

Child and Family Team Meeting Characteristics and Outcomes in a Statewide System of Care

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Highlights

- Significant relationships were observed between CFT characteristics and youth and family outcomes.
- A higher number of CFTs was associated with poorer youth and family outcomes.
- A higher percentage of natural supports was associated with better youth outcomes.
- SOC's may have difficulty in fully implementing CFTs consistently with NWI Practice Standards.

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Abstract Systems of care (SOC) have relied on the wraparound care process to individualize community-based services for children and youth with serious emotional and behavioral difficulties. A core element of wraparound care is Child and Family Team meetings (CFTs), which are designed to give youth and families a leadership role in developing and guiding their plan of care. The National Wraparound Initiative (NWI) has identified Practice Standards regarding CFT implementation. This study examined CFT characteristics and the association between those characteristics and youth and family outcomes in a statewide SOC. Participants were 363 youth ($M_{\text{age}} = 10.89$, $SD = 3.72$) and their caregivers. Families completed measures of youth and caregiver functioning and symptoms at enrollment and 6-month follow-up. Care coordinators completed a survey assessing CFT implementation and characteristics following each meeting. Multiple regression analyses were used to examine the relationship between CFT characteristics and youth and caregiver outcomes. Results indicated that a higher number of CFTs was associated with poorer outcomes, while a higher percentage of natural supports at meetings was associated with better youth outcomes. Number of days to the first CFT was

associated with greater caregiver strain. Implications for CFT implementation within wraparound are discussed.

Keywords System of care · Wraparound · Child and family team meetings · Outcomes

Introduction

Within a system of care (SOC), children and youth with serious emotional and behavioral problems are expected to receive comprehensive, community-based, individualized services (Stroul & Friedman, 1986). The SOC philosophy was initially developed in the 1980s and focuses on the provision of family-driven, youth-guided, strengths-based, and culturally and linguistically competent services (Stroul, Blau, & Sondheimer, 2008; Stroul & Friedman, 1986; Substance Abuse and Mental Health Services Administration [SAMHSA], 2015). This philosophy is closely aligned with the core principles of community psychology, including empowerment and a focus on strengths, collaboration, and systems change (Cook & Kilmer, 2012). SOC's have been consistently funded and implemented in communities across the United States since 1993 with the aim of improving service access through the integration and individualization of an array of community services (Cook & Kilmer, 2012; Stroul & Friedman, 1986).

SOC's have relied on wraparound care to effectively individualize community-based services that prioritize youth and family strengths (Cook & Kilmer, 2012; Stroul, 2002) and to provide opportunities for youth and their caregivers to have a leadership role and therefore

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ownership of the development and implementation of their plan of care. The wraparound care process is best understood as a practice model, guided by a set of core activities and principles (Bruns et al., 2004; Coldiron, Bruns, & Quick, 2017; Suter & Bruns, 2009; VanDenBerg & Grealish, 1996; Walter & Petr, 2010). Specifically, Bruns et al. (2004) identified ten essential elements of wraparound, noting the importance of family and youth voice and choice at all stages of the wraparound process; the involvement of natural supports; and a collaborative, team-based approach to developing, implementing, and monitoring an individualized plan and outcomes, among others. The National Wraparound Initiative (NWI) has published Practice Standards that guide the implementation of wraparound care consistent with the identified principles (Coldiron, Bruns, Hensley, & Paragoris, 2016). While the Practice Standards for wraparound care are based on decades of experience in the field, they have not been empirically tested and therefore their impact on youth and family outcomes remains unknown.

A core practice element within wraparound care is the Child and Family Team meeting (CFT). CFTs should be co-facilitated by the family's care coordinator and the youth's caregiver with the intention of collaboratively developing an individualized plan of care that is guided by youth and family strengths and the family's self-identified needs (Bruns & Walker, 2010; Walker, Bruns, & Penn, 2008). This paper seeks to describe characteristics of CFTs in a statewide SOC and measure the extent to which CFT characteristics predict child and family outcomes (e.g., youth problem behaviors, youth functioning, caregiver stress).

All individuals identified by the family to be involved in the provision of care or support are encouraged to attend the CFT; this includes family advocates and professional and natural supports. NWI defines natural supports as individuals connected to a family who provide unpaid support outside the context of formal or professional services, such as extended family, neighbors, and clergy (Coldiron et al., 2016). CFT meetings are intended to provide a venue where families, supported by their care coordinator, are guided to assume the leadership role to include natural supports, make decisions regarding their care plan, and promote collaboration among service providers. The NWI Practice Standards identify the importance of natural supports at CFTs, in addition to collaboration between the family, formal, and natural supports in the development of the plan of care. Within the context of a family-driven SOC, families and natural supports are intended to be at least 51% of the participants at all decision-making tables, including CFTs (Coldiron et al., 2017). The NWI Standards also identify CFT characteristics consistent with the wraparound and SOC models. For

example, Timely Engagement and Planning is reflected by the occurrence of an initial CFT and plan of care development within 30 days of enrollment (Coldiron et al., 2016).

Previous research on CFTs has broadly focused on issues of fidelity to wraparound and process (Bruns, Suter, Force, & Burchard, 2005; Epstein et al., 2003; Kilmer, Cook, & Munsell, 2010; Munsell, Cook, Kilmer, Visnevsky, & Strompolis, 2011; Snyder, Lawrence, & Dodge, 2012; Taliaferro, DeCuir-Gunby, & Allen-Eckard, 2008). Specifically, the Wraparound Fidelity Index (WFI; Bruns, Burchard, Suter, Leverantz-Brady, & Force, 2003) has been used in the majority of literature to evaluate whether wraparound is being delivered consistently with its guiding principles, with findings indicating that adherence to wraparound principles is associated with better outcomes (Epstein et al., 2003; Kilmer et al., 2010; Munsell et al., 2011; Snyder et al., 2012). Although there are many benefits to using a standardized measure of fidelity to assess implementation, methodological limitations in prior studies using the WFI include measurement across large windows of time, leading to retrospective reports of practice across time periods as long as 6 months (e.g., Bruns et al., 2005). There is limited research assessing implementation of wraparound in the context of individual team meetings in a more immediate time frame. A focus on individual team meetings rather than retrospective report across larger time frames allows for an enhanced understanding of both the structure and function of CFTs, as well as an opportunity to identify critical components.

