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Child forensic interviewing in Children's Advocacy Centers: Empirical data on a practice model[☆]

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Abstract

Objective: Children's Advocacy Centers (CACs) aim to improve child forensic interviewing following allegations of child abuse by coordinating multiple investigations, providing child-friendly interviewing locations, and limiting redundant interviewing. This analysis presents one of the first rigorous evaluations of CACs' implementation of these methods.

Methods: This analysis is part of a quasi-experimental study, the Multi-Site Evaluation of Children's Advocacy Centers, which evaluated four CACs relative to within-state non-CAC comparison communities. Case abstractors collected data on investigation methods in 1,069 child sexual abuse cases with forensic interviews by reviewing case records from multiple agencies.

Results: CAC cases were more likely than comparison cases to feature police involvement in CPS cases (41% vs. 15%), multidisciplinary team (MDT) interviews (28% vs. 6%), case reviews (56% vs. 7%), joint police/child protective services (CPS) investigations (81% vs. 52%) and video/audiotaping of interviews (52% vs. 17%, all these comparisons $p < .001$). CACs varied in which coordination methods they used, and some comparison communities also used certain coordination methods more than the CAC with which they were paired. Eighty-five percent of

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CAC interviews took place in child-friendly CAC facilities, while notable proportions of comparison interviews took place at CPS offices (22%), police facilities (18%), home (16%), or school (19%). Ninety-five percent of children had no more than two forensic interviews, and CAC and comparison differences on number of interviews were mostly non-significant.

Conclusions: Relative to the comparison communities, these CACs appear to have increased coordination on investigations and child forensic interviewing. The CAC setting was the location for the vast majority of CAC child interviews, while comparison communities often used settings that many consider undesirable. CACs showed no advantage on reducing the number of forensic interviews, which was consistently small across the sample.

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Introduction

One of the primary goals of Children's Advocacy Centers (CACs) is to improve child forensic interviewing following allegations of child sexual abuse. They aim to coordinate law enforcement, child protective, medical, and other agencies, and typically use a single interviewer to provide information to every investigator involved in the case. CACs have spread rapidly, as enrollment in the National Children's Alliance (NCA), the membership organization of CACs, has grown from 22 in 1992 to over 650 accredited or associate centers in 2007 (National Children's Alliance, 2007). In 2004, NCA member CACs served more than 148,000 children (National Children's Alliance, n.d., a), and that number has undoubtedly increased. Many communities, however, do not have a CAC and may use more traditional methods of investigative interviewing in which agencies work independently.

Traditional methods for interviewing children have often been criticized as ineffective in assessing the truth and unnecessarily stressful for children (see, e.g., Ceci & Bruck, 1993; Whitcomb, 1992). Three specific criticisms of these methods are that (1) investigation activities and decision-making are not coordinated across the multiple agencies involved, (2) children are interviewed too many times by too many interviewers and have to "tell their story over and over again," and (3) children are interviewed in stressful or compromising locations that disturb them further and make it difficult to talk. CACs have aimed to change the practice of forensic child interviewing by coordinating multiple investigations, limiting the number of interviews and interviewers children have, and providing "child friendly" locations for interviews. Methods to promote these outcomes are codified as accreditation standards by the National Children's Alliance (NCA), the membership organization for CACs (National Children's Alliance, n.d., b). Given the contrast of the accreditation standards with traditional methods, forensic interviewing should differ in CACs from communities without CACs. Few studies, however, have compared CAC and non-CAC methods. Given the substantial effort devoted to creating CACs, the promise ascribed to them, and child victims' needs for protection and support, it is essential that the child abuse professional field evaluate CACs to see whether they can really implement positive changes in investigation.

This analysis focuses on *investigative* or forensic interviews by police, child protective services and other professionals to assess the truth about a suspicion of child abuse following an official report. It should be noted that children may be questioned several times by parents, teachers, pediatricians, or

counselors who suspect abuse before an official investigation begins, but such informal interviews are beyond our scope. Below we discuss several practice problems that affected child forensic interviewing and the ways in which CACs are thought to remedy these problems. The problems link directly to the research questions discussed below.

Do CACs promote interagency coordination?

One complaint about the traditional response is that multiple agencies fail to collaborate – not sharing information and not coordinating their decision-making and communication with the family (see, e.g., Sheppard & Zangrillo, 1996). With uncoordinated investigations, agencies can miss out on crucial information from each other, make decisions at cross-purposes, and give mixed and confusing messages to families. Lack of coordination may also make it easier for one agency to shift the burden of an investigation to another agency (Brad Russ, personal communication, December 2003; see also Cross, Finkelhor, & Ormrod, 2005). Because CACs aim to increase interagency coordination over traditional investigations and have multiple coordination methods, we expected that CACs would exceed non-CAC communities in use of methods of coordination.

Most CACs increase coordination by conducting *multidisciplinary team interviews*. In this method, one professional interviews the child while other professionals observe through a one-way mirror or closed-circuit television system. The team also shares information and decision-making, and coordinates communication with the family. CACs also promote coordination through *joint CPS-police investigations* (see, e.g., Cross et al., 2005; Tjaden & Anhalt, 1994). Thus Smith, Witte, and Fricker-Elhai (2006) found greater police involvement with CPS in CAC cases versus non-CAC comparison cases. Another method of coordination is the use of *interagency case reviews* to facilitate collaborative decision-making during the CAC's involvement. Finally, most CACs videotape interviews. Practice and research literature suggest that this facilitates coordination by increasing sharing of information among professionals involved with the case, and promotes interviewer accountability and training (Broderick, Berliner, & Berkowitz, 1999; California Attorney General's Office, 1994; Elstein et al., 1996; MacFarlane & Krebs, 1986).

