CACs require multi-stakeholder coordinating meetings, which meant that the same organizations—and indeed often the very same individuals—in Site A were now called upon to participate in two sets of meetings. Perhaps not surprisingly, the community momentum became stronger for the newer (child-focused) coordinating council, and our quantitative results show that very effect. The interaction of victim age group and the implementation of a child coordinating council in Site A was significantly predictive of case disposition; the addition of this variable to the model rendered the site by time by age group interaction in site effects model nonsignificant, suggesting that age-related differential changes in case referral over time at Site A could be explained by the timing of implementation of the child advocacy coordinating council at that site. In sum, our results suggest that whether a community follows a more formalized or informal model of SANE-SART integration may not be nearly as important as how a community's resources and attentions can be focused—or divided—among the many victims who want justice for the crimes they have suffered.

I. OVERVIEW

Adolescents are at substantial risk for rape and sexual assault. In the NIJ National Violence Against Women Survey (NVAWS) 6% of the adult women surveyed disclosed that they had been victims of completed or attempted rape as adolescents (Tjaden & Thoennes, 1998, 2006). Similarly, in the NIJ National Survey of Adolescents (NSA), 8% of the teens reported that they had been sexually assaulted (Kilpatrick et al., 2003). In the OJJDP National Survey of Children's Exposure to Violence, 14% of girls 14-17 years old had been victims of completed or attempted rape in their lifetime, and 6% reported that such violence had occurred in the past year (Finkelhor, Turner, Ormrod, & Hamby, 2009). In a nationally representative sample of schools, 12% of girls in 9th-12th grades reported they had experienced some form of sexual abuse and 8% had been forced into sexual activity by a dating partner (Schoen, Davis, Collins, Greenberg, Des Roches, & Abrams, 1997). In a review of smaller-scale studies, Maxwell et al. (2003) found that on average, 9% of adolescents have been sexually assaulted.

According to the National Juvenile Justice Center, adolescents 12-17 years old are the largest group of sexual assault victims and they are twice as likely to be sexually victimized as adults (Snyder, 2000; Snyder & Sickmond, 2006). Thirty-two percent of the sexual assault victims surveyed in the NVAWS were first assaulted between the ages of 12-17. Current data also indicate that rates of adolescent sexual assault may be increasing. A cohort analysis of the NVAWS revealed that younger women were more likely to report having been raped before the age of 18 than older women: "These findings suggest that the risk of being raped as a child or adolescent has increased steadily for women over the past half century" (Tjaden & Thoennes, 2006, p. 19). In addition, adolescent sexual assault substantially increases the risk for adult victimization (Fargo, 2009). In the NVAWS, women who were sexually assaulted as minors were twice as likely to report being raped as adults. Messman-Moore and Long's (2003) review of social science studies

on revictimization revealed that child/adolescent sexual assault victims are 2-11 times more likely than non-victims to be re-assaulted as adults. An effective community response at the time of first victimization in childhood or adolescence may provide the healing victims need and the deterrence perpetrators require for the prevention of subsequent assaults.

Within the past ten years, two community intervention models have emerged in an effort to increase reporting and prosecution of adolescent sexual assaults. First, Sexual Assault Nurse Examiner (SANE) programs are staffed by specially trained forensic nurses who provide 24-hours-a-day, first response crisis intervention and medical forensic exams for child, adolescent, and adult sexual assault/abuse victims (Department of Justice, 2004; Ledray, 1999). Second, many SANE programs operate as part of Sexual Assault Response Teams (SART), which are multidisciplinary community efforts that bring together police officers, detectives, prosecutors, doctors, nurses/SANEs, victim advocates, and crisis intervention counselors to coordinate and improve the community-wide response to rape (Barkhurst et al., 2002; DOJ, 2004; Hutson, 2002; Littel, 2001). To date, there have been very few studies that have empirically evaluated SANE-SARTs using methodologically rigorous research designs—and this research has focused exclusively on adult sexual assault cases.

Studies of adult survivors' experiences with SANE-SART programs suggest these interventions may contribute to increased prosecution rates (Campbell & Ahrens, 1998; Campbell et al., 2009; Crandall & Helitzer, 2003; but see Nugent-Borakove et al., 2006; Wilson & Klein, 2005 for negative or inconclusive findings). It is likely there are substantial cross-site differences in how SANE-SART programs operate in their communities, and not all interventions may result in positive legal systems change. As such, future research needs to examine the work of SANE-SARTs in a more contextually nuanced way. For instance, how does the SANE-SART function in the community? How has the intervention model changed over time, and what impact have those changes had on prosecution outcomes? SANE-SARTs are proliferating faster

than researchers are generating evaluation data to guide their implementation, so it is important to understand if, how, and under what circumstances SANE-SARTs can increase the reporting and prosecution of adolescent sexual assaults.