While the vast majority of research on CFTs has focused on process and fidelity, demonstrating that wraparound care implemented with fidelity yields better outcomes (Bruns et al., 2005; Painter, 2012) researchers have identified the need to investigate how specific wraparound practice elements may be a mechanism of this change (Coldiron et al., 2017). A meta-analysis of the wraparound literature identified six studies that discussed the presence of a CFT, but there was no further analysis using these data (Suter & Bruns, 2009). In one paper, Detlaff and Rycraft (2009) described the structure of CFTs in an SOC for immigrant Latino children in child welfare, but no data are provided. Similarly, Anderson, Wright, Kooreman, Mohr, and Russell (2003) described the CFT approach in their evaluation of the Dawn Project, an SOC in Indiana, and noted that some families may experience greater effects from participating in CFTs, but CFT characteristics were not measured or included in analyses. Another paper examining the child welfare system, which used a slightly different model of Team Decision Making, included an initial evaluation of team meeting characteristics, finding between 1.56 and 2.06 meetings per family on average over 11 months, across three implementation sites (Crea, Wildfire, & Usher, 2009). Walker and Schutte

(2005) measured characteristics of CFTs, including number and role of individuals present (e.g., natural and professional supports), but did not include an evaluation of outcomes. One additional study (Bruns, Suter, & Leverentz-Brady, 2006) identified significant variability (0–55) in percentage of natural supports in a CFT but did not measure the impact of the participation of natural supports on youth and family outcomes. An investigation of the specific characteristics and structure of CFT meetings would provide data that can inform policy makers regarding the CFT elements that may be more impactful, as they work to establish standards of practice for a care coordination process that helps the family to identify their strengths and needs and to guide the development and implementation of their plan of care.

Current Study

The Connecticut Network of Care Transformation (CONNECT) is a statewide system of care for children and youth with serious emotional and behavioral difficulties. In 2013, Connecticut Department of Children and Families was awarded a SOC Expansion Planning Grant from SAMHSA to develop the necessary infrastructure for a comprehensive, integrated statewide system. To further implement and sustain this statewide SOC infrastructure, the Connecticut Department of Children and Families received an SAMHSA SOC Expansion Implementation Cooperative Agreement in 2014. Care coordination has been an integral component of Connecticut's SOC. Care Coordinators receive training and coaching provided by Connecticut's Wraparound workforce development initiative to increase the likelihood that they will implement this intervention with consistency to the Wraparound practice model. In addition to enhancing other aspects of Connecticut's SOC, the SAMHSA grant enabled the state to expand care coordination and to systematize the collection of a comprehensive set of outcome measures for the statewide care coordination program.

The current study aimed to determine how CFTs, which are aligned with the core values of SOC and community psychology including empowerment and a focus on strengths and collaboration (Cook & Kilmer, 2012), impact outcomes. As such, we examined how CFT characteristics were associated with child and family outcomes for families receiving care coordination in a statewide SOC. Specifically, we sought to describe characteristics of CFTs in a statewide SOC and measure the extent to which CFT characteristics predicted child and family outcomes (e.g., youth problem behaviors, youth functioning, caregiver stress). Because there is a paucity of literature examining the association between CFT characteristics and outcomes, this paper is primarily descriptive and

exploratory in nature. Based on previous literature suggesting that adherence to wraparound principles is associated with improved outcomes for youth and families (Bruns et al., 2005; Painter, 2012), we hypothesized that characteristics consistent with principles identified by the NWI Practice Standards would be associated with improved outcomes. Specifically, we expected that fewer days to the first CFT, a higher percentage of natural supports, and attendance at CFTs by the target youth would be associated with better youth and family functioning.

Method

Procedure

This longitudinal study assessed data collected as part of an evaluation of a statewide SOC implemented in Connecticut between November of 2016 and March of 2018. Demographic data were collected from primary caregivers. Outcome data were collected from primary caregivers, youth ages 11 and older, and care coordinators as part of the service delivery process. All measures were read aloud to caregivers and youth. Visual aids (e.g., Likert-type scales corresponding to specific questionnaires) were used to help with any literacy-related issues. The University's Human Research Protection Program provided oversight of the study.

Participants

A total of 972 families were enrolled in the statewide SOC and completed outcome measures at baseline. Participants in this study were 363 families enrolled in a statewide SOC with both CFT and outcome data available. At enrollment, children ranged in age from 0.79 to 18.34 years ($M = 10.89$, $SD = 3.72$). Most children were male ($n = 237$, 65.3%), and non-Hispanic/Latino ($n = 206$, 56.7%). The racial breakdown of our sample was as follows: White ($n = 220$, 60.6%), Black/African-American ($n = 83$, 22.9%), Asian ($n = 5$, 1.4%), American Indian ($n = 3$, 0.8%), and Native Hawaiian ($n = 1$, 0.3%). Race was missing for 18 youth (5.0%). No additional caregiver or family demographic data were available. Analyses were conducted to compare the 363 families with CFT and outcome data to the 609 families with baseline data only. Children with outcome and CFT data were younger, $M_{age} = 10.94$ (3.61), than children with baseline data only, $M_{age} = 11.96$ (5.43), $t(970) = 3.516$, $p < .001$. There was also a significant difference with regard to children identifying as Asian, $X^2(1) = 8.691$, $p = .003$, such that Asian children were less likely to have CFT data.