Do CACs reduce the number of child interviews and forensic interviewers?

Perhaps the biggest concern is the number of interviews that a child can be subjected to following a disclosure (see, e.g., American Professional Society on the Abuse of Children, 2002; Attorney General's Task Force on Family Violence, 1984; Cronch, Viljoen, & Hansen, 2006; Whitcomb, 1992). If working on separate, uncoordinated investigations, police, protective caseworkers, physicians, and others can interview children separately, putting children in the position of having to "tell their story" over and over. The number of interviews also can be a problem when the same interviewer meets with a child a number of times, sometimes in a zealous effort to "uncover the truth" (Ceci & Bruck, 1993). Estimates of children having 11 or 12 interviews (see Attorney General's Task Force on Family Violence, 1984; McGough, 1994; Whitcomb, 1992; Wyatt, 1999) seem not to be based on empirical data (Myers, 1995). What empirical data exist have been imprecise. In Tedesco and Schnell's (1987) survey of 49 victims, the modal number of interviews was three, with a range of 1–40. In Jaudes and Martone's (1992) sample, 50% had three or more investigative interviews, and 76% experienced interviews by two or more professionals. Gray (1993) found that the average number of child interviews in 16 jurisdictions ranged from "three to

four” to “many.” Santtila, Korkman, and Sandnabba’s (2004) study of a Finnish sample found a mean of 2.19 interviews, but the sample size was only 27.

The biggest objection to redundant interviewing is that it could make children re-live the trauma of the abuse in the retelling. In limited research, a greater number of interviews has been associated with more child distress (Berliner & Conte, 1995; Henry, 1997; Jaudes & Martone, 1992; Tedesco & Schnell, 1987). Repeated interviewing could make children think that people do not believe them or are unwilling to help. Children could change their answers because they think they got it “wrong” the first time (Ceci & Bruck, 1993), or may become frustrated and recant their statements to stop the interviews. Santtila et al. (2004) found that repeated interviewing was associated with more suggestive questioning. Repeated interviewing also gives perpetrators and their sympathizers time to influence the child, obstruct the investigation, or flee. Avoiding redundant interviewing is considered best practice, but experts have also warned against making one interview an ideal in and of itself (American Professional Society on the Abuse of Children, 2002). Some professionals have reported that many children need multiple interviews, preferably with a single interviewer, in order to disclose abuse (Carnes, Nelson-Gardell, Wilson, & Orgassa, 2001; Sorenson & Snow, 1991).

Multiple *interviewers* may be what makes questioning of children repetitive more than multiple interviews. Multiple interviewers often ask redundant questions, placing children in a situation of repeating “their story.” The American Professional Society on the Abuse of Children (APSAC) (2002) states that a single interviewer is “preferable.”

CACs’ use of a single interviewer in a team interview - usually a child forensic interview specialist for the CAC - eliminates the need for separate interviews and interviewers. Two studies found that multidisciplinary teams reduced the number of interviews per child in their child abuse investigation programs (California Attorney General’s Office, 1994; Jaudes & Martone, 1992). Another study (Henry, 1997) found children from a community with greater coordination were interviewed fewer times on average than those from a community with less coordination. On the other hand, two studies of CACs found no differences on number of interviews between CAC and non-CAC cases (Hicks, Stolfi, Ormond, & Pascoe, 2003; Steele, Norris, & Komula, 1994). It remains an open question whether CACs reduce the number of forensic interviews and interviewers, and we test that hypothesis here.

Do CACs improve the interview setting?

For many years, child advocates have expressed concern about customary locations for child interviews: police stations, child protective service offices, schools, and homes (see, e.g., Whitcomb, 1992). Interviews at police stations may frighten children, especially if the alleged perpetrator is interviewed there too, and may reinforce their belief that they have done something wrong (Simone, Cross, Jones, & Walsh, 2005). Children and families may similarly fear child protective services, because they believe that CPS will remove children from their home. Schools may lack privacy, though they may be the location of choice if there is no supportive caretaker to take the child to a more private interview location. A child’s home is often a compromised location; offenders or others supporting them may be there or nearby. Because of such concerns, APSAC (2002) recommends interviewing children in a “neutral environment whenever possible . . . private, informal and free from unnecessary distractions.”

CACs develop child-friendly locations designed to be better environments for interviewing. Waiting rooms will have decorations and play things designed for children. Alleged offenders are not allowed, interview rooms are private, and CAC staff or volunteers are available to support and monitor children.

Often CACs are independent centers separate from other institutions or agencies, making it easier to build a child-friendly setting. When CACs are components of larger agencies like a prosecutor's office, they often have separate wings or entrances. To test the hypothesis that CACs have more child-friendly locations than comparison communities, we contrast interviewing locations in the CAC and comparison community.

Thus this paper examines (1) whether CAC cases have more interagency coordination in relation to interviewing than comparison samples, (2) whether CAC cases have fewer investigative interviews and interviewers than comparison sample cases, and (3) how the location of interviews in the CACs compares to the non-CAC communities. Using a sample of 1,069 child sexual abuse cases, this analysis compares data on forensic interviewing from four CACs to case data from within-state comparison communities that lacked CACs.

Method

This study is part of a larger project, the Multi-Site Evaluation of Children's Advocacy Centers, designed to evaluate the impact of CACs on children, families, systems, and communities. For more information, see Cross et al. (in press); Jones, Cross, Walsh, and Simone (2007); Walsh, Cross, Jones, Simone, and Kolko (2007); and Walsh, Jones, and Cross (2003).

