, with more than half the youth referred from this system; additionally, a relatively high number of youth in this cluster were referred by mental health (23%). Over sixty percent (63.3%) of young people in C5 teams achieved successful outcomes. Youth in this cluster were the youngest of any cluster and the most likely to be male (85%). These teams were the most likely to contain a mentor; participation by the youth (93.3%), mothers (93.3%), and fathers (40.0%) were also very high on this cluster. On the other hand, juvenile justice representation was lower on these teams than in any other cluster.

Logistic Regression

We also examined the relationship between youth characteristics, team structures, and successful program outcomes. Demographic variables and diagnostic categories did not demonstrate any association with discharge outcome. However, youth with more severe problems upon admission to the program (as measured by the CBCL Total Problem score) were slightly less likely to be successful in meeting the CFT's treatment goals ($OR = 0.97$; $p < .05$). Likewise, youth referred by juvenile justice were 20% less likely to have successful outcomes than youth referred by the mental health system ($OR = 0.20$; $p < .05$). Among team structure clusters, youth in C1 were 4.8 times more likely to have successful outcomes than youth in the comparison category, C5 ($OR = 4.78$; $p < .05$). (See Table 3).

Discussion

The purpose of this analysis was to empirically describe the common team structures found in a well-established system-of-care initiative that uses CFTs. Our results indicate that there are five common team structures in the program that, to a great extent, correspond with the original agencies that referred the young person to the program.

The majority of youth served in the DP meet their pre-established treatment goals. However, the rate of success varied across the clusters. C1 was clearly the most successful. While C1 teams primarily represented children referred from child welfare, the measure for the team structure effect remained significant even after controlling for referral source. This would suggest that there may be something about this team structure that is unique over and above representing the most common structure for youth referred by child welfare. At the same time, C1 also stands out from the other clusters as being in the middle in terms of both size and composition. We believe this is significant because C2 and C3 represent opposite extremes in terms of team size and complexity (i.e., larger, more complex and smaller, and less complex, respectively) while also having the lowest rates of successful discharge. Taken together, these preliminary analyses suggest that the relationship between team structure and program outcome may be curvilinear with teams of moderate size and complexity being those most likely to yield more consistent positive outcomes. Clearly, more research on a wider array of teams across different systems-of-care is needed to develop a comprehensive typology of teams; still, the findings from this study indicate that this process may be empirically feasible and potentially valuable for planning service coordination programs.

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Service Coordination Team Composition and Child Outcomes: An Exploratory Analysis

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Background

Although service coordination teams within systems of care are emerging as an effective approach for supporting youth with serious emotional disorders and their families (SED; Bickman, 1996a; Bickman, 1996b, 1996c; Glisson, 1994; Glisson & James, 1992), it is unclear whether the actual makeup of these teams (i.e., the existence or absence of particular roles such as father, mother, teacher) has an impact on outcomes. However, research related to cross-function health care teams suggests that the involvement of certain personnel on teams may impact communication patterns among team members (Cott, 1997, 1998) as well as treatment choices and patient outcomes (e.g., Haward et al., 2003; Alexander, Lichtenstein, & D'Aunno, 1996; Lichtenstein, Alexander, McCarthy, & Wells, 2004). This work was part of an ongoing longitudinal evaluation of the Dawn Project (DP), a system of care dedicated to integrating and coordinating services for youth and families served in two or more children's social service systems (i.e., special education, mental health, juvenile probation, child welfare; Anderson, Wright, Kooreman, Mohr, & Russell, 2003). In this study, the research team examined demographic, clinical, and team composition (i.e., the roles of the individuals on the team) of a sample of youth who had completed the Dawn Project, to better understand the influence specific team roles have on the likelihood of successful completion.

Method

The data for this study come from the Dawn Project Evaluation Study, an ongoing study that includes both in-depth, longitudinal interviews with families and youth enrolled in the project and analyses of clinical and service-related information available through the DP's electronic charting system (Anderson et al., 2003). This analysis examined correlates of success by focusing on 230 young people for whom CFT meeting, program outcome, and clinical information were available. Using these data, evaluation personnel coded the demographic characteristics, referral source, final program outcome, and the CFT composition of participating youth. The reason for each young person's discharge from the DP was obtained from the DP's electronic charting system and used as the outcome measure for this study. Successful outcomes were those in which the children were discharged because initial treatment goals were met. All other reasons for discharge were considered unsuccessful outcomes. The roles of participating members for each CFT were obtained by reviewing minutes for each meeting, which are available in the electronic chart. Research assistants read all available CFT meeting minutes and recorded the name, gender, and role of each person attending the CFT meeting, as well as the agency affiliation of each unique person who attended each meeting. The severity of a young person's behavioral and emotional symptoms was assessed by using the Total Problems Scale of the Child Behavior Checklist (Achenbach, 1991).

Analyses

Logistic regression analysis was used to examine whether demographic characteristics, severity of psychiatric problems, or team member presence, predicted successful or unsuccessful program disposition. Team member presence was defined in three different ways: (a) using dummy variables to indicate the presence or absence on the team of each role; (b) using the total number of individuals on the team who occupied each role; and (c) the natural log of the average participation on the team for each role.

Results

Bivariate analyses comparing the demographic characteristics of the 230 young people in the current sample with the 69 young people excluded from the sample indicated no significant differences with the exceptions of age, length of time in the program, and program outcome. Youth in the analysis sample were younger at enrollment (12.6 vs. 13.6 years old, respectively), enrolled in the program longer (12.4 vs. 10.4 months, respectively), and were more likely to have a successful outcome (69.57% vs. 49.28% meeting goals, respectively; see Table 1) than those excluded from the analysis.

Table 1
Demographic Comparisons Between Youth Included in the Analysis and those Excluded from the Analysis

	Included (n = 230)		*Excluded (n = 69)*		
Variables	*N*	*(%)*	*n*	*(%)*	χ^2
Race					0.0370
Caucasian	97	(42.17)	30	(43.48)	
African-American/Biracial	133	(57.82)	39	(56.52)	
Gender					1.128
Male	158	(68.70)	52	(75.36)	
Female	72	(31.30)	17	(24.64)	
Referral Source					
Child Welfare	80	(34.78)	30	(43.48)	1.726
Juvenile Justice	94	(40.87)	24	(34.78)	0.823
Education	32	(13.91)	11	(15.94)	0.178
Mental Health	24	(10.43)	4	(5.80)	1.345
Diagnoses					
Mood/Anxiety Disorders	32	(13.91)	12	(17.39)	0.512
Disruptive Disorders	190	(82.61)	53	(76.81)	1.172
Other Disorders	8	(3.48)	4	(5.80)	0.741
Outcome					9.590***
Met Treatment Goals	160	(69.57)	34	(49.28)	
Did Not Meet Treatment Goals	70	(30.43)	35	(50.72)	
	M	*(SD)*	*M*	*(SD)*	*t*
Age At Enrollment	12.56	(2.69)	13.58	(2.38)	2.842***
Months Enrolled in Dawn Project	12.42	(6.31)	10.38	(6.46)	-2.346**

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

Presence or Absence of Roles

Logistic regression modeling suggested that successful program completion was predicted by having fewer behavioral symptoms at program entry (OR = 0.96, p < .05) and having CFT member participation in specific roles (Table 2). More specifically, youth who had someone in the father role on the team were more than twice as likely (OR = 2.26, p < .05) to have successful program completion. Similarly, youth were two times more likely (OR = 2.38, p < .05) to successfully complete the DP if they had educational or school staff members on their team. In contrast, youth whose team did *not* include mentors or juvenile justice representatives were three times more likely to have successful program completion (OR = 0.35, p < .05; OR = 0.36, p < .01, respectively). Demographic

variables were not significant predictors in this model. However, young people entering the DP from the educational system were almost two times more likely to have an unsuccessful program outcome than youth referred from the mental health system. Just over 19% of the variance in program outcome was predicted by this model.