Measures

Demographic and baseline outcome data were collected at enrollment. Outcome data were collected in 6-month intervals for the duration of enrollment. Six-month follow-up data were used.

Caregiver Strain Questionnaire (CGSQ)

The CGSQ is a 21-item measure designed to assess strain experienced by caregivers related to the care of their children (Brannan, Heflinger, & Bickman, 1997). The CGSQ consists of three subscales: Objective Strain, which refers to tangible disruptions and negative consequences that result from the child's problems (e.g., financial strain), Subjective Internalizing Strain, which refers to emotions experienced by the caregiver (e.g., worry, guilt), and Subjective Externalizing Strain, which refers to negative feelings about the child's problems (e.g., anger, embarrassment). Caregivers rate items on a 5-point Likert-type scale ranging from *not at all* (1) to *very much* (5). Mean subscale scores are calculated, with higher scores indicating greater strain. As directed by the national evaluation team for the SAMHSA SOC grantees, this study used a modified 13-item version of the CGSQ. The three mean subscale scores are summed to create a Global Strain score. Scores demonstrated good reliability at baseline ($\alpha = .868$) and excellent reliability at 6-month follow-up ($\alpha = .905$).

Columbia Impairment Scale (CIS)

The CIS is a 13-item measure designed to assess a child's impairment in functioning (Bird, Shaffer, Fisher, & Gould, 1993). Caregivers rate items on a 5-point Likert-type scale ranging from *no problem* (0) to *a very big problem* (4). Scores are summed for a global measure of impairment, with total scores of 15 or above suggesting clinically significant impairment. Total scores demonstrated acceptable reliability at baseline ($\alpha = .791$) and good reliability at follow-up ($\alpha = .854$).

Ohio Scales for Youth

Caregivers, youth (ages 11 and older), and care coordinators completed the Ohio Scales (Ogles, Melendez, Davis, & Lunnen, 1999). Each form consists of a 20-item Problem Scale that assesses common problems reported by youth who receive behavioral health services and a 20-item Functioning Scale that measures the youth's level of functioning in daily activity. Items on the Problem Scale are rated on a 6-point Likert-type scale ranging from *not at all* (0) to *all the time* (5) and are summed with higher

scores indicating more severe or frequent problems. Items on the Functioning Scale are rated on a 5-point Likert-type scale ranging from *extreme troubles* (0) to *doing very well* (4) and are summed with higher scores indicating better functioning. Caregiver and youth report forms also include a 4-item scale assessing satisfaction with behavioral health services; the caregiver form also includes four items assessing perceptions of parenting or the future, while the youth form includes four items assessing perceptions of current and future stress and satisfaction. Both scales are rated on a 6-point Likert-type scales and summed, with lower scores indicating greater satisfaction and more hopefulness. Scores of 25 and above on the Problems Scale indicate critical impairment and scores between 17 and 24 indicate borderline impairment. Scores of 44 and below on the Functioning Scale indicate critical impairment and scores between 45 and 52 indicate borderline impairment. Change of eight or more points across administrations indicates clinically significant improvement. Across scales and respondents, the Ohio Scales demonstrated good to excellent reliability at baseline ($\alpha = .848$ to $\alpha = .911$) and at follow-up ($\alpha = .876$ to $\alpha = .947$).

Care Coordination Survey

A care coordination survey was developed to assess CFT implementation for the purposes of this statewide SOC. Care coordinators completed the survey following each CFT. The following variables were used in the current study: number of CFTs, the total number of individuals in attendance, whether the target child was present, and duration of the meeting in minutes. Individuals in attendance at each CFT was measured as a sum of all people in attendance, and included care coordinators and family advocates, family members (e.g., family living in the home), natural supports (defined as relatives, friends, or neighbors), and professional supports (paid professionals and paid community supports). Days to the first CFT meeting was measured as the number of days between enrollment in the SOC and date of the first CFT. Natural support percentage was indexed as the percent of natural supports present at CFTs, calculated by dividing the number of natural supports by the total number of supports (natural plus professional) at each meeting. Care coordinators, paid family advocates, and family members within the home were excluded from this calculation.

Data Analyses

Descriptive analyses were conducted by calculating frequencies, percentages, and means of CFT characteristics. Minimal outliers were identified with the variables of days

to the first CFT and CFT meeting duration (in minutes). These outliers were winsorized to the next acceptable values. We also calculated descriptive statistics for outcome measures at baseline and 6-month follow up. Multiple regression analyses were then conducted to assess whether scores at follow-up for each outcome were predicted by CFT characteristics, controlling for child age at intake and baseline scores on each outcome. Predictors in each model were the mean natural support percentage, number of CFTs completed, number of days to the first CFT, number of meetings attended by the target child, and mean CFT duration in minutes. All analyses were performed using SPSS Version 24.

Results

CFT Characteristics

Families enrolled in the statewide SOC had between one and 12 CFT meetings in the first six months of enrollment ($M = 3.39$, $SD = 1.89$). Sixty-five percent of families ($n = 236$) had at least three CFT meetings. Eleven percent of families ($n = 42$) had six or more meetings. Families were, on average, enrolled in the SOC for 51.15 days ($SD = 33.29$) before the first CFT meeting occurred. Days to the first meeting ranged from zero to 174 days. CFT duration ranged from 30 to 210 minutes ($M = 70.03$, $SD = 18.67$). Across families and meetings, the number of individuals attending a CFT ranged from two to 28. On average, 5.92 people ($SD = 1.99$) attended a CFT. The range of natural supports present at each meeting was 0–12, while the range of professional supports was 0–17. The distribution of natural supports present at meetings was negatively skewed, due to a large number of CFTs with no natural supports present; over 50% of meetings had no natural supports present. In examining the percentage of natural supports present across meetings, natural supports comprised 28.1% of participants, on average ($SD = 33.08$). Across all ages, the target child attended an average of 1.92 meetings ($SD = 1.76$). Target children under the age of six attended 2.15 meetings on average ($SD = 1.99$), children

ages six to 10 attended an average of 1.55 meetings ($SD = 1.81$), and children 11 and older attended an average of 2.18 meetings ($SD = 1.61$). Descriptive statistics for each variable per meeting can be found in Table 1.