The purpose of this project was to examine adolescent sexual assault survivors' help-seeking experiences with the legal and medical systems in two Midwestern communities that have different models of SANE-SART interventions. These communities are comparable in many key characteristics, but differ in how their SANE programs function as part of multidisciplinary SART teams. In one community there is more formalized integration and all key stakeholders meet regularly to address system-wide protocol issues. In the other site, the SANE program sponsors multidisciplinary trainings and concentrates on one-on-one relationship building with other SART members. These differences in programmatic functioning may affect the quality of community relations, which prior research on SANE-SARTs suggests may be a mechanism through which these interventions can influence prosecution.

Specifically, the current project had two main objectives. *The first objective was to conduct qualitative interviews with adolescent sexual assault victims regarding their initial post-assault disclosures and their pathways to seeking help from the medical and legal systems.* The story of adolescent victims' experiences with formal social systems does not begin when survivors present at SANE programs or police departments—it is important to "rewind" and understand how and why teen survivors decide to seek help from these programs in the first place. Although SANE-SART interventions have tremendous promise, they are only useful in so far as they are utilized by survivors. Adolescents may have unique developmental considerations that affect their help-seeking decisions. In these interviews, we asked adolescents survivors to retrace the steps that led them to these SANE-SART programs. In addition, we explored how their initial contact with the SANE-SART personnel affected their on-going continued participation in the legal system.

The second objective was to conduct a quantitative analysis to determine what factors predict successful prosecution of adolescent sexual assault cases. Once teen victims are "in the system" what factors determine whether a case will be prosecuted? Criminal justice prosecution is a multi-step process, from reporting to referral, arrest, prosecution (which itself has many steps), and final case outcome. Rather than focusing at any one stage, we assessed progress through this system as an ordinal variable in order to capture incremental change. We examined how differences between the two SANE-SART models—and the evolution of these models over time—predicted prosecution outcomes relative to the predictive utility of victim characteristics, assault characteristics, and medical forensic evidence findings.

II. REVIEW OF RELEVANT LITERATURE

A. Adolescent Victims' Post-Assault Disclosures

In the NIJ National Survey of Adolescents (NSA), 32% of teen sexual assault victims said they had never disclosed the assault, 40% disclosed within one month, and 29% waited one month or more to disclose (Bromann-Fulks et al., 2007). Most girls (76%) but far fewer boys (48%) eventually disclosed the assault to *someone*, most typically a peer rather than an authority figure (Kogan, 2004; Nofziger & Stein, 2006). Indeed, the vast majority (81%) of first disclosures were to friends and family rather than formal system personnel such as doctors, social workers, teachers, or police (Hanson et al., 2003). Typically, the first disclosure was to a friend (39% of first disclosures) or a mother or step-mother (34% of first disclosures) (Hanson et al. 2003). In a study of women 14-23 years old who sought help from a medical center, 62% first told a girlfriend, and 10% first told a parent (Rickert, Wiemann, & Vaughan, 2005). In a hospital chart review of sexual assault victims 10-14 years old, researchers found that boys were most likely to disclose to mothers but girls to peers (Edinburgh, Saewyc, & Levitt, 2006).

The reasons why adolescent victims are more likely to disclose to informal rather than formal supports have not been well-documented. Stein and Nofziger (2008) argued that teens may be more likely to disclose to friends than parents because adolescents are likely to "have a strong network of peers and to view these relationships as the most available source of emotional support" (pp. 161). Similarly, Finkelhor and colleagues (2001) noted that because adolescence is marked by increased identification with peers and the assertion of autonomy and independence from parents, this developmental process is a contributing factor in adolescents' reluctance to involve adults.