Table 2
Logistic Regression Predicting Outcome in the Dawn Project

	Presence of Role on Team	*Number of People who Held Role*	*Average Participation Rate of Role*
	O.R.	*O.R.*	*O.R.*
Youth Demographics			
Race	1.35	1.04	1.34
Gender	1.04	1.13	1.05
Age at Enrollment	0.93	0.86	0.93
Diagnostic Group[1]			
Disruptive Disorders	0.20	0.22	0.23
Mood/Anxiety Disorders	0.13	0.25	0.16
CBCL Total Problems Score	0.96*	0.96*	0.96*
Referral Source[2]			
Child Welfare	0.52	0.40	0.70
Juvenile Justice	0.27	0.24*	0.33
Education	0.19*	0.16*	0.20*
Team Member			
Mother	0.44	0.56	0.85
Father	2.26*	1.94	1.19
Grand Parent	0.68	0.72	1.24
Other Family	1.05	1.23	0.91
Youth	2.38	2.71	1.04
Non-kin Supports	1.93	1.45	1.09
Juvenile Justice Representatives	0.35*	0.79	0.76*
Education Staff	2.38*	1.22*	1.29*
Child Welfare Representatives	1.06	1.94	0.97
Community Mental Health Providers	1.10	0.87	0.96
Residential Treatment Staff	0.60	1.00	0.83*
Mentoring Services Staff	0.36*	0.98	0.81*
Foster Care Service Providers	1.37	0.96	1.17
Legal Representatives	1.19	0.97	1.04

[1]Other Diagnoses is the comparison category
[2]Mental Health is the comparison category
*$p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Number of Individuals in Each Role

When the number of individuals in each role on the team was used as a predictor in the logistic regression model, program outcome was predicted by referral source, behavioral problems, and the presence of educational representatives on the CFT (see Table 2). Specifically, successful program outcomes were more likely to ocurr in cases referred from juvenile justice ($OR = 0.24$, $p < .05$) or the educational system ($OR = 0.16$; $p = .05$) than cases referred from mental health. Additionally, successful program outcomes were predicted by having fewer behavioral symptoms at enrollment ($OR = 0.96$, $p < .05$) and having a higher number of educational representatives on the young person's CFT ($OR = 1.22$, $p < .05$).

Natural Log of Participation

The final model used the natural log of the average participation rate for each role. The natural log was used in this instance to correct for the skewed distribution in participation rates. When compared with young people referred to the DP from child welfare, young people enrolled in the DP through the educational system were two times less likely to achieve successful program outcomes ($OR = .20$, $p < .05$). As observed in the other regression models, young people with lower rates of psychological problems were more likely to achieve successful outcomes ($OR = 0.96$, $p < .05$). Finally, a successful program outcome was predicted by higher rates of participation from educational representatives ($OR = 1.29$, $p = .05$) and lower participation rates by representatives from juvenile justice, residential treatment, and mentoring services ($OR = .76$, $p = .05$; $OR = .83$, $p = .05$; $OR = .81$; $p < .05$, respectively).

Discussion

In a model containing demographic characteristics, behavioral symptoms at enrollment, and CFT member roles, achieving a successful program outcome appears to be predicted primarily by the presence of father-type figures and the absence of juvenile justice and mentor staff. While the role of father figures in the adjustment of at-risk young people is still unclear, research suggests that paternal involvement can help reduce the risk of psychological difficulties and delinquent behaviors, particularly in males (Thomas, Farrell, & Barnes, 1996; Zimmerman, Salem, & Maton, 1995). Youth who had fewer behavioral symptoms at program enrollment were slightly more likely to complete the program successfully. The precise nature and mechanism of the relationship between program outcome and the various team roles is unclear from this analysis and the available data. However, these results do indicate that interventions targeting the actual composition of CFTs may ultimately impact program success. Further study is warranted to better understand the specific contributions of various team members, the conditions under which each role is most effective at impacting successful program outcomes, and the impact of inter-role interactions on program outcome. Future investigations should account for variations in the level of participation for each team member (e.g., intensity and consistency over time) and control for the possibility that some team roles may not be applicable across youth in the sample (e.g., foster care staff could be team members only if youths are in the foster care system).

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Symposium Discussion

Janet S. Walker

The studies described by the papers in this symposium must be viewed as exploratory: the Illinois study due to small sample size and limited time frame, and the Dawn Project studies because of their descriptive nature. Nonetheless, the studies deserve our attention for the intriguing possibilities and further questions that they raise. What is more, taken as a group, the studies also provide evidence of the increasing sophistication of knowledge and research about the wraparound process.

The intriguing possibilities raised by the Illinois study are (a) that the dramatic positive results that appear to be generated in a short time frame could be sustained over a longer period, and (b) that other non-significant (but trending positive) outcomes would become significant given a larger sample and more time. It is of particular interest that the wraparound intervention had a quick and positive impact on academic performance, an outcome that is crucial to young people's life chances, yet often eclipsed in planning by a focus on behavior. Also important is the positive impact of a school-initiated planning process on child functioning in the home.

For the Dawn Project studies, the further questions raised by the authors revolve around *why* different team configurations might be related to successful discharge from the program. Why, for example, might the presence of a father figure on the team be associated with high probability of success? This is a question that is particularly compelling for me, given that my own research documented very low participation of fathers on a national sample of teams. What is it that fathers bring to the process, and can this be provided for teams that lack participation by a father figure? Or why is it that teams referred through juvenile justice appear to be less successful than teams referred through mental health? The authors have done us a service by using data to hone in on these questions, and by generating some intriguing hypotheses about answers. We look forward to the information that further explorations of these issues will yield.

Beyond the findings that the authors highlight in their papers, there is additional information that can be gleaned from reading a little bit between the lines. This information is important because of what it tells us about the directions being taken, and the results being achieved, in mature, successful wraparound programs. For example, I find it significant that the Dawn Project achieved a successful discharge rate of nearly 65% overall. About five years ago, as part of my own research, I asked expert care coordinators from highly regarded wraparound programs to estimate the rates of successful discharge

from their own programs. Their estimates ranged from 20% to a high of 50%. Family mobility, unstable funding, program demise, uncooperative system partners and providers, and other extra-program factors were seen as contributing to this perceived low rate. What is encouraging is that the Dawn Project has apparently addressed these underlying factors that commonly impede program success and sustainability. The Illinois study also paints a picture of a well-functioning program that has achieved the capacity not just to help children and families achieve positive outcomes, but also to gather and utilize high quality data. This enables teams to track progress and evaluate strategies; furthermore, it allows the program to implement quality assurance *and* to document outcomes. Also encouraging is that each of these programs is focused on outcomes that matter to young people and families *and* that are relatively straightforward and easy to measure. Considered as a group, these three studies are testament to the increasing ability of wraparound programs to achieve pragmatic goals while also bringing to life the vision expressed in the wraparound philosophy.

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Relationships between Parental Stress, Child Supports and Parental Supports for Children with Serious Emotional Disturbances

Jennifer Taub
Shannon Lewis

Introduction

Social support systems, or informal supports in the community such as family or friends, appear to be a significant factor in helping families deal with the stress of raising children. Caregivers of children with behavior problems and disabilities experience highly elevated levels of daily child-rearing stress (Pelham & Lang, 1999; Tsagarakis, 1999; Dyson, 1997). Previous research indicates that there is a correlation between social support and parental stress for caregivers of children with various physical and behavioral problems.

In one study, data were collected from caregivers with children ages 6-18 who either had mental retardation, chronic illness, or were of a non-disabled behavior-problems sample. The presence of significant behavior problems was related to high parental stress, more so than children's physical illnesses (Floyd & Gallagher, 1998). In a study by Tsagarakis (1999), caregivers of children with externalizing and internalizing behaviors were studied to examine how child behavior problems, resources, and coping strategies predict parental stress. Results indicated that family social support diminished the predictive relationship between child behavior problems and high parental stress, and mothers of children with externalizing behaviors experienced more stress than mothers of children with internalizing behaviors (Tsagarakis, 1999). This suggests that more social support can reduce stress when caregivers are dealing with their children's behavior, particularly externalizing behavior.