Child and Family Outcomes

Descriptive statistics for each child and family outcome at baseline and follow-up can be found in Table 2. At baseline, caregiver ratings of youth problem behaviors on the Ohio Scales fell in the Critical Impairment range, while youth and care coordinator ratings of youth problem behaviors fell in the Borderline Impairment range. At follow-up, caregiver rating scores had decreased such that they were in the Borderline Impairment range, while youth and care coordinator ratings of youth problem behaviors were within normal limits. At baseline, caregiver and care coordinator rating of youth functioning on the Ohio Scales fell in the Critical Impairment range, while youth rating of their own functioning fell within normal limits. At follow-up, caregiver and care coordinator rating of youth functioning had increased such that they were in the Borderline Impairment range, while youth rating of their own functioning remained within normal limits. Caregiver rating on the CIS fell within the clinically significant range at baseline and remained in the clinically significant range despite a decrease at follow-up. Significant differences between baseline and follow-up were observed in the expected direction for each outcome. Effect sizes and 95% confidence intervals of the difference can be found in Table 2.

Zero-order correlations of model variables can be found in Table 3 and results of the multiple regression models for the caregiver, youth, and care coordinator Ohio Scales can be found in Table 4. Mean natural support percentage ($B = -5.19$, $p = .031$) and number of CFTs ($B = 1.37$, $p = .006$) significantly predicted caregiver rating of problem behaviors. These findings indicate that higher percentages of natural supports at CFTs were associated with decreases in caregiver rating of youth problem behaviors, and more CFTs were associated with increases in caregiver rating of youth problem behaviors. Similarly, mean natural support percentage also significantly predicted care

Table 1 Child and family team meeting (CFT) descriptive statistics

Meeting #	Size (<i>M</i> , <i>SD</i>)	Natural support (<i>M</i> , <i>SD</i>)	Professional support (<i>M</i> , <i>SD</i>)	% natural support (<i>M</i> , <i>SD</i>)	Meetings attended by target child <i>n</i> (%)	Meeting duration (<i>M</i> , <i>SD</i>)
1	6.07 (2.40)	0.68 (0.91)	2.06 (2.04)	29 (38)	223 (61.4%)	70.40 (22.25)
2	6.00 (2.45)	0.63 (0.98)	2.21 (2.21)	25 (34)	167 (57.8%)	70.19 (20.26)
3	5.73 (2.63)	0.63 (1.15)	2.04 (2.07)	25 (35)	135 (57.7%)	65.88 (19.59)
4	5.81 (2.26)	0.53 (0.89)	2.26 (2.09)	23 (36)	79 (49.7%)	69.87 (21.81)
5	5.32 (1.89)	0.40 (0.64)	1.90 (1.64)	20 (33)	46 (49.5%)	70.27 (19.65)
6 or more	6.41 (2.80)	0.60 (0.94)	2.73 (2.46)	21 (33)	46 (57.5%)	82.32 (30.65)

Table 2 Outcome measure scores at baseline and follow-up

	Baseline <i>M</i> (<i>SD</i>)	Follow-up <i>M</i> (<i>SD</i>)	<i>t</i> (<i>df</i>)	95% CI	Cohen's <i>d</i>
OSP problem behaviors ^a	27.40 (14.51)	18.95 (13.44)	9.539 (245)**	6.71, 10.20	.60
OSP functioning	43.80 (14.65)	50.63 (15.21)	−7.114 (245)**	−8.71, −4.93	.46
OSY problem behaviors ^b	21.23 (14.00)	14.20 (9.72)	5.545 (86)**	4.51, 9.56	.58
OSY functioning ^b	54.69 (11.94)	58.65 (11.27)	−3.044 (85)**	−6.56, −1.38	.34
OSW problem behaviors	23.56 (12.54)	16.75 (11.03)	9.715 (276)**	5.44, 8.20	.58
OSW functioning	43.57 (12.25)	50.43 (12.35)	−8.862 (276)**	−8.38, −5.33	.56
CGSQ objective strain	10.52 (6.55)	7.91 (6.57)	6.638 (258)**	1.84, 3.39	.40
CGSQ subjective internalizing strain	8.96 (4.19)	6.84 (4.23)	8.083 (254)**	1.61, 2.65	.50
CGSQ subjective externalizing strain	2.85 (2.78)	2.16 (2.67)	4.586 (244)**	0.39, 0.98	.25
CGSQ global strain	22.26 (10.96)	16.89 (11.44)	7.949 (242)**	4.04, 6.70	.48
CIS total score	22.44 (9.40)	16.86 (9.88)	9.755 (265)**	4.46, 6.71	.58

Bold font indicates scores above the clinical thresholds for impairment.

CGSQ = Caregiver Strain Questionnaire; CIS = Columbia Impairment Scale; OSP = Ohio Scales – Parent Form; OSW = Ohio Scales Worker (Care Coordinator) Form; OSY = Ohio Scales – Youth Form.

** $p < .01$

^aClinically significant improvement from baseline to follow up.

