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A Systems Change Analysis of SANE Programs:

Identifying the Mediating Mechanisms of Criminal Justice System Impact

2005-WG-BX-0003

FINAL REPORT

January 23, 2009

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EXECUTIVE SUMMARY

The purpose of this project was to determine whether adult sexual assault cases in a Midwestern community were more likely to be investigated and prosecuted after the implementation of a Sexual Assault Nurse Examiner (SANE) program, and to identify the “critical ingredients” that contributed to that increase. Informed by a systems change theoretical model, the interrelationships between SANEs, legal professionals, victim advocates, and victims/survivors were examined as it is these linkages that may be instrumental to increased prosecution rates. The design of this project combined quasi-experimental quantitative methods to measure objective indices of change with qualitative methods to capture the processes that produce those changes. Police and court records, in addition to in-depth interviews with police, prosecutors, victims/survivors, and forensic nurses, were the primary data sources for this project.

The first goal of this study was to examine whether adult sexual assault cases were more likely to be investigated and prosecuted after the implementation of a SANE program within the focal county. In *Study 1*, we used a rigorous quasi-experimental design to determine whether there was a change in prosecution rates pre-SANE to post-SANE. We collected N=156 pre-SANE hospital cases from January 1994 to August 1999, and N=141 SANE cases from September 1999 to December 2005 that were equivalent on multiple criteria, except that the pre-SANE cases were examined by hospital emergency department personnel and the post-SANE cases were examined in the focal program. Using longitudinal multilevel ordinal regression modeling, we found that case progression through the criminal justice system significantly increased pre- to post-SANE: more cases reached the “final” stages of prosecution (i.e., conviction at trial and/or guilty plea bargains) post-SANE. These findings are robust after accounting for changes in operation at the focal county prosecutors’ office and seasonal variation in rape reporting.

To understand whether implementation of the SANE program affected criminal justice system case processing, we also needed to explore what factors predict case progression. What makes some cases

more or less likely to move further through the system? Therefore, in *Study 2*, we tested a model that compared the predictive utility of victim characteristics (e.g., race, age), assault characteristics (e.g., victim-offender relationship), and forensic medical evidence (e.g., injury, DNA) in explaining case progression in the post-SANE era (N=141). In the hierarchical ordinal regression models, two victim characteristics were significant: survivors between the ages of 18 and 21 (i.e., younger women in the sample) were significantly more likely to have their cases move to higher case disposition outcomes; and alcohol use by the victim prior to assault significantly decreased the likelihood that the case would be prosecuted. Two assault characteristics were significant: penetration crimes (vs. fondling crimes) and assaults in which the offender was an intimate partner/husband, ex-intimate partner/husband, dating partner, or family member (i.e., stronger relationship bonds between the victim and offender) were more likely to advance to higher disposition levels. After accounting for these victim and assault characteristics, medical forensic evidence could still predict significant variance in case outcomes. The more delay there was between the assault and when the survivor had the medical forensic exam, the less likely the case would progress through the system. Positive DNA evidence significantly increased the likelihood of case progression. With respect to specific findings in the medical forensic evidence exam, physical or anogenital redness was associated with increase likelihood of case progression.

The second goal of this study was to understand why there was an increase in criminal justice system case progression after the implementation of the SANE program: what are the mediating mechanisms that contributed to these changes? To identify these mechanisms, we conducted in-depth interviews with law enforcement personnel and prosecutors regarding their perceptions of how the emergence of the SANE program affected their work investigating and prosecuting adult sexual assault cases. In addition, we looked for objective, behavioral indicators of changes in law enforcement investigations as a critical gateway into the criminal justice system. We examined whether written police

reports for sexual assault cases were substantively different after the emergence of the SANE program, and whether SANE involvement in cases affected the quality of law enforcement investigations.

In *Study 3*, we interviewed N=9 law enforcement supervisors from five largest police agencies within the focal county (these were the same five departments from which the Study 1 and 2 cases were drawn), and all N=6 prosecutors in the focal county sex crimes prosecution unit to understand their experiences with the focal SANE program and assess their perceptions of how investigation and prosecution has changed in this community in the post-SANE era. The findings of study indicated that the SANE program has been instrumental in the creation of more complete, fully corroborated cases. With the medical forensic evidence safely in the hand of the SANEs, law enforcement put more investigational effort into other aspects of the case. The training and on-going consultation provided by SANEs often suggested investigational leads that law enforcement could pursue to further develop a case. As a result, the cases that are put forward to prosecutors reflect the collective efforts and expertise of law enforcement and the SANEs, and not surprisingly, the cases *are* stronger. Consequently, prosecutors are more inclined to move forward with charging cases, and over time, the prosecution rates did increase.