In a study looking at the link between social supports by family members and the psychological and physical health of children, Shadmon (1998) found that parental and sibling supports had the strongest relations to children's well-being. It was also found that children's well-being was hindered by maternal stress and fostered by maternal positive network orientations (i.e., mothers' tendency to utilize supports). Family supports produced the largest contribution to the variance in children's adjustment outcomes, followed by interaction variables which confirmed the importance of non-family supports in compensating for insufficient family supports (Shadmon, 1998). Support systems seem to promote children's health through reducing parental stress.

Given what we know from previous research, the question remains whether increased natural supports in the family and community can decrease parental stress, ultimately helping caregivers deal with behaviorally problematic children, such as children with severe emotional disturbances (SED). There has not been any research dealing specifically with the effects of social supports on parental stress in caregivers of school-aged children with SED.

In order to examine the relationships between social supports and parental stress for caregivers of children with SED, we utilized a sample from an evaluation study of children receiving comprehensive wraparound services designed to build on support systems for the family. This study examines the following questions:

1. Are services successful in increasing the support networks, both formal and natural supports, for children and caregivers?
2. Are fewer social supports related to greater parental stress?

Method

Participants. Caregivers of children enrolled in the Coordinated Family Focused Care (CFFC) program in Massachusetts were eligible to participate in this study. All children in CFFC are enrolled in Medicaid, 3-18 years old (inclusive), at risk for residential or more restrictive placement, have a score of 100 or higher on the Child and Adolescent Functional Assessment Scale (CAFAS; Hodges &

Wong, 1996) or on the Preschool and Early Childhood Functional Assessment Scale (PECFAS, Hodges 1997) and have a serious emotional disturbance. Consent for participation in an evaluation of CFFC is obtained by program staff at intake. Data for this study were drawn from the larger evaluation. Measures of parental stress are completed at intake, six and 12 months with program staff. Measures of fidelity, empowerment and caregiver involvement are completed through phone interviews with third party interviewers at three and nine months after intake. Participants are paid $10 for their participation in phone interviews.

Measures. To assess parental stress, the Parental Stress Index-Short Form (PSI; Abidin, 1995) is used for parents of children ages 11 and under, and the Stress Index for Parents of Adolescents (SIPA; Sheras & Abidin, 1998) for parents of children ages 12 and over. Both measures have good psychometric properties.

To assess supports, six items from the Wraparound Fidelity Index (WFI; Bruns, Burchard, Suter, Force, & Leverentz-Brady, 2004) and one item from the Family Empowerment Scale (FES; Koren, DeChillo & Friesen, 1992), looking specifically at caregivers' perceptions of supports, were used (see Table 1). The number and strength of child social supports also were assessed at intake.

Results

1. Is the program successful in increasing the support networks, both formal and natural supports, for (a) children and (b) caregivers?

Children's supports. Paired samples *t*-tests were completed to compare the intake and six month ratings of number and strength of relationships in the areas of Peers, School, Adults, Formal and Informal supports. Results indicated statistically significant increases in the overall sample in the areas of Formal Supports (t = -3.020; df = 86; p = .003) and Adult supports (t = 2.451; df = 86; p = .016), both in the number of supports and the strength of the relationships, between intake and six months. For adolescents only (n = 38), there was a significant increase in Informal Supports as well (t = -2.154; df = 37; p = .038; see Figure 1).

Caregivers' supports. For caregivers, paired samples *t*-tests were performed for each of the seven items in Table 1, for the three- and nine-month time points. Results indicated that only one area showed a positive change, regarding the parent's perception of the team fostering positive friendships for the child (t =2.687; df = 25; p = .013). None of the areas that were specifically regarding supports for the caregiver showed change.

Table 1
Parent Support Items

WFI Item 7A:	Does the team help you receive support from your friends and family
WFI Item 7B:	Does the team help your child develop friendships with other youth who will have a good influence on his or her behavior?
WFI Item 7C:	Does the team rely mostly on Professional Services?
WFI Item 7D:	How many members of your team are professionals?
WFI Item 2B:	Is there a friend or advocate of your family who actively participates on the team?
WFI Item 8A:	Does the team help your family develop or strengthen relationships that will support you when the team is discontinued?
Family empowerment scale Item 7:	"When I need help with problems in my family, I am able to ask for help from others".

2. Are child or caregiver social supports related to parental stress?

To examine the relationships between social supports and parental stress, separate analyses were done for each parental stress measure, one set for the PSI for younger children, and another set for the SIPA, for adolescents.

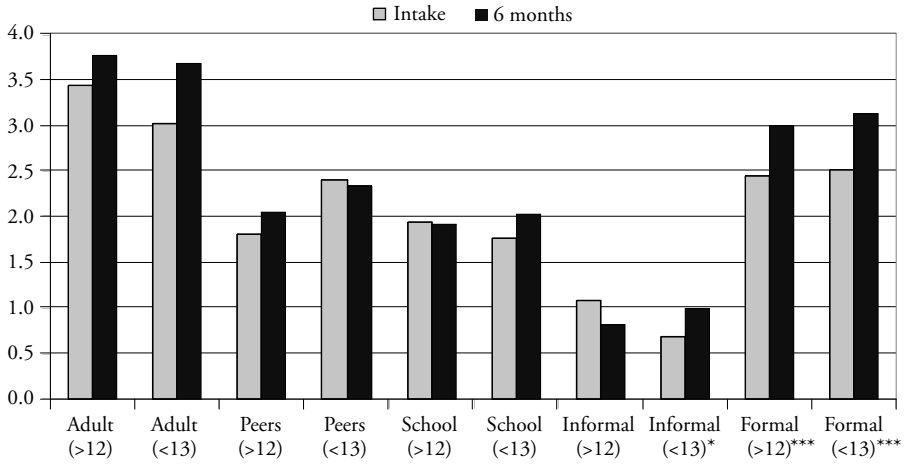
Younger children. To look at the relationship between the child's social supports and parental stress, Pearson correlations were conducted between the number and strength of social supports with each of the parental stress measures. There were no significant relationships.

To look at the relationship between parental supports and parental stress, two-tailed Pearson's Correlation tests were generated to compare each item in Table 1 with PSI and SIPA total and subscale scores. Significant inverse relationships between Total Stress (r = -.507; p = .001) and all three subscales were found: Child Domain (r = -.367; p = .025), Parent Domain (r = -417; p = .01) and Parent-Child interaction (r =-.534; p = .001) on questions about parents' natural supports on their teams. Specifically, parents who reported that their teams relied more heavily on professional than natural supports reported *greater* parental stress.

Adolescents. To examine the child's supports and parental stress, Pearson correlations were conducted between the number and strength of social supports with each of the parental stress measures. There were significant relationships seen between Adult Supports (r = -.262; p = .022), School Supports (r = -.365; p = .001), and Formal Supports (r = -.267; p = .02) and parental stress in the Adolescent-Parent relationship domain at intake and for Adult supports (r = -.329; p = .029) and School Support (r = -.394; p = .009) at six months. That is, more child social supports in these areas were related to lower parental stress in the relationship between the parent and child.

To better understand the specific contributions of supports to parent stress, a multiple regression was performed with intake-six month change in SIPA Parent-Child Relationship Stress (PCRS) as the dependent variable. Intake PCRS was entered on the first step to covary for the initial score. Next, caregiver support items from the WFI and CAFAS intake and intake-six month change scores were entered. Results indicated that PCRS intake score accounted for 10% of the variance (F = 5.24; df = 38;

Figure 1
Child Social Supports—Change over Time
Children (n = 37) & Adolescents (n = 37)



*p < .05, ***p < .001

p = .028), and having a friend or advocate who actively participates on the team accounted for a unique 12.5% of the variance in PCRS change scores (F = 7.21; df = 37; p = .011). CAFAS scores did not significantly contribute to the PCRS scores.

Discussion

While we are somewhat limited by the proxies used for assessment of social supports, particularly for caregivers, the emergent pattern of results was intriguing. Results indicated increases in some areas of social supports, but only for children in the program, not for their caregivers. Children were reported to have increases in their adult support network, their formal support network, and their relationships with positive peers. This change in adult supports may be a result of the new adults brought into the child's life through the services they are receiving, but the fact that both the number as well as the level of connectedness to these adults demonstrates more positive relationships with adults over the course of services.