Recruitment of research sites

Participating CACs were selected after a call for applications was sent to all NCA member CACs. Approximately 30 CACs from across the United States of America applied. The four participating CACs were included based on the following criteria: (1) The CACs were well-established and experienced, had a reputation for providing quality services, and were full members of the National Children's Alliance; (2) Each application outlined a viable plan for collecting data from both the CAC and comparison communities; (3) The CAC had adequate resources in addition to project research funding, and at least a moderately experienced research team for undertaking the evaluation project; and (4) The CAC and comparison community were large enough to supply adequate sample sizes. Our budget did not allow for more CACs.

Each CAC research team enlisted within-state communities that lacked CACs to participate as comparison communities. Two CACs each had one within-state comparison community, and two CACs each pooled cases from two within-state comparison communities; the latter was done because of sample size needs. We required them to be within-state to ensure that CAC and comparison were subject to the same state laws and similar effects of region. The comparison communities were also chosen according to these additional criteria: (1) comparable numbers of sexual abuse cases and (2) comparable demographic makeup. Data on all child sexual abuse investigations during the time period were identified through the local CPS agencies (some of the South Carolina comparison cases were also taken from police files). Identifying comparison communities meeting these criteria was difficult, because most urban areas and many suburban areas in these states already had CACs, and because CPS, police, and other professionals in prospective comparison communities would not all always agree to participate. In some cases, comparison communities were not close demographic matches; we have statistically controlled for these differences when necessary. Some comparison communities actually used the participating CAC for a

small subset of their cases, for example, cases that were deemed particularly complex or difficult, or that were determined to need certain services. Although no comparison community had a functioning CAC, in some cases the communities had program components similar to those used by CACs, such as joint investigation protocols.

Research sites

The Crimes Against Children Research Center (CCRC) research team at the University of New Hampshire (UNH) coordinated and directed research teams at four sites across the country. Each site included a CAC community and 1-2 non-CAC same-state comparison communities.

CACs. The four CACs were the Dallas Children's Advocacy Center (DCAC) in Dallas, TX; the Dee Norton Lowcountry Children's Center (LCC) in Charleston, SC; the National Children's Advocacy Center (NCAC) in Huntsville, AL; and the Pittsburgh Child Advocacy Center (PCAC) at Children's Hospital in Pittsburgh, PA. When data collection began, each center had existed for at least 15 years. All had specialized forensic child interviewers and multidisciplinary teams. In Huntsville, the primary interviewers were specialized police and child protective services staff who were located in the CAC. CAC interviewers had extensive training, including, in most cases training in a nationally recognized child forensic training program (except in Pittsburgh, where Children's Hospital had an extensive in-house program), follow-up training (typically at least yearly), and weekly supervision or peer review. Every CAC except Pittsburgh does weekly case review; Pittsburgh does case review as needed on complicated cases.

Different referral policies and case flow protocols meant that the CACs dealt with somewhat different case populations and circumstances. Two CACs were referred all cases that met specific criteria. The Dallas CAC received all CPS and police cases in the city of Dallas in which allegations included alleged sexual assault or severe physical abuse, a caregiver was the alleged perpetrator, and there was either physical evidence of abuse or a disclosure by the child. The National CAC in Huntsville received all sexual abuse and serious physical abuse cases referred to CPS services in the county. These two CACs also housed co-located police and CPS staff to enhance coordination.

In contrast, the other two CACs' referrals were mostly discretionary. The Lowcountry Children's Center accepted referrals for any case of alleged child abuse or neglect. Referral sources included therapists, pediatricians, and parents, as well as police and child protective services. The Pittsburgh CAC dealt with any case of alleged child maltreatment that came into Children's Hospital, including, but not limited to, police and CPS referrals. Thirty-two percent of its cases were referred from medical professionals (Cross, Walsh, Jones, & Simone, 2006); many referrals came from the hospital's emergency room. The specialized forensic interviewers at PCAC also do crisis intervention and see cases around the clock 365 days a year, in sharp contrast to other CACs which typically deal with cases at scheduled daytime hours. Neither Lowcountry nor Pittsburgh has police or CPS co-located. Police and CPS attendance at interviews is encouraged, but does not always happen due to geography, schedules, and workload.

Comparison communities. These communities were counties in the same state as the CAC, but lacked a CAC themselves. For the Dallas CAC, the comparison sample came from two municipalities, Irving and Garland, which were in Dallas County and served by the same district attorney as DCAC. They were generally excluded from Dallas CAC services, however, which were developed for the city of Dallas. Other comparison communities were Oconee and Anderson counties, SC; Morgan County, AL; and Armstrong

County, PA. Interviews were primarily conducted by child protective service and police investigators in these counties. Training varied, but generally was restricted to within-agency and in-service training. The comparison communities did not have separate dedicated centers for interviewing children, except Irving, TX, which built a specialized Family Advocacy Center that had many of the services and programs that a CAC would have (see [Irving Police Department, 2005](#)), and began seeing children there during the latter part of data collection. The comparison communities did not have formal multidisciplinary teams. Armstrong County, PA, did usually conduct joint interviews in which the police and CPS investigator typically interviewed the child together. Oconee County developed a CAC after the completion of data collection ([Foothills Alliance, n.d.](#)).

Data collection

Three types of data were collected between December 2001 and December 2003 from both CAC and comparison communities. The authors collected *descriptive, site-level data* about investigation and response system in the CAC and comparison community. Site research teams collected *case file data*. Site research teams also collected *research interview* data from consenting children and non-offending caregivers, but these are not used in this analysis.

Descriptive, site-level data. Qualitative data were collected from semi-structured interviews conducted at site visits and in follow-up telephone interviews. During site visits, the authors separately interviewed all the key informants in each CAC: forensic interviewers, directors, police investigators, CPS investigators, physicians who conduct forensic medical examinations, CAC data specialists, and others. Although resources prevented us from interviewing the same number of key informants from the comparison communities, we did interview police and CPS workers from most comparison communities. We also conducted semi-structured telephone interviews with key informants from the CAC and comparison communities approximately 2 years following the site visits for more specific detail for this paper.