B. Adolescent Victims' Pathways into the Legal and Medical Systems

Despite increasing rates of adolescent sexual assault and revictimization, most adolescent rapes go unreported to the criminal justice system (Finkelhor, Wolak, & Berliner, 2001). In the NSA (2003), 13% of adolescent sexual assaults were reported to police, 6% to child protective services, 5% to school authorities, and 1% to other authorities, but most assaults (86%) went unreported. Only 8% of the women in Casey and Nurius' (2006) state-wide survey who had been assaulted as adolescents reported to law enforcement. These reporting rates for adolescent sexual assaults are lower than those obtained for adults. For example, in the NVAWS, 15% of sexual victimizations were reported to police (Clay-Warner & Burt, 2005). Bachman's (1998) analysis of the National Crime Victimization Survey (NCVS) found that 25% were reported to the police. Other state-level or community-based studies of adult victims find police reporting rates from 18-39% (Campbell et al., 2001; Filipas & Ullman, 2001).

Some adolescent sexual assaults are of course reported to the police, either by the victims themselves or by someone they disclosed to, such as a parent. According to Finkelhor and Wolak (2003), crimes against juveniles are more likely to be reported if the perpetrator was an adult, if their families were encouraged to report, if the adolescent or family had prior experience with police, if the victims and/or their families believed that the report would be taken seriously, and/or if they believed the child was still in danger. Similarly, NSA data showed that victim-perpetrator relationship may impact reporting, as assaults perpetrated by a parent (57%) or a non-parent adult family member (48%) were more frequently reported than assaults committed by a friend (Stein & Nofziger, 2008). Furthermore, initial disclosures to family and friends may influence whether the assault is ultimately reported to the police. Stein and Nofziger's (2008) analysis of the NSA dataset found that adolescent victimizations that were disclosed to a friend were later reported to an official (e.g., police or child protective services, etc.) only 17% of the time, whereas incidents disclosed to a mother were officially reported 55% of the time.

Unfortunately, very few studies have examined legal case outcomes for adolescent sexual victimizations once they have been reported to the criminal justice system. Stein and Nofziger's (2008) analysis of NSA data showed that overall 13% of all sexual assault cases resulted in an arrest. When adolescents had confided in a friend as compared to their mothers, arrest was far less likely (3% compared to 24%). In a logistic regression model, after controlling for victim and case characteristics, confiding in a mother was the only significant factor that increased likelihood of arrest. An arrest was also more common in cases when the offender was a non-parental adult relative (27%). Only 5% of cases perpetrated by a parent or step-parent, 5% of cases perpetrated by a friend, and 3% of cases with a child perpetrator resulted in arrest (Stein & Nofziger, 2008). Beyond the stage of arrest, no studies to date have examined prosecution rates specifically for adolescent victimizations. Research on child sexual abuse prosecution often includes victims between the ages of 12-17, and reviews of this literature suggest that 40-85% of reported cases are successfully prosecuted (see Cross, Walsh, Simone, & Jones, 2003). The specific rates for teens 13-17 are unknown. In addition, factors predicting successful prosecution of adolescent sexual victimizations have not yet been examined.

C. SANE-SART Interventions for Adolescent Sexual Assault Victims

Sexual Assault Nurse Examiner (SANE) Programs and Sexual Assault Response Teams (SARTs) are community interventions that seek to improve the systemic response to sexual assault by providing comprehensive care to victims and coordinating efforts of the legal, medical, mental health, and rape crisis/advocacy systems. SANE programs provide 24-hour-a-day, first response crisis intervention and medical forensic exams for child, adolescent, and adult sexual assault/abuse victims (Department of Justice, 2004; Ledray, 1999). The first SANE programs emerged in the 1970s, and expanded rapidly throughout the 1990s, now numbering over 400 throughout the United States (Ledray, 2005). To become a SANE, nurses typically complete 40 hours of classroom training on evidence collection techniques, use of

specialized equipment, chain-of-evidence requirements, expert testimony, injury detection, pregnancy and STI screening, and crisis intervention. An additional 40-96 hours of clinical training is also needed, and continuing education is often required by local programs (Department of Justice, 2006; Ledray, 1999). Many SANE programs operate as part of multidisciplinary response teams (SARTs) to bring together police officers, detectives, prosecutors, doctors, nurses/SANEs, victim advocates, and crisis intervention counselors to promote coordination and collaboration among stakeholders and improve the overall community response to rape (Barkhurst et al. 2002; Johnston, 2005; Littel, 2001; Zajac, 2006). In practice, SARTs vary in how they are structured and function. Some SARTs follow an institutionalized model of formalized multidisciplinary meetings to promote communication among stakeholders, and identify strategies for improving their community's response to sexual assault (Ledray, 2004). By contrast, some SARTs function primarily through informal networking and communication among stakeholders (Ledray, 2004; Zajac, 2006). Whether they function in a more formalized or informal manner, SARTs engage in a variety of activities, including, but not limited to: multidisciplinary cross-trainings to share expertise and perspectives; protocol and policy development to standardize the desired response to sexual assault; case review to monitor and coordinate the response to individual sexual assault cases; and community education about sexual assault and resources for survivors (DOJ, 2004; Zajac, 2006).