While this program is designed to increase involvement from caregivers' natural supports, this is not an area in which notable change was found. Since there was a substantial relationship between parent-reported involvement of a friend or advocate on their child's team, and lowered stress in the parent-adolescent relationship, this is certainly an area that programs should focus on.

Results indicated that there were significant increases in some areas of child supports and both child supports and parental supports were related to parental stress for children with SED in wraparound services, although child supports and adult supports were related to different parental stress factors. For younger children, having more professionals than natural supports on their teams was related to increased parental stress in all domains. For parents of adolescents, both the child's support network, as well as the caregiver having support in the context of their child's services, were related to lower parental stress, and reductions in parental stress, respectively.

Future directions for research will involve more complex statistical analyses to help tease out the complexities of the relationships between supports and parental stress, as well as other factors which may affect these relationships, such as family history, child functioning, income, and others.

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Building Community Connections with Project T.E.A.M.: A Comparison of At-risk Caucasian and Minority Youth

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Introduction

The wraparound process is a service delivery mechanism that recognizes family and community supports as integral to the well-being of children. As an alternative to traditional treatment, wraparound employs an integrated, multi-system collaborative approach for children and their families to help meet their unique emotional and behavioral needs across all life domains. Several core principles define the wraparound process, including community-based, individualized, and culturally competent care (VanDenBerg & Grealish, 1996).

A key mechanism in wraparound is the building of community and natural supports for each family, facilitated through the development of a child and family team. A team consists of the youth and family, and persons from the family's support system who can provide additional guidance when needed. Formal service providers also serve on the team to help with linkage and provision of services. The team works collectively to create an individualized care plan to meet family needs and develop goals, and reflects wraparound's emphasis on utilizing and expanding natural supports, from which the family can derive empowerment. The literature indicates that minority families tend to have larger social networks and a greater reliance upon informal networks for support, and that culturally-driven approaches that incorporate family and community in mental health treatment produce improved outcomes (Barrio, 2000).

The goal of this study was to examine the significance of community connectedness in the lives of at-risk youth, in particular ethnic minority vs. Caucasian youth. It explored whether youth participating in Project T.E.A.M. showed an increase in the number and strength of community connections over time, whether clinical functioning improved over time, and any relationships between formal and informal supports and individual clinical functioning. Based on past research, it was hypothesized that community connections, especially informal supports, would have a differential impact on the well-being of a sample of minority youth vs. Caucasian youth.

In 1998, King County was awarded a six-year Federal grant, from which Project T.E.A.M. (Tools, Empowerment, Advocacy, and Mastery) was designed to fulfill a gap in service options for youth involved in the juvenile justice system. Families enrolled in Project T.E.A.M. are seeking additional services and supports from the Superior Court through the At-Risk Youth (ARY) or Child in Need of Services (CHINS) petition; which allows parents of youth designated as out-of-control or truant to regain control through court-ordered services and treatment. Families are referred to Project T.E.A.M. from the Department of Children and Family Services and/or directly from the judges and commissioners in the Superior Court. All youth participating in Project T.E.A.M. meet criteria for serious emotional disturbance (SED), are multi-system involved (i.e. juvenile justice, mental health, school-based, etc.), are undergoing ARY/CHINS or Truancy Petition, *or* have been adjudicated.

Project T.E.A.M. utilizes wraparound as a mechanism for linking families to formal services, community organizations, and natural supports to better meet the needs of the family and to keep youth out of juvenile detention. Each family is assigned a Care Coordinator located regionally throughout King County, who dialogues with the family and youth to create a child and family team. This team utilizes the strengths of the family to create an individualized care plan.

Method

All families enrolled in Project T.E.A.M. were recruited to participate in a larger longitudinal outcome evaluation. Interviews are in-home with youth (11 or older) and a primary caregiver, who are interviewed at intake into services and every six months for up to three years. The instruments are designed to capture youth behavior in home, school, and community, clinical functioning, family empowerment and resources, service utilization, and satisfaction with services received.

A sample of families from the larger longitudinal evaluation was selected for the current study. Those families that completed intake, 6-month, and 12-month interviews were included: 99 youth (62.6% male), ages seven through 17 (mean age = 14.67 years), with self-identified ethnic/racial background as 62.6% Caucasian, 10.1% American Indian/Alaska Native, 2% Asian/Asian American, 1% Native Hawaiian/Other Pacific Islander, 18.2% African American/Black, 6.1% Hispanic/Latino, and 11.1% Multiracial.

For purposes of the current study, youth were divided into two groups: Caucasian (n = 62; 62.6%) and Minority (n = 37; 37.4%). Over half (58.6%) were in custody of a biological mother only at enrollment, 71.7% had a history of running away, 79.8% had a history of substance abuse in the family, and 82.8% had utilized outpatient mental health or school based services (74.7%).

The CCTCQ (Vander Stoep, Williams, Green & Huffine, 2001) was developed by a group of researchers and family members from a local evaluation team to track the development of natural and system supports for youth with SED in system-of-care programs. The caregiver is asked to list all persons and activities the youth feels connected to in five categories: Family, Peers, School/Work, Community, and Formal Services. The caregiver then rates the strength of each connection (none, weak, moderate, strong) and primary type of support(s) each person provided. Formal supports include school-based services and paid professionals such as counselors or probation officers. Informal supports include natural supports such as family and peers, community activities, and others (i.e. youth pastor, coach).

The Child and Adolescent Functional Assessment Scale (CAFAS; Hodges, 1994) was designed to assess the degree to which a youth's mental health or substance abuse disorder is disruptive to everyday functioning. Eight psychosocial domains are examined: Community Role Performance, Home Role, School Role, Behavior Toward Others, Moods and Emotions, Self-Harm Behavior, Substance Use, and Thinking. Higher scores on any subscale and on the total CAFAS score indicate more severe impairment.

Results

There was no significant change in total community connections from intake to 12 months for Caucasian or Minority youth. There was a trend for increasing community connections for Minority youth (F = 2.67; p < .076; X = 18.9) at 12 months, suggesting that community connections may change as a function of ethnic grouping.

There was no significant interaction between ethnicity and type of community support. The average number of formal service connections increased significantly (F = 3.49; p < .05) from intake to six months, then decreased to baseline by 12 months for both groups. There was an interaction trend for the average number of informal supports (F = 2.6; p < .082). There was no significant interaction or main effect findings for ethnicity and strength of formal service connections or informal supports over time.

There was no significant interaction between total CAFAS score and ethnicity. There was a significant improvement in functioning over time across groups (F = 6.73; p < .01), and a significant interaction in Home role domain between CAFAS Home Role score and minority status (F = 3.37; p < .05). There was a significant main effect for improvement in Moods/Emotions (F = 4.41, p < .05), Self-Harm (F = 3.76; p < .05), and Thinking (F = 5.5, p < .01) domains over time. Clinical impairment did not vary as a function of total number of community connections.

Discussion

The lack of a significant increase in community connections over time may be explained by the higher average number of community connections of Project T.E.A.M. youth at intake. The trend increase in number of connections for minorities is supported by research indicating the role of positive family and community supports in facilitating minority well-being (Sachs-Ericson, 2004; Maton, Hrabowski III & Greif, 1998).

The significant increase in number of formal supports from intake to six months; and return to baseline by 12 months appears consistent with Project T.E.A.M.'s practice of increasing formal services at treatment initiation, then gradually reducing them while building informal supports. The interaction and increasing trend for informal supports for the Minority group may be explained by the high number of informal supports at intake and greater minority access to social networks. The lack of significant effects for strength of connectivity to formal services or to informal supports over time may suggest that youth have difficulty developing meaningful connections, and that strong connections take time to establish.

The significant improvement for total CAFAS score suggests that participation in Project T.E.A.M. helps youth progress in their everyday behavior, especially in areas of Moods & Emotions, Self-Harmful Behavior, Home, and Thinking. The significant interaction in Home Role, with increased impairment for Minority youth, may suggest that minority youth experience earlier disengagement from treatment. Youth were only assessed for number and strength of connections, which may help explain the lack of a significant correlation between community connections and clinical impairment.