^b $n = 87$ for OSY Problem Behaviors and OSY Functioning due to child age.

coordinator rating of problem behaviors ($B = -5.52$, $p = .004$), such that higher percentages of natural supports were associated with decreases in care coordinator rating of youth problem behaviors. Regarding caregiver rating of youth functioning, number of CFTs ($B = -1.38$, $p = .014$) and mean CFT meeting duration ($B = -0.11$, $p = .020$) were significant predictors. These findings indicated that more CFTs and longer CFT meetings were associated with decreases in caregiver rating of youth functioning. Mean natural support percentage ($B = 6.22$, $p = .005$) and mean CFT meeting duration ($B = -0.07$, $p = .043$) were significant predictors of care coordinator ratings of functioning, such that higher percentage of natural supports was associated with care coordinator rating of higher youth functioning, while longer meeting duration was associated with care coordinator rating of lower youth functioning. There were no significant predictors of youth-rated scores of problem behaviors or functioning.

Similar patterns were observed in the multiple regression models for caregiver strain and caregiver rating of child impairment (Table 5). Number of CFTs ($B = 0.68$, $p = .004$) and number of days to the first CFT ($B = 0.02$, $p = .044$) were significantly predictive of caregiver rating of objective strain. These findings indicate that more CFTs and more days to the first CFT were associated with increases in caregiver objective strain ratings. Number of CFTs was significantly predictive of caregiver subjective externalizing strain ($B = 0.18$, $p = .044$) in the same direction, with more meetings predicting higher caregiver ratings of subjective externalizing strain. Number of CFTs was also significantly predictive of global strain ($B = 1.15$, $p = .005$), and number of days to the first CFT was marginally significant ($B = 0.04$, $p = .067$), with more meetings and more days to the first CFT indicating

greater global strain. There were no statistically significant predictors of subjective internalizing strain. Finally, number of days to the first CFT was significantly predictive of caregiver rating of child impairment ($B = 0.04$, $p = .041$), such more days to the first CFT increased was associated with increases in caregiver rating of child impairment.

Discussion

This study is the first to measure specific CFT characteristics and their association with youth and family outcomes in a statewide SOC for youth with severe emotional and behavioral difficulties. The aim of this paper was to identify the specific characteristics and structure of CFT meetings associated with improved outcomes to provide guidance for policy makers establishing standards of care and for communities to improve capacity to support children and youth with severe social, emotional and behavioral difficulties. Findings related to overall youth and family outcomes were consistent with prior research on the effectiveness of SOC and wraparound, demonstrating clinically significant improvements in all outcome measures from baseline to 6-month follow-up. Significant decreases were observed among problem behaviors, child impairment, and caregiver strain as well as increases in child functioning from baseline to follow-up. After controlling for baseline scores on each outcome measure, we also observed significant relationships between CFT characteristics and outcomes. Contrary to our hypotheses, we found that some CFT characteristics (e.g., days to first CFT, natural support percentage) were associated with improved youth and family outcomes, despite failing to meet the identified NWI Practice Standards.

Table 3 Correlation table of child and family team meeting (CFT) characteristics and youth and family outcomes

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	—	-.123 [*]	.137 [*]	.059	.225 ^{**}	-.154 ^{**}	.138 [*]	-.058	.088	-.150 ^{**}	.179 ^{**}	-.162 ^{**}	-.036	-.128 [*]	-.146 [*]
2		—	-.341 ^{**}	.559 ^{**}	.034	.160 ^{**}	-.145 [*]	.015	-.102	.104	-.120 ^{**}	.173 ^{**}	.107	.147 [*]	.114
3			—	-.196 ^{**}	.031	.002	-.018	.079	-.002	-.049	.026	.028	-.025	.022	-.010
4				—	.012	-.040	.057	-.032	.036	-.059	.070	-.049	-.002	-.051	-.055
5					—	.091	.155	-.200 [*]	-.036	.149 ^{**}	-.159 ^{**}	.114	.070	.127 [*]	.131 [*]
6						—	.364 ^{**}	.364 ^{**}	-.345 ^{**}	.741 ^{**}	-.553 ^{**}	.557 ^{**}	.383 ^{**}	.577 ^{**}	.698 ^{**}
7							—	-.405 ^{**}	.464 ^{**}	-.507 ^{**}	.733 ^{**}	-.473 ^{**}	.349 ^{**}	.525 ^{**}	-.655 ^{**}
8								—	-.756 ^{**}	.533 ^{**}	-.389 ^{**}	.245 ^{**}	.181	.269 ^{**}	.266 ^{**}
9									—	-.506 ^{**}	.533 ^{**}	-.140	-.223 ^{**}	-.226 ^{**}	-.285 ^{**}
10										—	-.632 ^{**}	.491 ^{**}	-.305 ^{**}	.481 ^{**}	.596 ^{**}
11											—	-.429 ^{**}	-.465 ^{**}	-.465 ^{**}	-.554 ^{**}
12												—	.419 ^{**}	.893 ^{**}	.480 ^{**}
13													—	.710 ^{**}	.397 ^{**}
14														—	.536 [*]
15															—

1. Mean Natural Support %, 2. # of CFTs, 3. # Days to First CFT, 4. # Target Child Attended, 5. Mean CFT Minutes, 6. Ohio Scales Parent Form - Problem Behaviors, 7. Ohio Scales Parent Form - Functioning, 8. Ohio Scales Youth Form - Problem Behaviors, 9. Ohio Scales Youth Form - Functioning, 10. Ohio Scales Worker (Care Coordinator) Form - Problem Behaviors, 11. Ohio Scales Worker (Care Coordinator) Form - Functioning, 12. Caregiver Strain Questionnaire - Objective Strain, 13. Caregiver Strain Questionnaire - Subjective Internalizing Strain, 14. Caregiver Strain Questionnaire - Subjective Externalizing Strain, 15. Caregiver Strain Questionnaire - Global Strain, 16. Columbia Impairment Scale.