A major question for researchers, practitioners, and policy makers is whether SANE-SARTs can have a positive impact on prosecution rates. There is very limited empirical research on this topic (all with adult cases), and so far findings across studies have been mixed. With respect to research on *SANE programs specifically*, Crandall and Helitzer (2003) compared prosecution rates in a New Mexico jurisdiction before and after the implementation of a SANE program. Victims treated in the SANE program were significantly more likely to report incidents to police, more charges were filed post-SANE compared to pre-SANE, and conviction rates for SANE cases were also significantly higher, resulting in longer average

sentences. A more recent NIJ-funded study by Campbell and colleagues (2009) also found significant increases in prosecution post-SANE compared to pre-SANE rates, and that the underlying mechanisms of the intervention's effectiveness was due to changes in broader systemic relationships among key stakeholders in the community over time.

Studies of *SART-only approaches* have yielded mixed findings. In an NIJ-funded study of a Rhode Island SART, Wilson and Klein (2005) found that SART cases were no more likely to be prosecuted than non-SART cases. By contrast, in Campbell and Ahrens' (1998) national study, victims in communities with SARTs were more likely to have their cases prosecuted than victims in communities without coordinated response teams. However, the Campbell and Ahrens study did not specifically assess the involvement of SANEs in the different SART models, and therefore these data may not reflect SANE-SART interventions in many instances.

As mentioned previously, many SANEs work within the context of SARTs, so it is also important to study the joint impact of the *SANE-SART model*. In their NIJ-funded work, Nugent-Borakove et al. (2006) compared prosecution rates across three jurisdictions—one with a SANE only, one with a SANE-SART, and one having no SANE or SART—and SANE-SART cases were most likely to result in arrest and charges being filed. However, they also found that victim participation was lowest in the SANE-only cases, but their data do not explain the process mechanisms for why that might have occurred.

The current literature on adult SANE-SART interventions suggests they may be quite promising, but there are three unresolved issues that must be examined in future work. First, no published studies exist on the reporting and prosecution of *adolescent* sexual assault cases in SANE, SART, or SANE-SART interventions, and this gap must be addressed because multiple national data sources (e.g., NVAWS, NSA, NJJC) indicate adolescence is a peak risk period for sexual victimization. Most SANE-SART programs serve adolescent victims (DOJ, 2004), and patients aged 13-17 comprise, on average, 40% of SANE

programs' caseloads (Campbell et al., 2005). SANEs can play an important role in adolescents' recovery as Danielson and Holmes (2004) noted: "With the national trend encouraging the use of Sexual Assault Nurse Examiners, nurses are often some of the first individuals to have contact with an adolescent after a sexual assault . . . in this setting, good nursing care can provide a strong safety net for teens" (p. 387).

Second, research must explore adolescent victims' help-seeking within a developmental context. How do teen victims seek formal help at a time in their lives when they are establishing autonomy and independence from adults? SANE-SARTs have the potential to be quite helpful, but that benefit will not be realized if adolescent victims do not find their way into these programs. It is probable that supportive players, such as family and friends, help direct adolescents to seek formal help. From the adolescents who have received SANE-SART care, we need to understand what (and who) led them to these programs.

Third, given the rapid diffusion of SANE-SART programs, it must be assumed there are different kinds of community interventions from which teen victims may seek help, and yet, we know very little about this variability and its implications for the care of adolescent survivors. Previous work has studied SANE programs without accounting for their possible role in SARTs, or has examined SARTs without accounting for unique work of SANEs. Only one study compared SANE-SARTs to SANE-only (Nugent-Borakove et al., 2006), but this project did not capture variations *within* SANE-SART models of operation. No studies have yet examined specific structural and functional variations in SANE-SART interventions in relation to criminal justice system case processing. Is a model of formally integrated coordination more effective than loosely structured collaborations? How do these intervention models change over time as they operate in their communities, and how do those changes affect legal system impact? Research is needed that examines which structural and functional elements are most helpful to criminal justice prosecution.