Limitations include the small sample size and lack of power. The CCTCQ may lack accuracy, as it is dependent upon caregiver knowledge of a child's environment, which can vary widely between time periods. Furthermore, there was no comparison group of normalized children, which may have provided an enhanced understanding of how supports impact functioning.

Areas for future exploration include: whether minority youth are disengaging/disenfranchised from services when compared to Caucasian youth, racial/ethnic differences in intensity of services received, racial differences in family histories and risk factors, cultural differences regarding the value of informal supports, differential attitudes towards receiving formal services, and a detailed assessment (i.e. quality, frequency of contact) of what makes connections effective.

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The Activation of Social Networks within the Social Education Assistance in Family Settings Project (FamNet)

Sibylle Friedrich

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Introduction

No one is an island. Everyone is part of the human continent. With these simple words, John Donne, a British poet and contemporary of William Shakespeare, expressed what characterizes humans as social beings. Accordingly, it is very important that professionals refrain from considering single clients and families with complex needs as small islands alone in a huge, stormy ocean. Instead, their relationships to people outside the core family should be recognized and taken into account. In the project described below, a method was developed to train professionals to value these human relationships as social resources.

The methodological origin of the project lies in the resource-oriented U.S. American wraparound concept, in which nearly the whole social network of the client-family comes together regularly to plan how to support the child and family (VanDenBerg & Grealish, 1998). A professional resource coordinator leads every session. For research on program effectiveness, see Rast et al. (2005), Petersen, Rust (2005), Ferguson (2005) and Clark et al. (1996).

FamNet (Family Network Activation), the approach implemented in this project, is an adaptation of the original core concept of the German welfare setting. A *family assistant* supervises each parent in a one-on-one situation as they learn how to activate their social network independently: How to ask their neighbors, friends, and relatives and so on for help in daily life and in a crisis situation. Since German families typically are not used to disclosing their private issues and problems, they would not discuss them within a large group. Therefore, the project did not implement family teams.

Description of the German Setting

The German child welfare and juvenile justice system guarantees the legal guardian a legal claim to federal support in the case that adequate education and wellbeing for a child cannot be ensured. In these cases, the Youth Welfare Department decides about options in type and amount of support. However, the families must have free choice of offered support options and ownership of the support plan. The legal guardian keeps his or her parental authority. Social Education Assistance, one of the support options offered in family settings, is regulated by the German child and youth welfare law. Educational and everyday support is supposed to be combined in order to improve the family's self-management abilities and to decrease the social isolation of the families. However, in Germany, not much network-oriented work has occurred until now within the Social Education Assistance program in family settings, even though it is demanded by the child and youth welfare law. At best, professionals focus on the social integration of their clients in the community (school, kindergarten, sports club, therapy, etc.), but mostly do not address their personal relationships. *Social integration*, without doubt, is very important for everyone, since it creates social identity. However, *personal relationships* are an equally important part of a functioning social network, because they offer various possibilities for social support (Weiss, 1974).

Procedures and Methods

The purpose of this empirical study was to develop and test network-oriented intervention methods for applied social education work. Since the child and youth welfare law sets certain constraints on the existing support options, the first step was to shift the family assistants' focus to new aspects of social education (i.e., resource and network orientation) rather than create a whole new support option. Twenty family assistants from eight welfare organizations in Hamburg, Germany were trained in network-oriented intervention methods. Training was supplemented by different handouts developed to help professionals structure their discussion of social networks with families. Furthermore, handouts were

provided in order to support development of so-called "network goals" in cooperation with the family. These network goals refer to the future establishment and use of social contacts. To guide families through the process of goal-achievement, family assistants provide supervision to help families to focus on resources such as personal strengths, experiences, coping strategies and social resources (Friedrich, 2004).

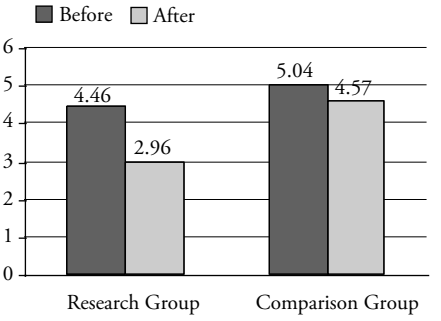
Using a quasi-experimental evaluation design, twenty-six families with complex needs that received support from a social welfare program participated in the new support intervention (FamNet). A well matched comparison group (N = 23 families) received traditional assistance. For nine months, the family assistants in the research group focused on the respective families' social resources (either existing or lacking) in order to enable the clients to extend and use their network on their own. The research objective was to examine the intervention's effectiveness and the actual degree of application of the intervention methods by the trained assistants, to promote the application's sustainability, and to develop the concept continually, based on the study's results. Specifically, the research hypotheses were that the families would profit from the network activation insofar as social support from family members, neighbors, and friends and so on would increase. The need for further support was supposed to decrease. No change was expected in the comparison group. The new intervention (FamNet) was hypothesized to be more effective at achieving the goals stated in the support plan than the traditional services. Data collection for the network analysis took place at the beginning and end of the intervention period using the Mannheimer Interview on Social Support (Veiel, 1987). Additionally, qualitative interviews were conducted with all families.

Results and Discussion

Quantitative Results

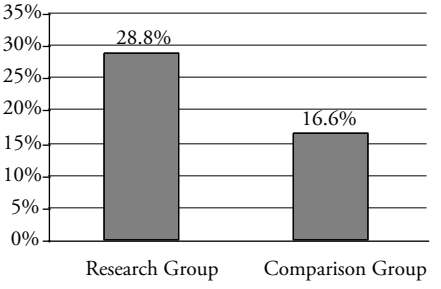
Preliminary quantitative results were as expected (main analyses are in progress); however, not all of them were statistically significant. The increase of the dependent variable *social support in daily life* due to the intervention was significant (z = -2.27, p < .05). The increase of *social support in a crisis situation* was not significant (z = -1.04, p = .30), although change occurred in the hypothesized direction. The *need for further support*, a variable that may be interpreted as dissatisfaction with the actual degree of perceived support options, significantly decreased in the research group (z = 2.50, p < .05; see Figure 1).

Figure 1
Further Need of Social Support



The research and comparison groups also significantly differed with respect to the *degree of goal achievement* (as rated by the clients) during the intervention period. Nearly twice as many goals were achieved in the research group, $\chi^2(3, N = 26) = 12.98$, p < .01; see Figure 2.

Figure 2
Clients View of Goal Achievement



Semi-structured Interviews with Professionals

One of the most important results, gained by qualitative interviews with the family assistants in the research group, was that fidelity to the model (i.e., transfer of the training into application) may still be improved. Reasons for the future improvement seemed to be the following, as indicated by the family assistants'

statements: (a) a difficulty in implementing the network-oriented intervention methods in the daily social education work because of administrative problems; (b) the application of structural methods (i.e., documentation of every goal and every step in order to pursue this goal) felt strange to most of the participating professionals, and; (c) most importantly, a change in attitudes and perception (i.e., that families with complex needs are able to organize social supports within their own network) was felt to be a challenge by the professionals.

However, despite these challenges, the family assistants rated the project as a success because they felt that the activation of the informal networks of their clients had taken place in several cases. In addition, a lot of the participating professionals reported that they could profit a lot by learning new methods. For several professionals it was completely new to focus on the private network of the clients—instead of understanding networking as sufficient cooperation between different care systems.

Semi-structured Interviews with Family Members

Two-thirds of the participating clients (mothers and fathers) reported that their network had changed in the last nine months. Specifically, they felt more supported after taking part in the research group intervention. The responses of the family members after participating in FamNet varied. In sum, respondents expressed satisfaction with the intervention. To illustrate this finding, the following quotes indicate what respondents believed they needed the network for: "*to feel good*," "*not to be all by myself*," "to *go out with someone*," "*to get advice in times of troubles*," "*to have somebody to talk to*," "*to be supported in personal development*," "*to have someone to rely on*," "*to be looked-after*," and "*to prevent mental illness, e.g. psychosis, depression*." These answers show that the relevance of social networks and social support was recognized by the participating clients.