Case file data. These were abstracted from records from multiple agencies by case abstractors at each site. Case file data included information about the victim, alleged perpetrator, family, alleged abuse, disclosure, investigation, interviewing, service delivery, and child protection and criminal justice outcomes. A subset of the case data is used for this analysis. For CAC cases, files from the following sources were used: CAC (100% of cases), CPS (63%), police (59%), prosecutors' offices (38%), other (typically mental health, medical, and school) 31%. Except for CAC records, the comparison sample had similar sources: CPS (74%), police (62%), prosecutors' offices (26%), and other agencies (34%).

Case abstractors were generally master's degree level professionals with some clinical experience. Two to three case abstractors in each site used a common case data abstraction instrument created by the authors, and a manual for its use. The authors provided detailed written instructions for sampling cases and coding data, and supervised data collection through periodic telephone meetings (approximately twice monthly) with site research teams and ongoing consultation to data abstractors via telephone and email about difficult coding questions. The authors collaborated with the site research teams on data cleaning and interpretation of data analysis.

Participant protection

The University of New Hampshire Institutional Review Board (IRB) for the Protection of Human Subjects in Research approved the procedures conducted at each site. Also approving the research in Charleston were the Lowcountry Children's Center's Research Advisory Board, and the South Carolina Department of Social Services. The IRB at Children's Hospital in Pittsburgh approved the research, but required that the Pittsburgh CAC only include case data when clients provided full written consent, leading to smaller sample sizes for that site.

Sample

Case file data were collected on a sample of 1,452 cases. These cases primarily involved allegations of sexual and physical abuse (84% and 18% respectively). Because forensic interviewing procedures differ in cases of sexual and physical abuse, only cases of alleged sexual abuse were included here ($N = 1,220$). In 5.6% of sexual abuse cases, children were not coded as having a forensic interview ($n = 151$) — mostly cases in which children were too young to be interviewed, could not participate for other reasons (e.g., disability), or a child interview was deemed unnecessary. These cases were excluded here, with a resulting sample size of 1,069.

Site research teams generally included every available case initiated in the CAC and in the comparison community CPS agencies during the enrollment period. Police cases were included as well in the South Carolina and Dallas County comparison communities. When the number of CAC or comparison cases exceeded resources to abstract, a process simulating random selection was used (e.g., taking every third case). If there were multiple victims (e.g., in the same family) or multiple perpetrators per case, site research staff randomly selected a “target” subject or perpetrator on which to collect data.

Sample characteristics are presented in [Table 1](#). The majority of victims were females, although this varied somewhat across sites. The average child age at abuse was 9.7, but this varied by site with the Pittsburgh CAC having the youngest victims and the Huntsville CAC having the oldest victims. Racial and ethnic makeup varied widely across sites, consistent with the nature of each community. The CACs also varied by characteristics of the sexual abuse allegations, for example, the percentage of cases in which the alleged abuse was intrafamilial. This is likely a function of the different roles in the community and referral patterns that each CAC had adopted (see [Cross et al., 2006](#); [Walsh et al., 2003](#)).

There were significant differences on children's mean age between CAC and comparison in every site. In three sites, CAC children were significantly younger than the comparison children, but in Huntsville, the CAC youths were significantly older. This latter finding most likely stems from the special emphasis the district attorney in Huntsville placed on statutory victim cases, in which teenage girls under the age of consent are involved with adult males. The Dallas and Charleston CACs, in more urban locations, had a significantly higher proportion of African Americans than their comparisons. The Charleston and Huntsville CACs had a somewhat higher proportion than their comparison samples of cases in which penetration was alleged.

Variables

Data abstractors coded variables from the totality of record data available for each case, supplemented when needed by conversations with the professionals involved in the case.

Table 1
Sample characteristics of child sexual abuse cases with forensic interviews

Characteristics	Dallas		Charleston		Huntsville		Pittsburgh		Overall	
	CAC <i>n</i> = 206	Comparison <i>n</i> = 156	CAC <i>n</i> = 247	Comparison <i>n</i> = 117	CAC <i>n</i> = 179	Comparison <i>n</i> = 73	CAC <i>n</i> = 77	Comparison <i>n</i> = 14	CAC <i>n</i> = 709	Comparison <i>n</i> = 360
%Female	86	88	72	80	86	75	75	64	80	82
Phi	.02		.08		.12		.09		.02	
Child age at forensic interview										
Mean	8.8 ^{***}	10.9	8.9 ^{**}	10.4	11.4	10.1	7.9 ^{**}	11.2	9.0 ^{***}	9.9
SD	3.4	4.0	4.2	4.5	4.3	4.5	3.6	3.9	4.4	4.7
Cohen's <i>d</i>	.55		.36		.28		.91		.20	
%Child race										
White	15 ^{***}	45	64 ^{***}	84	69	82	71	100	51 ^{***}	67
African-American	44	18	33	11	26	16	13	0	33	15
Latino	37	35	0	2	2	2	2	0	12	16
Other	4	2	3	3	3	0	13	0	4	2
Cramer's <i>V</i>	.37		.25		.14		.30		.21	
%Vaginal/anal penetration alleged	44	51	25	27	41 [*]	27	48	25	37	37
Phi	.07		.02		.13		.16		.003	
%Intra-familial abused alleged	76 [*]	66	70	67	57	61	59	86	67	66
Phi	.12		.03		.04		.20		.02	
%Perpetrator was a child or adolescent	5	7	36 ^{**}	18	19	27	46 [*]	14	23 ^{**}	14
Phi	.04		.17		.08		.24		.10	
%Child sustained physical injury	21	13	26 ^{**}	11	9	6	25	21	18 ^{**}	10
Phi	.11		.17		.06		.03		.11	
%Investigators believed sexual abuse was indicated	79	84	71 [*]	60	58	43	88 [*]	57	70	66
Phi	.07		.11		.08		.30		.04	
%Alleged offender was arrested, charged, or otherwise detained ^a	61	71	31	31	40	27	40	42	45	50
Phi	.10		.00		.11		.02		.04	

Note: Missing data ranged from 0% to 17% except for the following: Pittsburgh CAC had 42% missing data on child race, Charleston comparison had 39% missing on perpetrator was a child or adolescent, Charleston comparison had 56% missing on intra-familial abuse, Dallas CAC cases had 31% and Dallas comparison 24% unable to be determined on whether or not a child sustained a physical injury.