— denote no correlation

* $p < .05$; ** $p < .01$

First, results indicated that number of meetings over a 6-month time frame varied, consistent with previous research (Epstein et al., 2003; Kernan, 2014). We found that the majority of families had between three and six meetings and meeting length ranged between 30 minutes and 3.5 hours. Families enrolled in this statewide SOC participated in one to two more meetings on average than families enrolled in an SOC in child welfare (Crea et al., 2009). However, results also indicated that families who participated in more meetings tended to have poorer outcomes. Specifically, a higher number of CFTs was associated with increases in caregiver rating of youth problem behaviors and youth impairment, increases in multiple dimensions of caregiver strain, and decreases in caregiver rating of youth functioning. Thus, after controlling for baseline functioning, these results suggest that families who had more CFT meetings tended to have poorer functioning as compared to families who had fewer CFTs. Similarly, we found that longer CFT meeting durations (in minutes) were associated with lower caregiver and care coordinator ratings of youth functioning.

We also found some inconsistency with the NWI Practice Standards. Although Practice Standards on Timely Engagement and Planning recommend that the first meeting occur within 30 days of enrollment (Coldiron et al., 2016), we found that the first meeting did not occur until approximately 51 days after enrollment. After controlling for baseline scores, a greater number of days to the first meeting was associated with higher caregiver ratings of child impairment and caregiver rating of objective strain, which reflects tangible disruptions resulting from their child's problems. These findings suggest that families who experience this type of elevated stress may also have difficulty scheduling and maintaining appointments, which could interfere with their ability to quickly engage with the CFT process and wraparound care more broadly. It is also possible that this result reflects another aim of wraparound care, which is to reduce the reliance on residential care for youth. Youth who in the past would have been placed in higher levels of care are now being served within the community, and may have substantively different and more complex needs, which could contribute to the extended time elapsed between enrollment and a first meeting. There is perhaps a group of families with specifically high and complex needs that may need increased levels of support and effort on the part of care coordination staff to reduce barriers and effectively engage with the CFT process. For example, in this SOC, wraparound care and CFTs were used to plan for and transition youth from residential care back to their communities. The findings of this study suggest that service providers may need to identify families undergoing transition or in crisis and provide additional supports so that the family can take

Table 4 Multiple regression of Ohio Scales on child and family team meeting characteristics

Predictors	OSP problem behaviors			OSY problem behaviors			OSW problem behaviors		
	<i>B</i>	<i>SE</i>	95% CI	<i>B</i>	<i>SE</i>	95% CI	<i>B</i>	<i>SE</i>	95% CI
Mean natural support %	−5.19*	2.39	−9.90, −0.49	−2.72	3.22	−9.13, 3.70	−5.52**	1.89	−9.23, −1.79
# of CFTs	1.37**	0.49	0.40, 2.35	−0.66	0.68	−2.02, 0.70	0.53	0.39	−0.25, 1.30
# Days to CFT	0.01	0.02	−0.04, 0.06	0.02	0.03	−0.04, 0.07	0.01	0.02	−0.03, 0.05
# Target child attended	−0.51	0.51	−1.52, 0.49	−0.30	0.79	−1.86, 1.27	−0.34	0.41	−1.14, 0.46
Mean CFT minutes	0.02	0.04	−0.06, 0.10	0.09	0.06	−0.04, 0.22	0.06 ^a	0.03	−0.01, 0.12
Constant	3.38	4.40	−5.30, 12.06	3.18	9.39	−15.55, 21.91	4.66	3.32	−1.88, 11.20
<i>F</i> statistic	15.08**			5.35**			15.87**		
<i>R</i> ² statistic	0.32			0.35			0.31		

Predictors	OSP functioning			OSY functioning			OSW functioning		
	<i>B</i>	<i>SE</i>	95% CI	<i>B</i>	<i>SE</i>	95% CI	<i>B</i>	<i>SE</i>	95% CI
Mean natural support %	4.80 ^a	2.67	−0.46, 10.06	5.89	4.00	−2.10, 13.87	6.22**	2.21	1.88, 10.56
# of CFTs	−1.38*	0.56	−2.48, −0.28	−0.05	0.85	−1.74, 1.64	−0.67	0.47	−1.59, 0.25
# Days to CFT	−0.01	0.03	−0.07, 0.04	−0.01	0.03	−0.08, 0.05	−0.02	0.02	−0.07, 0.02
# Target child attended	1.07 ^a	0.57	−0.06, 2.19	0.92	0.99	−1.06, 2.89	0.35	0.49	−0.60, 1.31
Mean CFT minutes	−0.11*	0.05	−0.19, −0.02	−0.13	0.08	−0.29, 0.03	−0.07*	0.04	−0.15, −0.01
Constant	38.48	5.69	27.27, 49.68	46.02	12.93	20.23, 71.81	37.96**	4.73	28.64, 47.27
<i>F</i> statistic	14.74**			2.61*			12.12**		
<i>R</i> ² statistic	0.32			0.21			0.26		

Youth age at enrollment and baseline score on the corresponding outcome measure were included in each model.

OSP = Ohio Scales – Parent Form; OSW = Ohio Scales – Worker (Care Coordinator) Form; OSY = Ohio Scales – Youth Form.

* $p < .05$; ** $p < .01$

^aTrend.