Conclusion

Although there are implementation and fidelity issues to be addressed for FamNet, there is reason to be optimistic that the effectiveness of German support options can be improved by implementing aspects of wraparound. Despite the constraints discussed above, there still was better goal achievement in the research group (as rated by the participating clients). Future research therefore may show how much more successful family assistance may be when concept fidelity is fully satisfactory, implementing a resource and network oriented focus.

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Using Model Development Research and Fidelity Data to Guide Wraparound Curriculum and Coaching Development

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Introduction

Despite progress in scientific knowledge of effective treatment and increased funding for these treatments, there is continuing consensus that the majority of children and adolescents experiencing severe emotional disorders (SED) continue to receive inadequate and inappropriate care, often in overly restrictive settings (New Freedom Commission, 2003). As a result, these youth frequently experience school failure, dropout, delinquency, drug and alcohol abuse, and violent acts (Burns, 2002). Financing evaluations have shown that mental health resources have been disproportionately allocated to restrictive care settings, yielding estimates that the vast majority of resources (e.g., 80-87%) are allocated to a fraction of the population in need (e.g., 2-10%; Burns, Hoagwood, & Maultsby, 1998; Rast, 2005). Two developments, however, have provided hope for improvement. First, the emergence of an evidence base for specific treatments represents a major advance in the field of mental health services (see Farmer, Compton, Burns & Robertson, 2002; Kazdin & Weisz, 2003, for reviews). The second development is the evolution of the community context of systems of care to support effective treatments (Burns, 2002).

Along with the hope generated by emerging evidence on the effectiveness of community treatment options, the children's mental health field also has been both enlightened and sobered by recent research results on community-based care. Prominent among these have been evaluation studies of sites intending to implement the systems of care philosophy that show mixed or null impact on clinical outcomes for enrolled children, compared to control sites. Though target sites did in fact increase access to services for the target population, improve satisfaction among service recipients and produce positive outcomes for children, these studies found no differences between the continuum of care jurisdictions and comparison jurisdictions on clinical and functional outcomes (Bickman, Summerfelt, & Noser, 1997; Bickman, Lambert, Andrade & Penaloza, 2000). Later studies have shown some positive but inconsistent outcomes across all youth outcomes from other systems of care sites (Stephens, Holden & Hernandez, 2004). These studies have illuminated critical issues in delivering effective community-based treatments for youths with SED (Hoagwood, Burns, Kiser, Ringeisen & Schoenwald, 2001). There have been many interpretations of these problematic findings. One prominent interpretation is that clinical services in "real world" communities are not delivered with the level of fidelity that can achieve positive clinical outcomes.

Wraparound Fidelity and Implementation

Evidence that supports the need to focus efforts on ensuring fidelity to evidence-based practices is found in the literature on wraparound. Wraparound has been widely used to develop services for children and youth with severe emotional disorders and their families. Wraparound was developed through "grassroots" efforts in communities across North America which resulted in many variations in the process. Only recently has there been agreement on the primary elements of the model (Burns & Goldman, 1999), a standardized method to measure the fidelity of the process (Suter, Burchard, Bruns, Force & Mehrtens, 2002), and a specific model of service delivery (Walker, Bruns, Adams, Miles, Osher, et al., 2004). Utilizing the Wraparound Fidelity Index (WFI; Bruns, Burchard, Suter, Force, & Leverentz-Brady, 2004), researchers are showing that the quality or fidelity of wraparound varies greatly and that the fidelity of the process directly correlates with the outcomes for children and families (Rast, O'Day, & Rider, 2005; Rast, VanDenBerg, Earnest, & Mears, 2004).

This paper describes experiences of purveyors who are supporting communities and states to implement wraparound, proposes a two dimensional model for implementation of high fidelity wraparound and discusses needed implementation research. For the past four years Vroon VanDenBerg

has concentrated efforts on identifying some of the key components in developing high fidelity wraparound in communities. Some of the factors that have influenced fidelity in multiple sites include:

- The expectations, job requirements and selection process for wraparound facilitators;
- The role, time commitment and levels and type of support from supervisors;
- The content and methods of training;
- Expectations and developmental readiness of people coming to training;
- Types and amount of post training support (coaching);
- Community readiness and context for providing organizational support; and
- Measurement and use of compliance and fidelity assessment and program evaluation.

Based on these experiences and work in over ten states (fifty local communities and Canada in the past four years), we have developed a model of implementation to conceptualize the process of developing high fidelity wraparound within a community. The model has two primary dimensions: *components* and *phases*. Through experience we have found that each of four components has direct impact on fidelity; they are community context, training, supervision, and quality management. We also find that communities go through phases when implementing high fidelity wraparound. There is an initial phase of preparing the community to implement wraparound preparation. There is a second phase of initiation during which staff are selected and prepared to do wraparound. In the third phase there is a focus on moving from understanding the basics of wraparound to providing it with high fidelity for children and families. In the final phase communities maintain and improve the quality and impact of wraparound in place.

Components of Wraparound Implementation

Community Context

Without appropriate community support it is extremely difficult to develop fidelity wraparound and very unlikely that it will be maintained over time (Walker, Koroloff, & Schutte, 2003). Wraparound is a team-based process and needs support across agencies, organizations and sources of natural supports to be successful. When wraparound is first implemented within a community it requires changes in the way services and supports are organized and provided for children and families, which in turn requires support from the decision makers within these organizations. Staff providing wraparound need flexibility in schedules, low case loads and access to flexible resources, all of which require organizational support. Some of the key activities within this component that seem to be necessary to produce high fidelity wraparound are:

- A steering committee of people who are empowered to make system decisions to support wraparound;
- An implementation plan that addresses issues such as who is going to receive the services, who is providing wraparound with appropriate staff ratios and supervision, and how system change to support wraparound will be accomplished;
- Ongoing barrier busting that is responsive to the needs of wraparound facilitators; and
- Ongoing refinement of the implementation plan and organizational supports.

Training

Our experiences have clearly replicated other studies (Joyce & Showers, 2002) that show training alone does not produce fidelity wraparound. We have found, however that training can have some impact on fidelity. The content and method of training are important determinants to the impact of the training on the fidelity of the wraparound process. The primary purposes of training are knowledge development and skills rehearsal. Knowledge includes the theories of change related to wraparound and

an understanding of the specific phases and activities of the process. Some of the training activities that appear to impact fidelity are:

- Training in the theories of change and principles of wraparound for everyone involved in wraparound with the community;
- Specific multimodal training in the phases and activities of wraparound for facilitators and supervisors;
- Behavioral rehearsal in key facilitation skills for wraparound;
- Training for supervisors in strengths-based supervision and coaching; and
- Advanced training for facilitators in areas of specific youth and family need (e.g., domestic violence, substance abuse, functional assessment of behavior).

Supervision

The quality of staff work is directly related to the types and amounts of supervision provided. Supervision of wraparound facilitators requires a time commitment from supervisors. This is frequently an expanded role for supervisors and the time expectation is often more than has previously been provided for care coordination/case management staff. One of the critical parts of the initial implementation plan will be to assign supervisors and dedicate enough time for this function. Effective wraparound supervisors know the wraparound process thoroughly and provide reflective and strengths-based supervision and coaching. This includes individual and group supervision and live coaching.

Quality Management

Collecting and using data and information to guide development of both fidelity of the process and the organizational supports to support wraparound is the fourth component. This includes process and outcomes measures of the wraparound process that can be used at the staff level. Specific knowledge criteria and testing on these criteria is important to ensure that initial training accomplishes its goals. Using specific assessment strategies to measure fidelity to the model and guide the professional development process results in improvements in effectiveness and efficiency in coaching and in improved outcomes for children and families. Ongoing assessment of organizational climate and supports is important to focus community development efforts.