^a Calculated only for cases involving law enforcement (CAC sample *n* = 601; Comparison sample *n* = 282).

* *p* < .05.

** *p* < .01.

*** *p* < .001.

Forensic interview. We defined a “forensic interview” as a *professional interview designed to assess or evaluate the truth about a suspicion of child maltreatment*. We excluded: (a) initial disclosures of abuse by the child to a parent, teacher, friend, and so forth, (b) parent-child discussions to understand better what happened, (c) discussions by a mental health professional for purposes of treatment or clinical assessment only, and (d) initial contacts in which immediate risk was assessed briefly but most questioning is postponed for a later forensic interview. We coded every instance of a forensic interview that was recorded in the case records. In cases in which the research staff inputting the data may not have known the information necessary to determine the content of a police or CPS interview, they erred on the side of calling any fact-finding interview with a CPS worker or police officer a forensic interview.

Number of interviewers. We coded the institutional affiliation or discipline of each interviewer. We counted the number of disciplines/institutional affiliations per child to count the number of interviewers. For example, if law enforcement conducted a first and a second child forensic interview, that was counted as two interviews but one interviewer. We made the assumption that multiple interviews of the same child by the same agency would be conducted by a single interviewer.

Interview observers and team interview. We coded whether or not an interview was observed, and how many observers there were from each discipline (law enforcement, child protective services, etc.). We defined a team interview case as one in which professionals from at least two different disciplines observed. The prototype was a case in which an interview specialist conducted the interview while representatives from at least two agencies watched. If only a CPS and police investigator were present at the forensic interview, with one or both conducting the interview; this was coded as a joint investigation (see below) but not as a team interview.

Joint law enforcement/child protective services investigation. This was coded when the police and child protective services investigators collaborated on the investigation. The collaboration included some combination of conducting investigative activities together, sharing information, and making decisions jointly. This could have occurred with or without a multidisciplinary team or team interview. To code this as “yes,” the police and CPS investigators had to collaborate on forensic interviewing and planning investigative actions; communication about the case that fell short of this was coded “no.”

Case review. This variable was coded if multiple disciplines convened a scheduled case review meeting at least once in the days or weeks after intake.

Two other variables here measured concrete details about the interviews that were typically self-evident from the case record: location of the interview (CAC, police station, CPS office, etc.) and audiotaping or videotaping of the interview.

Data analysis

Contingency table analysis with Pearson χ^2 and phi coefficients compared CAC and comparison on categorical outcomes. The Fisher-Freeman-Halton exact test (Mehta & Patel, 1986) was used when expected cell frequencies were too small. Factorial analysis of variance was used for continuous outcomes. Because of heterogeneous variances, Welch’s variance-weighted analysis of variance was used to compare

CAC versus comparison means within site. Because the CACs differed in several ways, analysis was conducted within site as well as for the sample overall, so that each CAC sample was compared to its within-state comparison sample. One analysis used analysis of covariance with potential confounding variables as covariates.

Results

Methods of coordination

Results on coordination are presented in [Table 2](#).

Team interviews. We calculated the percentage of CPS cases in which at least one child interview was a “team” interview. The Pittsburgh and Dallas CACs had a significantly higher proportion of team interviews for CPS cases than their comparison communities. In the other two CACs, a minority of their cases featured team interviews. In Huntsville, it should be noted, most interviews were conducted by specialized CPS and law enforcement interviewers who were also the agency investigators, which explains the fewer observers and hence fewer teams there.

Case review. We examined the percentage of CPS cases that had at least one interagency case review meeting. Case review took place in almost all CAC cases in Huntsville, in more than three quarters of CAC cases in Dallas, and in about a third of cases in Charleston’s CAC, but was rare to non-existent in their comparison communities. In contrast, interagency case review was rare at the Pittsburgh CAC, but used in the majority of cases in the comparison community.

Audio and videotaping. As [Table 2](#) shows, the CACs in Dallas, Huntsville and Charleston all electronically recorded interviews significantly more often than their comparison communities, though the rate of recording the interview varied considerably across these CACs, in part because the solicitor (district attorney) in Charleston initially opposed the CAC’s plan to videotape. The Pittsburgh CAC did not electronically record forensic interviews, while its comparison community did so for a majority of cases.

Joint investigations. The analyses in [Table 3](#) were restricted to cases in which CPS was involved. Joint investigations in which police and CPS investigators worked together were the usual method in the Huntsville and Dallas CACs, and were much more common than in their comparison samples. Joint investigations were less common at the Pittsburgh CAC than in the comparison community, which had an explicit joint investigation protocol, and there was no difference between Charleston’s CAC and its comparison.

CPS-police involvement in interviewing. In both the Dallas and Huntsville CACs, police and CPS were significantly more likely to be involved together in a child forensic interview (either as observer or interviewer). In Dallas, the comparison community had a significantly larger proportion of cases than the CAC with separate police and CPS forensic interviews. For Pittsburgh, the comparison community, which had a program of CPS-Police coordination, had more CPS-police involvement in interviewing than the CAC. There were no significant differences between Charleston’s CAC and its comparison.