These qualitative findings were replicated and triangulated with quantitative data in *Study 4*. We conducted a quantitative content analysis of N=352 police reports collected from three of the law enforcement agencies examined in Study 1 and 2. This sample of police files included all reported sexual assaults from 1995-2005 (pre-SANE data from 1994 were not available), so some of these cases had SANE involvement and others did not. Results from the multilevel logistic regression models revealed multiple significant mediated effects indicating that SANE involvement in a case was associated with increased law enforcement investigational effort, which in turn predicted case referral to prosecutors. Specifically, in cases in which the victim had a medical forensic exam, police collected more kinds of *other* evidence to support the case, which was associated with increased likelihood of case referral. In addition, in cases where SANE conducted a suspect exam, police were also more likely to collect other evidence to

support the case, and more likely to interview the suspect, both of which were associated with increased likelihood of case referral. In other words, evidence begets more evidence: the medical forensic evidence collected by SANEs may suggest specific leads that law enforcement can follow-up on to obtain more evidence, and/or the efficiency of the SANE program frees up law enforcement time to obtain other evidence. The additive effect of evidence from the SANEs plus the evidence collected by law enforcement created more complete documentation of the crime.

In *Study 5*, we conducted in-depth qualitative interviews with N=20 victims/survivors who received post-assault medical forensic exams in the focal SANE program. The vast majority of survivors characterized their experiences at the SANE program as positive, empowering, and healing. The nurses and advocates worked together as a team to help survivors begin the process of reinstating control over their bodies and their lives. The program links survivors to advocacy and support services at the rape crisis center (with which this SANE is organizationally linked) so that they have the resources they need to focus on their own well-being and recovery. This attention to helping survivors heal indirectly affected their willingness to participate in legal prosecution. When survivors are not as traumatized, they are more willing and capable of participating in the prosecution process. In addition, survivors often had questions about the medical forensic exam and the process of criminal prosecution, and when SANE program nurses and advocates provided patients with this information, it gave survivors more hope and confidence about their legal cases, which also indirectly contributed to increased victim participation.

However, positive experiences with the SANE program did not guarantee that survivors would have similarly positive experiences with the legal system. The survivors interviewed in Study 5 had three distinct patterns of experiences with the criminal justice system. First, there were cases in which the victim wanted the case to be prosecuted, but criminal justice system personnel did *not* prosecute the case, which we termed "*rejected cases*" (n=7). These survivors described their experiences with the legal system as hurtful, disappointing, and disempowering. Second, in some cases, the victims wanted the case dropped,

but the criminal justice system personnel forwarded the case despite the victims' expressed desire to drop (termed "*dragged cases*") (n=4). These survivors also characterized their contact with the legal system as frustrating, disempowering, and hurtful. It appeared that law enforcement (and the forensic nurses) had serious concerns about potential lethality in these cases, and therefore, did not respect victims' wishes not to pursue prosecution. Finally, there were cases in which the criminal justice system's response matched the victims' wishes (termed "*matched cases*") (n=9). These survivors had positive experiences with law enforcement, noting that the care and empathy they received from police helped them participate more fully in the investigation and prosecution process.

In the last study in this project, *Study 6*, we interviewed N=6 of the forensic nurses in the focal SANE program regarding their work with their patients and with local law enforcement. This SANE program maintains a philosophy that patient care—not supporting law enforcement or building legal cases—is their primary goal. This SANE program does not pressure their patients to report to law enforcement, and instead they emphasize that it is the survivors' choice and either way, the forensic nurses will be there to care for them. Therefore, it is entirely consistent with this SANE program's practice that we did not find a direct link between SANE involvement and victim participation—there should not be. The forensic nurses' role is to provide care to their patients, and as it turns out, this can have an *indirect* benefit on victim participation in the criminal justice system. In SANEs' work with law enforcement, the evidence collected from victims and suspects, and all accompanying documentation, was made immediately and easily accessible to law enforcement so that it could be used to inform their investigation. In their on-going case consultations with police, the forensic nurses provided information about medical forensic evidence in general, and injuries in particular, and encouraged law enforcement to conduct a thorough investigation of the case, regardless of the medical forensic evidence findings. These findings are consistent with the Study 3 and 4 results that SANE involvement in a case is associated with increased investigational effort.