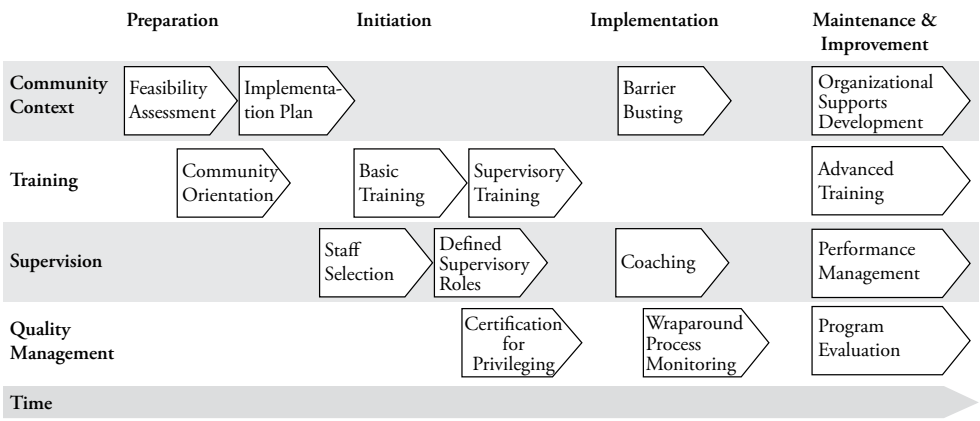
Phases of Wraparound Implementation

Figure 1 shows the two-dimension model for developing fidelity wraparound. The four components are implemented concurrently through four phases. The process begins with the preparation phase during which a feasibility assessment is done to define the community context and to identify community strengths, needs and culture related to developing or expanding the wraparound service processes. This includes identifying the need for wraparound, commitment of key stakeholders to make necessary changes and current strengths of the system and stakeholders to build upon. In addition, these assessments may identify current costs of services for children and youth with complex needs. This information may be used to develop reinvestment strategies for long term financing of wraparound.

The information from the feasibility assessment is used to develop an implementation plan. Our experience suggests that this level of preparation results in wraparound fidelity being achieved more quickly and at a higher level. The initial engagement of community stakeholders to develop the implementation plan may be improved through initial orientation training consisting of the rationale and general concepts of wraparound in a way that is individualized for each community.

The focus of the second phase is to initiate wraparound. For the training component this includes training facilitators and supervisors in the process of high fidelity wraparound and supervisors in the process of strengths-based supervision and coaching. Although training alone will not produce fidelity in either process, a combination of lecture, group activities and behavioral rehearsal can teach the basics of these functions, increase fidelity and accelerate the process toward high fidelity wraparound.

Figure 1
Phases of Wraparound Fidelity Development



Note. Figure 1 shows the process of developing wraparound fidelity within a community. There are four parallel processes that are occurring concurrently and the boxes within each process show an activity during that phase.

During this phase staff selection for facilitators and supervisors impacts the fidelity of the process. During the latter part of this phase supervisors begin to supervise and coach. The method, frequency and type of these activities may all impact the fidelity of the wraparound process. As part of this process the supervisor/coach begins to assess the basic skills of the facilitator. Our experience is that when this process is competency-based and measured, the eventual wraparound fidelity is higher and it takes less time to reach fidelity after training.

The third phase focuses on moving from initial wraparound implementation to consistent high fidelity wraparound. The initial implementation of wraparound requires system changes and organizational support. As these challenges are identified, successful communities form an organizational response (e.g., barrier busting committee) to address the need for these changes. Supervisors continue to coach and are now working on more advanced skills. The focus of coaching evolves from compliance of the process to competencies to do the process well. Eternal fidelity monitoring looks at the wraparound process for the process of supervision and coaching, and the organizational context and supports.

Once fidelity has been achieved there are activities in each component that seem to impact long term fidelity and outcomes. Development of organizational support is an ongoing process. Implementing systems to use program evaluation information to continually inform this change process can be effective. Facilitators and supervisors will need advanced training to add developing skills to their repertoire. When performance management systems include both basic skill levels and can measure expert skills, professional development can have an ongoing guide.

Conclusion

Although the research to establish wraparound as an evidence-based practice is still incomplete, there are enough examples of quasi-experimental studies to suggest that it will achieve this status. More compelling is a need for research to address implementation issues. This paper provides a two-dimensional model for implementation and suggests multiple areas of needed research. One of the largest challenges in behavioral health is making the transition from science to services. The speed and effectiveness of implementation depends on knowing exactly what needs to be in place to achieve the desired results—no more, no less. Research on staff selection and supervision, training, quality management and community and organizational supports is needed to guide the process of wide scale implementation of high fidelity wraparound and will be useful for other behavioral health treatments to bring science to service.

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"Is it Wraparound Yet?" Determining Fidelity Standards for the Wraparound Fidelity Index

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Introduction

In recent years, the wraparound process for planning and implementing services and supports for children and youth with intensive needs has been cited as a promising service delivery option in major reviews (e.g., Burns, Hoagwood, & Maultsby, 1998) and Surgeon General's reports on both mental health and youth violence (U.S. Public Health Service, 1999, 2001). Meanwhile, significant efforts have been undertaken to better specify the wraparound model, including descriptions of specific provider and team member activities (Bruns, Walker, VanDenBerg, Rast & Osher, 2004), refinement of the wraparound principles (Walker, Bruns, Adams, Miles & Osher, 2004), and necessary system and program supports for the model (Walker, Koroloff, & Schutte, 2003). Finally, research is beginning to demonstrate linkages between adherence to the wraparound principles and outcomes for youth (e.g., Bruns, Rast et al., in press; Bruns, Suter, Force & Burchard, 2005). Such developments have helped the wraparound process move from being perceived as merely a philosophy to a specified but flexible practice model with potential for positive impact.

At the same time, treatment fidelity, the degree to which a program is implemented as intended, has emerged as a major issue in behavioral health service delivery. As described by Salyers and colleagues (2003), fidelity assessment is "the natural union of scientific and practical needs of documenting and describing service provision" (p. 305). With the human services field becoming increasingly technocratic and focused on implementation of evidence-based practices, fidelity assessment is increasingly employed by programs or trainers who need to conduct quality assurance activities; agencies who need to make funding and accreditation decisions; and researchers who need to interpret study results and comment on program quality.

With the wraparound process gaining acceptance as a specified program model, and with agencies increasingly interested in using data to guide policy, funding, and certification decisions, there is a serious need for methods to determine when wraparound implementation in a program or community is "good enough." Not surprisingly, to date, such practical needs have outstripped the science of fidelity measurement for this practice model. Though several fidelity measures have been developed for the wraparound process, and their reliability and validity have been established (see, e.g., Bruns, Burchard, Suter & Force, 2005), an empirical approach to determining what scores represent faithful implementation has not previously been attempted.

The current study aimed to "bootstrap" fidelity benchmarks to help programs or communities interpret scores derived from the Wraparound Fidelity Index, version 3 (WFI-3). As described by Salyers and colleagues (2003), there are two main methods for interpreting assessment results. The first is to take a norm-referenced approach, in which a score for an individual (or program site) is compared to a large group of assessed individuals (or sites) to see how they compare. The second method would be to use a criterion-referenced approach, whereby a score is compared to an external standard, such as one that is related to prediction of performance (e.g., a score that has been found to be associated with positive client outcomes or better service delivery).

In the current study, we used a combination of *norm referencing* and *criterion referencing* to make recommendations about thresholds for good fidelity to the wraparound principles as assessed by the WFI-3. To do so, we employed a two-pronged approach: (1) we examined the national WFI-3 dataset,

to determine norms for a sample of wraparound programs; and (2) we reviewed studies that collected fidelity data as well as data for one or more external criteria variables proposed to be associated with wraparound fidelity. By considering the results of these two exercises together, we hoped to be able to shed light on what "good enough" wraparound fidelity scores may be.

Method

Measure

The WFI-3 is a structured interview that assesses adherence to 11 core principles of wraparound (e.g., Family Voice and Choice, Individualized, Natural Supports, Team-Driven, etc.). Four items serve as indicators for each of the 11 elements, with responses ranging from 0, *low fidelity*, to 2, *high fidelity*. The resource facilitator and caregiver forms each contain 44 items while the youth form includes 32 items (the youth form of the WFI includes only 8 of the 11 elements). Total scores for each of the respondents are converted to a percent of total possible score (88 for the resource facilitator and caregiver, 64 for the youth). An overall fidelity score is also calculated that combines reports of the three respondents. Validation studies of the WFI have found adequate test-retest reliability and internal consistency for WFI total scores, as well as evidence for convergent and criterion-related validity (Bruns, Suter, Burchard, Force, & Leverentz-Brady, 2004; Suter, Force, Bruns, Burchard, Mehrtens, & Leverentz-Brady, 2005).