Table 2
Coordination on child sexual abuse cases with child forensic interviews

% of Cases	Dallas		Charleston		Huntsville		Pittsburgh		Overall	
	CAC <i>n</i> = 206	Comparison <i>n</i> = 156	CAC <i>n</i> = 247	Comparison <i>n</i> = 117	CAC <i>n</i> = 179	Comparison <i>n</i> = 73	CAC <i>n</i> = 77	Comparison <i>n</i> = 14	CAC <i>n</i> = 709	Comparison <i>n</i> = 360
With team interview	62 ^{***}	6	6	4	8	4	52 ^{**}	14	28 ^{***}	6
Phi	.57		.03		.08		.27		.26	
With case review	68 ^{***}	0	31 ^{***}	3	99 ^{***}	14	1 ^{***}	71	56 ^{***}	7
Phi	.70		.31		.88		.78		.48	
With video/audio tape	96 ^{***}	30	15 [*]	3	73 ^{***}	0	0 ^{***}	71	52 ^{***}	17
Phi	.70		.18		.64		.82		.33	

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

Table 3
CPS-Police Coordination on Child Sexual Abuse Cases with Child Forensic Interviews

	Dallas		Charleston		Huntsville		Pittsburgh		Overall	
	CAC <i>n</i> = 168 (%)	Comparison <i>n</i> = 95 (%)	CAC <i>n</i> = 102 (%)	Comparison <i>n</i> = 29 (%)	CAC <i>n</i> = 178 (%)	Comparison <i>n</i> = 69 (%)	CAC <i>n</i> = 54 (%)	Comparison <i>n</i> = 14 (%)	CAC <i>n</i> = 502 (%)	Comparison <i>n</i> = 207 (%)
Joint Investigation	85***	43	72	78	86***	49	74	71	81***	52
Phi	.43		.04		.38		.02		.30	
CPS-police involvement in interviewing										
Neither	2***	2	88***	6	3***	0	15***	0	26***	2
Police only	15	25	6	17	5	0	29	0	11	14
CPS only	4	34	4	61	51	79	13	50	20	55
Separately	2	29	0	7	5	3	7	0	3	14
Together	77	10	1	9	38	18	36	50	41	15
Cramer's <i>V</i>	.70		.81		.27		.47		.52	

Note: The sample for these analyses was restricted to cases in which CPS was involved. Percentages do not total 100 due to rounding.

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

In addition to the results presented in Tables 2 and 3, we examined the percentage of CAC cases that did not use any of the methods of coordination measured here. Despite greater overall coordination in CACs than in comparison communities, 29% of CPS cases at the CAC in Charleston, and 25% at the Pittsburgh CAC used no method of coordination. Some of this lack of coordination in Pittsburgh was due to the 35% of cases with first interviews that took place in other medical facilities than the CAC offices. These primarily occurred in the emergency department, and 39% of them lacked coordination. Lack of coordination was rare to non-existent in the other CACs: 0% of cases in the Huntsville CAC and 8% in the Dallas CAC.

Number of interviews

Table 4 shows the number of interviews in the CAC and comparison samples. The majority of children in both CAC and non-CAC samples had one interview, and the vast majority had no more than two. Only one case had more than four interviews.

On the mean number of interviews there was no significant difference between CAC and comparison for Pittsburgh and Dallas, and the effect sizes were small. For Charleston, the CAC had a significantly *higher* average number of interviews than the comparison. For Huntsville, the CAC had a significantly *lower* average number of interviews than the comparison (1.17–1.30). We also conducted factorial analyses of covariance within location contrasting CAC to comparison while controlling for the possible confounds of child sex, child age, race, and penetration. The differences for Charleston and Huntsville remained significant, and there were only modest discrepancies between the raw means and adjusted means.

Number of interviewers

Similarly we found that the number of interviewers for a given child was small across the CAC and comparison samples (Table 5). A single interviewer conducted all interviews in the majority of the multiple interview cases. We do not have information on the purpose and content of interviews, but it seems plausible that these additional interviews were a *continuation* of the initial interview and not a repetition of it. When there were multiple interviewers in the CAC sample, the CAC interviewer was the *last* interviewer in 93% of these cases.

Location

Table 6 presents the location of the 1,325 interviews of the 997 child victims (data on interview location was missing for 7%). The vast majority of the CAC interviews took place at the CAC facility. Other locations were used for the CAC sample either because (a) other agencies conducted interviews prior to referral to the CAC, or (b) CAC staff occasionally conducted interviews in other places than the CAC interview rooms (e.g., in the emergency room at Children's Hospital in Pittsburgh).

Police, CPS agencies, victims' homes and schools were all frequent locations of interviews in the comparison communities. The "other" category included interviews conducted in juvenile detention centers, group homes, counseling centers, therapy rooms, and shelters. In Irving, TX, many interviews in the "other" category were at the Family Advocacy Center (see above), which was designed to be a child-friendly location. Pearson χ^2 tests comparing CAC and comparison communities on location of the first interview were all highly significant.