Table 5 Multiple regression of caregiver strain questionnaire (CGSQ) and Columbia impairment scale (CIS) on child and family team meeting characteristics

Predictors	CGSQ – objective strain			CGSQ – subjective internalizing			CGSQ – subjective externalizing		
	<i>B</i>	<i>SE</i>	95% CI	<i>B</i>	<i>SE</i>	95% CI	<i>B</i>	<i>SE</i>	95% CI
Mean natural support %	−1.79	1.13	−4.01, 0.43	−1.35 ^a	0.75	−2.83, 0.14	−0.52	0.42	−2.16, 0.83
# of CFTs	0.68**	0.23	0.22, 1.14	0.25	0.16	−0.06, 0.56	0.18*	0.09	−1.38, 0.33
# Days to CFT	0.02*	0.01	0.01, 0.05	0.01	0.01	−0.01, 0.02	0.00	0.00	0.01, 0.35
# Target child attended	−0.40 ^a	0.24	−0.87, 0.06	−0.27 ^a	0.16	−0.58, 0.04	0.01	0.09	−0.01, 0.01
Mean CFT minutes	0.02	0.02	−0.02, 0.06	0.00	0.01	−0.02, 0.03	0.00	0.01	−0.17, 0.18
Constant	−0.80	2.02	−4.78, 3.19	1.46	1.36	−1.22, 4.15	−0.67	0.76	−2.16, 0.83
<i>F</i> statistic	16.74**			12.02**			23.43**		
<i>R</i> ² statistic	0.33			0.26			0.42		

Predictors	CGSQ – global strain			CIS – Total		
	<i>B</i>	<i>SE</i>	95% CI	<i>B</i>	<i>SE</i>	95% CI
Mean natural support %	−3.01	1.97	−6.89, 0.87	−3.06 ^a	1.71	−6.42, 0.30
# of CFTs	1.15**	0.41	0.35, 1.95	0.60 ^a	0.35	−0.10, 1.30
# Days to CFT	0.04 ^a	0.02	−0.00, 0.08	0.04*	0.02	0.00, 0.01
# Target child attended	−0.66	0.41	−1.46, 0.14	−0.46	0.36	−1.16, 0.25
Mean CFT minutes	0.01	0.03	−0.06, 0.08	0.01	0.03	−0.05, 0.07
Constant	−1.43	3.53	−8.39, 5.52	3.51	3.12	−2.65, 9.67
<i>F</i> statistic	17.30**			15.42**		
<i>R</i> ² statistic	0.35			0.31		

Youth age at enrollment and baseline score on the corresponding outcome measure were included in each model.

CGSQ = Caregiver Strain Questionnaire; CIS = Columbia Impairment Scale.

* $p < .05$; ** $p < .01$

^aTrend.

leadership in the development and implementation of their plan of care and actively engage in all aspects of wrap-around.

A core focus of wraparound care coordination is the importance of families and their natural supports at decision-making tables. The NWI Practice Standards have identified that families and natural supports should comprise at least 51% of individuals at all decision-making tables (Coldiron et al., 2017). In theory, a higher percentage of natural supports at CFTs suggests that meetings are driven by the family, who are informed and supported by their natural support system. In this study, the percentage of natural supports at CFTs fell below the expected SOC standard of at least 51%, ranging between 20% and 29% and remaining relatively stable over the course of participation in the SOC. Further, we found that a substantial number of meetings had no natural supports present at all. These findings are consistent with previous literature also demonstrating both infrequency (Walker & Schutte, 2005) and significant variability in percentage of natural supports present at CFTs (Bruns et al., 2006). However, our results related to the stability of natural support involvement over time is inconsistent with patterns identified in previous studies. Literature has suggested that CFTs may begin with a lower proportion of natural to professional supports, but that involvement of natural supports would increase over time. Some hypothesize that this may be due to the difficulty families may have had maintaining relationships, but that families may engage in efforts to reach out and connect with natural supports as their situation stabilizes over time (Huffine, 2002; Kernan, 2014). However, this pattern was not observed in our data and should be explored in future research. Although true fidelity to the wraparound care coordination model necessitates the presence of at least one natural support, it is clear that this does not always occur in practice.

Despite observing a lower than expected percentage of natural supports, we also found that higher percentages of natural supports were associated with better outcomes on nearly all variables assessed, including decreases in caregiver and care coordinator ratings of youth problem behaviors, increases in caregiver and care coordinator ratings of child functioning, and decreases in caregiver ratings of child impairment. These findings may suggest that families whose social networks are more expansive may be better equipped to use available resources and seek support when things are difficult. It is also possible that caregivers with more natural support may also have stronger interpersonal skills, which may further equip them to effectively use the CFT process to meet the needs of their children. These findings continue to support the focus of SOC and wraparound on increasing a family's choice

specifically regarding who is part of their care plan, including individuals who are invited to attend and participate in the CFT. This focus on family empowerment (Rappaport, 1981, 1987) is a core value of SOC. These results further suggest that increasing the presence of natural supports, even to a lower percentage than recommended, may lead to better outcomes for youth and families. Although we controlled for baseline functioning in our analyses, it is also possible that youth with more significant needs may require the involvement of more professional supports, which would lead to a lower percentage of natural supports at a CFT. This finding should be explored in future research to determine the directionality of this pattern.

Finally, youth attendance at their CFTs varied as a function of the child's age. Specifically, children under the age of six and those 11 years of age and older attended more meetings than children between ages six and 10. Overall, the target child attended over 60% of initial CFT meetings. Although Walker and Schutte (2005) found that youth were frequently not present at CFTs, the findings in this study reflect the planned focus on inclusion of youth and the value placed on empowering youth to have a role in determining their plan of care in the Connecticut SOC. We also found that, after controlling for child age, more meetings attended by the target child was associated with marginally significant increases in caregiver rating of youth functioning and decreased caregiver strain.