III. THE CURRENT PROJECT

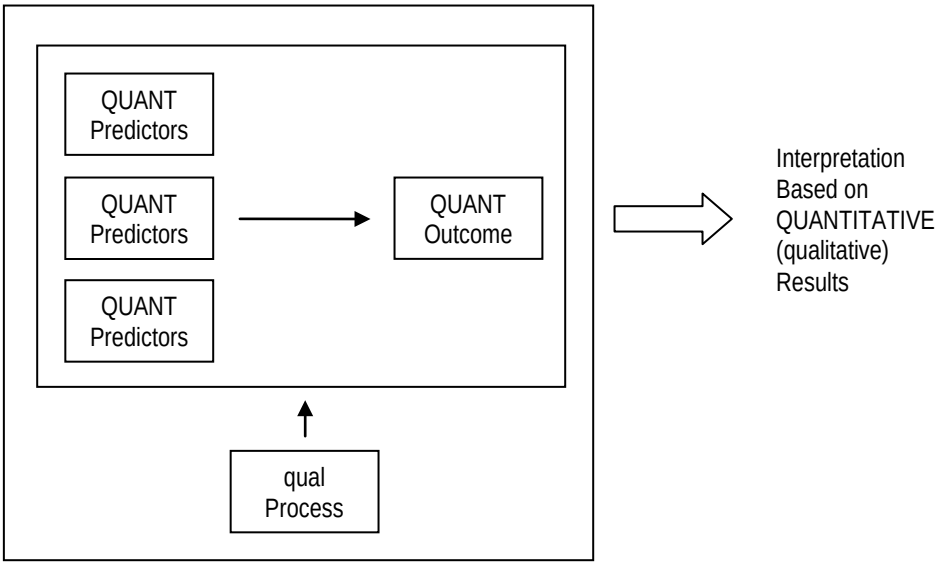
A. Research Design

Our first objective was process-focused regarding how teen victims decided to seek help and their pathways into SANE programs and the criminal justice system, but our second objective was outcome-focused regarding prosecution rates and the factors that predict successful case outcomes. As such, a mixed methods design was necessary to address these dual interests. In recent years, the mixed methods literature has developed a comprehensive taxonomy of mixed methods designs (see Creswell & Plano Clark, 2007; Tashakkori & Teddlie, 2003 for reviews). Briefly, mixed methods designs vary by the timing or sequence of different methods and their intended function or purpose. With respect to timing, mixing can occur within the same study (usually termed '*parallel*' or '*simultaneous*'), or across studies within a series (usually termed '*sequential*'). In this project, timing was simultaneous: we collected qualitative interviews from current adolescent sexual assault patients treated in the focal SANE programs, and at the same time, we tracked down legal case outcomes for previously-treated patients. It can take 18 months (and often longer) for cases to filter through the criminal justice system, which necessitated parallel data collection. As to function, researchers must sort out why they need both methods and what they hope to gain from their integration. In some circumstances, *exploration* is the purpose, which is particularly common in new areas of inquiry where there are no guiding frameworks, theories, measures, or instruments. By contrast, both methods may be needed for *explanation*—the findings generated through one method need to be unpacked further using a different method for a more complete understanding of the results. Methods may also be *triangulated* to compare and contrast findings obtained through each method to see if findings converge. As previously noted, adolescent survivors' experiences in the criminal justice system have been under-studied; as such, an exploratory approach was warranted in this project.

Embedded mixed methods designs are an appropriate choice for simultaneous, exploratory data collection. Embedded designs are studies "in which one data set provides a supportive, secondary role in a study based primarily on the other data type. The premises of this design are that a single data set is not sufficient, *that different questions need to be answered, and that each type of question requires different types of data*" (Creswell & Plano Clark, 2007, p. 67, emphases added). Most typically, qualitative work is embedded within a study that is primarily quantitative. There are many variations of embedded designs, but the option most adaptable to the current project is the embedded correlational design (see Figure 1). In this design, the quantitative component focuses on prediction of outcomes and qualitative process data are collected to shed light on hypothesized mechanisms within the quantitative model.

FIGURE 1

Embedded Correlational Design



We modified the embedded correlational design for use with quasi-experimental methodology (see Figure 2). Our quantitative component was a quasi-experimental contrast of two Midwestern communities with different models of SANE-SART functioning. The predictive utility of victim, case, and evidentiary characteristics was evaluated relative to SANE-SART features to understand prosecution case progression