In conclusion, this twelve year analysis of criminal justice system case outcomes revealed that more cases were moving through the system to higher levels of disposition (i.e., guilty pleas or guilty convictions) after the implementation of a SANE program. The quasi-experimental design and supplemental data collection used in this project allow us to conclude that these effects are reasonably attributable to the efforts of the SANE program and not due to other changes over time in this community. The SANE programs' work with law enforcement and their patients, though separate and philosophically distinct, is mutually reinforcing and provides instrumental resources for successful case prosecution.

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I. OVERVIEW

Sexual assault is a pervasive social problem that has been linked to multiple long-term negative outcomes, such as psychological distress, repeated sexual victimization, physical health problems, and difficulties in life functioning (Koss, Bailey, Yuan, Herrera, & Lichter, 2003).¹ Epidemiological data suggest that at least 17% of women will be sexually assaulted in their adult lifetimes (Tjaden, & Thoennes, 1998, 2006); however, most victims/survivors do not report to law enforcement (Bureau of Justice Statistics [BJS], 2007). Even when victims do contact the police, previous studies indicate that only 18%-44% of all reported incidents are referred to prosecutors; of those referred reports, prosecutors issue warrants in 46%-72% of the cases (Bouffard, 2000; Campbell, Wasco, Ahrens, Self, & Barnes, 2001; Chandler & Torney, 1981; Crandall & Helitzer, 2003; Frazier & Haney, 1996; Galvin & Polk, 1983; LaFree, 1980; Spohn & Horney, 1993; Spohn, Beichner, & Davis-Frenzel, 2001). Overall, only 14% to 18% of all reported sexual assaults are prosecuted (see Campbell, 2008a and Spohn, 2008 for reviews).

To address these problems, communities throughout the United States have implemented multidisciplinary response interventions to try to improve post-assault care for victims and also increase reporting and prosecution rates (Campbell, 2008b). One such model is Sexual Assault Nurse Examiner

¹ To clarify the meaning of key terms used throughout this report: 'rape' refers to an unwanted act of oral, vaginal, or anal penetration committed by the use of force, threat of force, or when incapacitated; 'sexual assault' refers to a broader range of contact and non-contact sexual offenses, up to and including rape (see Koss & Achilles, 2008). The studies in this project included both rape and sexual assault cases. Second, there are multidisciplinary differences in the terms used to refer to those who have been raped/sexually assaulted: law enforcement and prosecutors tend to use the term 'victim' to reflect the criminal nature of this act; forensic nurses often use the term 'patient' to reflect their primary role of providing health care to these individuals; rape crisis center advocates and mental health professionals use 'survivor' to convey the strength of those who have been raped/sexually assaulted. In this report, we use the term favored by each discipline when presenting the data collected from members of that discipline (e.g., 'victim' in the context of data from law enforcement; 'patient' in the context of data from forensic nurses). Otherwise, we use the terms 'victim' and 'survivor' interchangeably to reflect that this is a study of legal outcomes and that it takes tremendous strength to go through the process of prosecution.

(SANE) Programs whereby specially trained nurses (rather than hospital emergency department physicians) provide comprehensive psychological, medical, and forensic services for sexual assault victims (Ledray, 1999; Littel, 2001). Sexual assault forensic nurses are trained to offer crisis intervention and emotional support, health care (e.g., sexually transmitted infection [STI] screening and prophylaxis, pregnancy testing and emergency contraception), injury detection and treatment, and state-of-the-art forensic medical evidence collection (Department of Justice, 2006; Ledray, 1997, 1999). In addition, SANEs work with the police and prosecutors in their communities for on-going case consultation and can testify as expert witnesses should a case go to trial. SANE programs are a vital resource to both sexual assault survivors and the legal community, which raises the question: Do SANE programs have an impact on prosecution rates in their communities? ²

Numerous case studies suggest that SANEs are helpful to police and prosecutors (Aiken & Speck, 1995; Cornell, 1998; Hutson, 2002; Ledray, 1992; Littel, 2001; Seneski, 1992) but only two studies have rigorously tested the hypothesis that SANE programs increase prosecution (Crandall & Helitzer, 2003; Nugent-Borakove et al., 2006). Both projects found that SANE interventions are associated with higher prosecution rates, but the methodology of these studies left some unanswered questions regarding the extent to which the increased rates were directly attributable to the implementation of the SANE program. In addition, researchers, practitioners, and policy makers need to understand the mediating mechanisms of