Implications

To our knowledge, this study is the first to track specific CFT characteristics and examine their association with youth and family outcomes. Findings from this study provide additional support for the use of CFTs as a key component of wraparound care provided in the context of a statewide SOC, with improvement across youth and family outcomes from baseline to 6-month follow-up. Further, results identified specific CFT components that suggest areas of focus for communities seeking to implement an effective care coordination process. This is particularly important to ensure that care coordination remains closely aligned with the SOC and wraparound care model, and corresponding focus on youth and family strengths (Tedeschi & Kilmer, 2005), collaboration, and the empowerment of youth and families (Rappaport, 1981) to guide the development and implementation of their own plan of care (Cook & Kilmer, 2012).

Currently, there is a significant focus in the field on wraparound fidelity, with results of research suggesting that greater fidelity to the model results in better outcomes. This paper is an initial step in delineating how the

CFT component of wraparound is implemented at the level of individual meetings, and which aspects of the CFT component of wraparound may contribute more directly to youth and family outcomes. Our findings demonstrate the difficulty in fully implementing CFTs in a manner consistent with the NWI Practice Standards. For example, approximately 51 days elapsed, on average, with an upper range of 174 days, before families had their first CFT meeting. This is inconsistent with the NWI recommended time frame, which encourages initial contact within 30 days. This finding reflects difficulty engaging families in SOC services and suggests that the SOC may not be effectively meeting the needs of these families. There is a continued, and perhaps enhanced, necessity to individualize the CFT approach for families with high levels of need early in the process of receiving services, as the current procedure may not be sufficient to meet their needs. Similarly, we found that families had, on average, three CFT meetings in the first 6 months of enrollment. This is again inconsistent with the NWI Practice Standards, which suggest that CFTs occur approximately every 30 days. Further, we found that there were, on average, <30% representation by natural supports at CFTs, far below the recommended 51% representation.

It is possible that failure to adhere to the NWI Practice Standards across these CFT elements may reduce program effects on outcomes. However, after examining the relationships between CFT elements and outcomes, our findings suggest that there is perhaps greater flexibility in regard to fidelity to the Practice Standards and the wrap-around model. For example, although, on average, our sample participated in three CFTs over 6 months, we found that fewer meetings was actually associated with better outcomes for the child and caregiver. It is possible that the CFT process is so empowering for some families that they do not require CFT meetings on a monthly basis in order to achieve the benefits of improved support and care coordination. Reducing the frequency of meetings for families who take a more immediate lead in the CFT process would enable care coordinators to allocate more time to families who may need additional support and coaching before they feel empowered to guide their plan of care. Similarly, we found improved outcomes with higher percentages of natural supports at CFTs, despite failing to attain the target of 51% representation. It is likely that number of natural supports needed by a family is more individualized and less prescriptive than the Practice Standards suggest and that a focus on what works for each family may be a more achievable and a more effective goal. Further research is needed to clearly delineate the mechanisms of change within the CFT process so as to guide the continued development of the wraparound model.

Strengths and Limitations

This study contributes to the literature on CFTs and wrap-around care by examining specific CFT characteristics and their relation to youth and family outcomes. To our knowledge, there have been no published studies evaluating the association between CFT characteristics and outcomes. Further, this study uses data from an SOC being implemented statewide, supporting efforts to scale up these services. However, there are some limitations that are important to address. First, the lack of caregiver and family demographic data precludes the ability to control for additional factors that may influence or explain these findings (e.g., income, family risk factors). It is possible that our findings might be impacted by the inclusion of these additional variables. Future research should explore the extent to which demographic and contextual risk may be associated with both outcomes and participation in care coordination. For example, future research might explore whether child and family characteristics and risk (e.g., trauma exposure) moderate the relationship between participation in care coordination and outcomes. In addition, although this study measured characteristics of CFTs, data were not collected to enable an assessment of fidelity (e.g., through use of the WFI) to the wraparound process beyond documenting characteristics of the CFT meetings. While we can identify consistency with the wraparound model based on specific components identified in the NWI Practice Standards, we are not able to ascertain the degree to which these care coordination services were implemented with fidelity.

Additionally, it may be beneficial to empirically evaluate the established NWI Practice Standards in relation to youth and family outcomes in future research in order to determine which components may be most critical. While the identification of the extent to which characteristics of the CFT meetings are related to outcomes is an important step in understanding essential component of care coordination, additional work is needed to determine the relationship between characteristics of the CFT and the plan of care. Specifically, research is needed that will determine if CFT characteristics are linked to the development of a plan of care that is based on family strengths and desires, focused on all domains that a family identifies as important, and facilitates coordination of care between providers. Finally, although this study explored associations between CFT characteristics and outcomes, it did not explicitly measure these characteristics as mechanisms of change. Future research should explore these characteristics as potentially causal pathways. In addition, studies should include caregiver and youth report of their experience with the CFT meetings and the care coordination process in order to add important context to quantitative findings.

Conclusion

Previous research on wraparound care has identified that fidelity to the practice model is associated with better youth and family outcomes, yet little research to date has explored which specific components of wraparound care may be associated with improved outcomes. This study examined the association between CFT characteristics and outcomes. Results highlighted the importance of continuing to focus on empowering youth and families to connect with natural supports. Findings also provided direction for engaging with families experiencing heightened stress who may be in need of additional support as they initiate services within an SOC. Finally, the findings of this study indicate that strict adherence to the NWI practice standards pertaining to CFTs is not essential in order to achieve improvements in child and family level outcomes within a system of care. Future research should continue to evaluate the CFT process in order to inform the continued development of the wraparound model and to provide guidance to policy makers as they establish practice standards that guide implementation of systems of care.

Acknowledgments The preparation of this paper was supported, in part, by the first author's National Institutes of Health T32-funded postdoctoral training fellowship (T32DA019426-13) and by a grant from the Center for Mental Health Services (1 U79 SM061646-01) of the Substance Abuse and Mental Health Services Administration awarded to the Connecticut Department of Children and Families.

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