Table 4
Number of Interviews

Number	Dallas CAC		Charleston CAC		Huntsville CAC		Pittsburgh CAC		Overall	
	CAC <i>n</i> = 206 (%)	Comparison <i>n</i> = 156 (%)	CAC <i>n</i> = 247 (%)	Comparison <i>n</i> = 117 (%)	CAC <i>n</i> = 179 (%)	Comparison <i>n</i> = 73 (%)	CAC <i>n</i> = 77 (%)	Comparison <i>n</i> = 14 (%)	CAC <i>n</i> = 709 (%)	Comparison <i>n</i> = 360 (%)
1	68	72	50	87	83	71	66	57	65	76
2	27	23	41	9	17	27	27	29	30	19
3	4	5	7	4	0	1	4	7	4	4
4	1	1	2	0	0	0	1	0	1	1
5	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	1	0	0	0
Mean	1.39	1.34	1.62***	1.17	1.17*	1.30	1.47	1.64	1.42***	1.29
<i>SD</i>	.62	.60	.71	.48	.38	.49	.90	.93	.66	.56
Cohen's <i>d</i>	.08		.70		.31		.19		.20	

Note: Percentages do not total 100 due to rounding. Cases without child forensic interviews were excluded.

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

Table 5
Number of interviewers

Number	Dallas CAC		Charleston CAC		Huntsville CAC		Pittsburgh CAC		Overall	
	CAC <i>n</i> = 206 (%)	Comparison <i>n</i> = 156 (%)	CAC <i>n</i> = 241 (%)	Comparison <i>n</i> = 117 (%)	CAC <i>n</i> = 179 (%)	Comparison <i>n</i> = 72 (%)	CAC <i>n</i> = 76 (%)	Comparison <i>n</i> = 14 (%)	CAC <i>n</i> = 702 (%)	Comparison <i>n</i> = 359 (%)
1	70	75	97	96	87	94	80	93	85	85
2	26	25	3	2	13	6	15	7	13	15
3	4	1	0	0	0	0	4	0	2	1
4	0	0	0	0	0	0	1	0	0	0
Mean	1.34	1.27	1.02*	1.08	1.13	1.07	1.26	1.07	1.17	1.16
<i>SD</i>	.55	.47	.13	.27	.34	.26	.60	.27	.42	.38
Cohen's <i>d</i>	.13		.26		.20		.34		.02	

Note: Percentages do not total 100 due to rounding.

* $p < .05$.

Table 6
Location of child interviews

	Dallas CAC		Charleston CAC		Huntsville CAC		Pittsburgh CAC		Overall	
	CAC <i>n</i> = 272 (%)	Comparison <i>n</i> = 170 (%)	CAC <i>n</i> = 393 (%)	Comparison <i>n</i> = 126 (%)	CAC <i>n</i> = 216 (%)	Comparison <i>n</i> = 71 (%)	CAC <i>n</i> = 109 (%)	Comparison <i>n</i> = 23 (%)	CAC <i>n</i> = 990 (%)	Comparison <i>n</i> = 390 (%)
CAC	85	16	99	0	64	3	56	0	83	7
CPS	1	8	0	33	1	24	2	57	1	22
Police station	1	15	1	30	1	8	0	4	1	18
School	3	21	0	6	18	41	0	17	5	19
Medical facility	5	5	0	9	6	1	28	4	6	5
Home	4	16	0	16	7	15	14	13	4	16
Other	1	20	0	6	3	7	0	4	1	12

Note: Table percentages based on aggregated data across first, second, third interviews and so forth. Significance testing on location was conducted for the first child interview, with Dallas, $\chi^2(6) = 157.828$, $p < .001$, Cramer's $V = .70$; Charleston, Fisher-Freeman-Halton exact test $p < .0001$, Cramer's $V = 1.0$; Huntsville, Fisher-Freeman-Halton exact test $p < .0001$, Cramer's $V = .63$; Pittsburgh, Fisher-Freeman-Halton exact test $p < .0001$, Cramer's $V = .82$; Overall, $\chi^2(6) = 560.514$, $p < .0001$, Cramer's $V = .75$. The distribution of locations for the first, second, third interviews and so forth was similar to the table.

Discussion

The results suggest that these CACs had a noticeable impact on investigations and forensic interviewing in child sexual abuse cases. Team interviews, videotaping of interviews, joint CPS-police investigations, and police involvement in CPS sexual abuse cases were all more common in CAC cases. The specific method of coordination varied by CAC, and some comparison communities used some coordination methods as or more frequently than their corresponding CACs. The fact that a large majority of CAC interviews were conducted at a CAC facility, whereas larger proportions of comparison interviews took place in CPS offices, police agencies, schools, and homes suggests that CACs are more likely to provide a child-friendly location. Duplicative interviewing was rare in both CAC and comparison, and there were significant differences between CAC and comparison in only two sites (one favoring the comparison community), with the biggest mean difference being about 1/2 an interview.

Coordination

Greater coordination in CACs was evident in a number of variables. Greater police involvement for CACs than comparison for Huntsville and Dallas mirrors Smith et al. (2006) finding. The police appeared not to be connected to the interview process in a number of comparison cases. In these cases, police may have relied on CPS to conduct the initial assessment and only became involved later if criminal charges seemed likely (see Cross et al., 2005). Yet the absence of criminal investigation early on may miss opportunities to collect evidence, confront perpetrators, and obtain statements from witnesses that are not available later on (Whitcomb, 1992). It is possible, however, that police investigated separately in some cases, but their efforts were not recorded in the records we had access to.

One-fourth or more cases in two of the CACs lacked any formal coordination. Both practitioners and researchers need to understand better when formal methods of coordination are used, and when these methods are needed, not needed, or actually contra-indicated. To what extent does their absence in a case reflect reduced need for coordination, insufficient resources to provide it, or some other factor?

Some circumstances preclude formal coordination. The fact that many of the interviews at the Pittsburgh CAC took place in the emergency room, many probably at off hours, makes coordination difficult. Indeed it might interfere with appropriate care to convene a team in such cases. On the other hand, formal coordination was more common for the CACs in Huntsville and Dallas because interagency case review was built into their case flow process.