Procedure

Norm-referencing exercise. WFI-3 data for 10 programs or communities in nine states nationally who used the WFI-3 were analyzed ($N = 667$ families). Means and standard deviations were calculated and plotted for these 10 programs. In addition, analyses of variance with post-hoc contrast effects were conducted to determine variability across program sites and what scores represented significant differences.

Criterion-referencing exercise. To assess how WFI-3 scores relate to external criteria, a review was conducted of studies published, in press, or presented at a major conference that presented WFI-3 data for two or more groups that differed with respect to an external criterion. Five studies were included. Two were evaluation studies of wraparound vs. non-wraparound control groups that included WFI-3 scores for wraparound vs. non-wraparound comparison or control groups (Peterson, Gruner, Earnest, Rast, & Abi-Karam, 2004; Ferguson, 2004). One study presented WFI-3 data for a sample of programs with poorer vs. better system and organizational supports for wraparound (Bruns, Suter, & Leverentz-Brady, 2004). Another study presented WFI-3 data for wraparound facilitators with poorer vs. better child outcomes achieved (Rast, Peterson, Earnest & Mears, 2004). The final study presented WFI-3 data for three stages of a program, whereby wraparound implementation support increased at each stage (no training, training, training + coaching; Rast & VanDenBerg, 2004).

Results

Norm-referencing

Results of the norm-referencing exercise found that mean Overall WFI-3 scores for the 10 sites ranged from 72.2% to 80.1%, with a mean for all families assessed of 76.7% ($SD = 2.3$; see Table 1). Results of ANOVAs demonstrated that sites scoring under 74% overall fidelity were significantly different from sites scoring over 79%. Individual respondents' mean total fidelity scores were 80.5% ($SD = 3.2$) for Resource Facilitators, 73.7% ($SD = 4.2$) for Caregivers and 73.6% ($SD = 3.5$) for Youths.

Table 1
Overall WFI-3 Fidelity Scores for the 10 National Study Sites

Site	*Site mean WFI-3 score*	*SD*	*Between-site differences*
1	0.722	0.11	a
2	0.735	0.09	a
3	0.735	0.07	a
4	0.751	0.09	ab
5	0.753	0.12	ab
6	0.794	0.09	ab
7	0.795	0.10	ab
8	0.797	0.11	b
9	0.800	0.07	b
10	0.801	0.09	b
Mean for all sites	0.767		

Note: Sites have been de-identified and presented in rank order. Between sites differences as assessed via post-hoc contrast effects are indicated by coefficients with different letters.
ANOVA result: $F(9, 656) = 5.95$, $p < .0001$

Criterion-referencing

The two studies that assessed fidelity for both wraparound and non-wraparound comparison groups found significant between-group differences in WFI-3 scores, with WFI-3 overall fidelity scores at 60% and 64% for non-wraparound groups, compared to 75% and 76% for wraparound groups. The study of WFI-3 scores for programs or sites with poorer and greater supports for wraparound (as assessed by a standardized instrument) found that sites with poorer supports achieved mean WFI-3 scores of 72% versus 84% for sites with greater supports for wraparound. The study examining WFI-3 scores for individual wraparound facilitators found that facilitators whose clients achieved poorer outcomes achieved mean WFI-3 scores of 72%, compared to 87% for facilitators who achieved better outcomes. Finally, the longitudinal study of one community that received different implementation supports over time showed that mean WFI-3 scores increased from 64% pre-training, to 72% post-training, to 86% after implementation of both training and coaching.

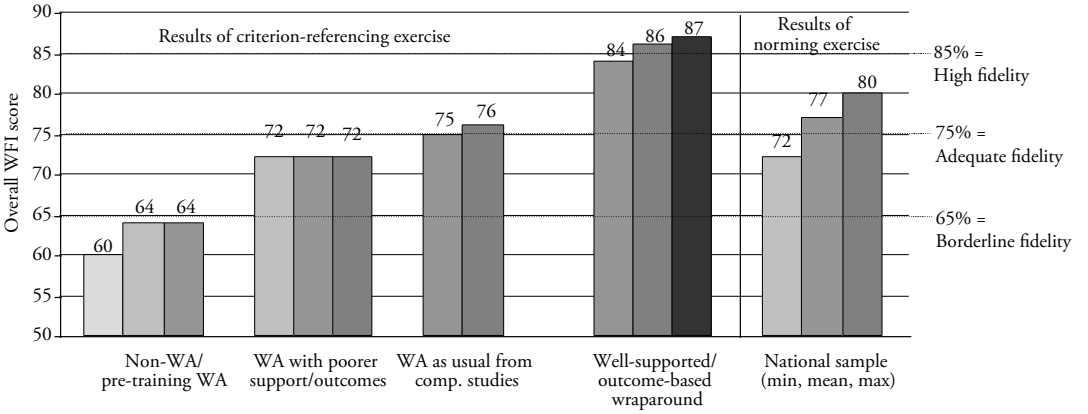
Discussion

The goal of the current study was to examine WFI-3 scores from many different sources of data, in order to "bootstrap" guidelines for interpreting fidelity scores. To help interpret the results, we have presented the mean WFI-3 scores from the studies reviewed as well as the national dataset for the relevant conditions in Figure 1.

As shown, there is a discernable pattern whereby WFI-3 scores increase as greater supports for implementing the model are provided. Non-wraparound comparison conditions and a program not yet formally trained demonstrated overall fidelity scores under 65%. Meanwhile, WFI-3 scores ranged from 72% to 76% for "wraparound as usual" conditions, such as wraparound programs with fewer system supports, wraparound facilitators whose children achieved poorer outcomes, wraparound with training only (not coaching), and wraparound groups from the evaluation studies. However, WFI-3 scores were found to be 84% to 87% for wraparound sites with better system supports, facilitators for whom children experienced better outcomes, and wraparound with both coaching and training.

WFI-3 scores across sites in our national WFI-3 database showed significant variability, but still fell logically within the pattern, ranging from 72% to 80% overall, with a mean of 76.7%.

Figure 1
Summary of Results of Criterion-related and Norm-Related Exercises, with Proposed WFI-3 Fidelity Standards



Note: Bars for the criterion-referencing exercise represent mean WFI-3 total scores for 11 independent samples from the five studies included in the review; these are sorted by type of sample: non-WA or pre-training WA, WA with poorer supports or outcomes, WA as usual from comparison studies, and WA with greater supports or superior outcomes. Bars for the norm-referencing exercise represent the minimum, mean, and maximum site-level means from a national WFI-3 sample.

WFI = Wraparound Fidelity Index; WA = Wraparound.

By combining data from these norm-referenced and criteria-referenced approaches, we can begin to make some educated guesses about what represents adequate and good fidelity. As shown in Figure 1, we have proposed fidelity thresholds at 65%, 75%, and 85% overall fidelity scores. Clearly, scores below 65% are unlikely to represent true wraparound, as non-wraparound comparison groups and pre-training wraparound programs score in this range. Wraparound programs with poorer supports or that achieve poorer outcomes tend to fall between 65% and 75% fidelity, and thus are referred to as achieving "borderline" wraparound fidelity. The mean overall fidelity for the national dataset was found to be 77%, and half of the national sites scored above 75% (as did both wraparound programs in the evaluation studies), so we propose that this threshold represents "adequate" fidelity. Finally, we have proposed 85% and above as "high fidelity" because conditions of better supports or better outcomes were found to score at or above this threshold.

The benchmarking exercise we have undertaken is somewhat subjective and has several limitations. For example, different sites and studies used different methods for collecting WFI-3 data, which may have influenced scores. We also do not know much about wraparound implementation in most of the sites that were included. Nonetheless, we expect that the results of this analysis and the thresholds that have been set will be useful for programs as well as for researchers who use the WFI-3. Programs, communities, or researchers seeking to interpret their WFI-3 scores may also find the mean scores for individual respondents useful. Ultimately, the best information about what communities should be striving to achieve with respect to fidelity will come from more research on the relationship between administering the wraparound process and child and family outcomes.

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