Our measurement methods may have been too crude to detect all coordination that took place during investigations. Investigators often disseminate written reports and copies of tapes, or share recommendations with other professionals who could not make it to team meetings. These activities may result in considerable coordination in communities that have a substantial coordination ethic but are unable to secure attendance of CPS or police at forensic interviews because of geographic or other reasons.

Number of interviews

One possible explanation for the paucity of cases with a large number of interviews is historical change. Experts have been warning about redundant interviews for over 20 years (see, e.g., Attorney General's Task Force on Family Violence, 1984; Lamb, 1994; Pence & Wilson, 1994; Tedesco & Schnell, 1987;

Whitcomb, 1992). Professionals outside of CACs as well as inside may have heeded these warnings. To some extent, our comparison communities utilized methods for reducing the number of interviews short of creating a CAC, such as joint investigations. Investigators may also have had informal arrangements to help each other and thereby avoid multiple interviews.

Perhaps multiple interview cases were never frequent. Stories about egregious interviewing emerged in a number of communities, but there were never empirical data on the proportion of the caseload they comprised in each. The limited number of empirical studies suggests smaller numbers of interviews than the anecdotal accounts. One possible explanation for a large number of interviews is that school officials, therapists, or doctors may interview children prior to an official report. This is unlikely, however, to affect the comparison between CAC and non-CAC communities. Even if we were to find evidence of interviews conducted prior to an official report, it seems unlikely that CACs would reduce them. CACs sometimes do outreach to encourage teachers, school counselors, and others to abstain from interviewing children prior to reporting, but such outreach is difficult in the urban settings of our CACs and only the Dallas CAC makes a practice of it.

The fact that the interview at the CAC was typically the last interview in multiple interview cases suggests that subsequent interviewing by other agencies may be unnecessary once children get to the CAC.

Location of interviewing

The wide variety of locations of child interviews in the comparison communities raises questions about whether, without a CAC, children can consistently be interviewed in comfortable, neutral, private environments. Interviews in homes, a practice specifically rejected by interviewing texts, were significantly more frequent in the comparison communities. The use of schools as a venue is often explained as a necessary detour around uncooperative parents. This explanation, however, is insufficient to explain the higher proportion of school interviews in the comparison communities. Research should examine how particular constraints influence interview location (e.g., lack of suitable space vs. lack of caregiver cooperation).

Limitations

Research conducted from agency records has limitations. Some interviews may have been missing from records, we may not have accessed all records, and missing values were frequent for some interview variables. Our data abstractors sometimes had trouble identifying which interactions with children constituted forensic interviews and which did not. We did not have the resources to conduct a formal reliability assessment on the variables used in this analysis. However, the variables here represent concrete events (e.g., child forensic interview) for which, in most cases, specific documentation exists in most investigation records.

We based our research teams in the CACs because of their access to and skills in gathering information and coordinating research in multiple agencies, but it is possible that this could have introduced some bias in data collection. Yet the research teams were administratively and functionally separate from other CAC operations. Given the large effects we found on several concrete variables, and the fact that a number of results did not show an advantage for CACs, it seems unlikely that researcher bias explains differences between the CAC and comparison communities.

Our choice of better-established CACs with excellent reputations represented a trade-off, similar to the trade off between efficacy and effectiveness research (see e.g., Bombardier & Maetzel, 1999). We

intended to test the CAC model as it was meant to be implemented, free from problems with fledgling organizations and implementation difficulties. Practically, we also needed CACs with some research experience and larger client bases. However, most current CACs are less established and less resourced, and our results may not generalize well to them. A related limitation is the fact that some comparison communities used the CAC they were paired with for a small number of their cases. This would have the effect of making the CAC/non-CAC comparison more conservative. However, we did not notice any effect of this on results.

The design could also be criticized because we did not explicitly choose comparison communities for superior program development, while we chose experienced CACs. The practical difficulties of recruiting comparison communities that met other criteria discussed above made it difficult explicitly to seek communities with excellent non-CAC programs, especially since much of the program development on investigation in the United States today seems to include development of CACs. Nevertheless, several of the participating comparison communities had previously worked with the CACs on efforts to improve services for children, and many of them had developed or were developing programs to enhance investigations that resembled CACs in some ways.

Another trade-off involves the number of CACs we studied. Studying only four, we could use a wide range of data, attend more to quality control, and add a significant qualitative component. It is difficult, however, to generalize from our number of CACs to all CACs. It is typical, however, for fledgling evaluation research to concentrate on a small number of programs or even just one, postponing more generalizable results for later research (see, e.g., [Bickman et al., 1995](#)).

Conclusion

Together with other results from this project (see [Jones et al., 2007](#); [Walsh et al., 2007](#)), these findings suggest that these CACs appeared to offer a more thorough and child-oriented response to child sexual abuse reports, and families appeared to have a more positive experience on average. The advantages pertained to coordination and not number of interviews. CACs may want to consider whether this is true of their program as well and alter their “selling points” to emphasize the former and deemphasize the latter.

As with other CAC structures and practices ([Walsh et al., 2003](#)), there is no one CAC model of forensic interviewing. Communities adapt to their particular structure, history, context, and goals. Some comparison communities used joint investigations and case review at levels that rivaled or exceeded that of the CACs with which they were paired. Thus child abuse professionals and the public should not become too attached to the CAC “brand name,” but consider thoroughly the system in each community.

Much remains to be learned about the impact of Children’s Advocacy Centers on how children are interviewed, who is involved, how well interviews are done, and how work is coordinated. CACs have many goals, and often function within larger agencies that broadly address children’s well-being. CACs should not be evaluated solely on their forensic function, particularly if the service function has a higher priority.

Perhaps the most important lesson is that many elements of recommended investigation and interview practice can be widely implemented. The child abuse professional field has made considerable gains. Research must expand knowledge about best practice, make it available to all victims, and deal with system and resource issues that impede progress.

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