² The effectiveness of SANE programs can be conceptualized in multiple ways, including their impact on victims' psychological recovery and physical health and well-being (see Campbell, Patterson, & Lichty, 2005 for a comprehensive review). Indeed, given that patient care is a core focus in forensic nursing, such attention to legal outcomes may not be consistent with how the forensic nursing community would define their effectiveness. However, program evaluation research consistently indicates that multi-faceted interventions often lead to multiple, diverse outcomes (Rossi, Lipsey, & Freeman, 2004). Thus, an intervention developed and practiced under a particular guiding philosophy can "cross over" to have an impact on outcomes that are not central to its core themes. If such wide-reaching effects are evident, this does not necessarily call into question the fidelity of the practice to the guiding philosophy (though that should be examined), but rather suggests that the intervention is part of an interdependent system and has broad-based impact.

how and why SANE programs increase prosecution rates. It is possible that communities could implement SANE programs with the hopes of achieving higher prosecution rates, but such effects fail to materialize. Why do rates change and what are the “critical ingredients” necessary for such changes? Such information is crucial because SANE programs are proliferating much faster than researchers are generating evaluation data to guide their implementation. In light of the fact that there are now over 475 SANE programs in the United States and its territories (IAFN, 2008) and they are quickly becoming “the” model of care for sexual assault victims (Campbell, Patterson, & Lichty, 2005), the importance of research linking elements of practice to case outcomes cannot be overstated.

The purpose of this project was to determine whether adult sexual assault cases in a Midwestern community were more likely to be investigated and prosecuted after the implementation of a SANE program, and to identify the “critical ingredients” that contributed to that increase (if indeed there was an increase). Informed by a systems change theoretical model (Foster-Fishman, 2004; Foster-Fishman, Nowell, & Yang, 2007; Foster-Fishman, Salem, Allen, & Fahrback, 1999; Foster-Fishman, Salem, Allen, & Fahrback, 2001; Klein & Sorra, 1996; Kozlowski & Klein, 2000), the interrelationships between SANEs, legal professionals, victim advocates, and victims/survivors were examined, as it is these linkages that may be critical in explaining how and why SANE programs can increase prosecution rates. The design of this project combined quasi-experimental quantitative methods to measure objective indices of change with qualitative methods to capture the processes that produce those changes. Police and court records, in addition to in-depth interviews with police, prosecutors, victims/survivors, and SANEs, were the primary data sources for this project. Based on our findings, we also developed a practitioner-oriented Toolkit that outlines a step-by-step process for other communities to assess what kinds of changes have taken place post-SANE and what factors are most critical in their communities that contributed to that success.

II. REVIEW OF RELEVANT LITERATURE

A. The Role of Sexual Assault Nurse Examiner (SANE) Programs

When sexual assault victims/survivors seek professional help after an assault, they are most likely to be directed to the medical system, specifically hospital emergency departments (ED) (Resnick, Holmes, Kilpatrick, Clum, Acierno, Best, & Saunders, 2000). The survivor's body is a crime scene and due to the invasive nature of sexual assault, a medical professional, rather than a crime scene technician, is needed to collect the evidence. Over the years, both researchers and rape victim advocates have noted numerous problems with this ED-based approach to post-assault health care and forensic collection (Campbell, 2008a; Campbell & Bybee, 1997; Campbell & Martin, 2001; Martin, 2005). Many ED physicians are reluctant to perform the rape exam (Martin, 2005) and most lack training specifically in forensic evidence collection procedures (Littel, 2001). As a result, many rape kits collected by ED doctors are done incorrectly and/or incompletely (Littel, 2001; Sievers, Murphy, & Miller, 2003). In addition to these problems with evidence quality, emerging research indicates that many rape victims are re-traumatized by post-assault ED exams, which often leaves them feeling more depressed, anxious, blamed, and reluctant to seek further help (Campbell, 2005, 2006; Campbell et al., 2001; Campbell & Raja, 1999, 2005; Campbell, Sefl, Barnes, Ahrens, Wasco, & Zaragoza-Diesfeld, 1999). These negative experiences have the unintended effect of decreasing victims' willingness to participate in law enforcement investigations and legal prosecution (Campbell, 1998; Campbell & Raja, 2005). Practitioners from the legal, medical, and advocacy communities readily agreed that a new approach to post-assault care was needed, one that would attend to victims' forensic legal issues as well as their psychological and medical needs.

In response, SANE programs were created in the 1970s by the nursing profession, in collaboration with rape crisis centers/victim advocacy organizations, and grew in rapid numbers during the 1990s (Department of Justice, 2004; Ledray, 1999; Littel, 2001). These programs were designed to circumvent problems with traditional hospital emergency department care by having specially trained nurses, rather

than doctors, provide 24-hour, first-response psychological, medical, and forensic care to sexual assault victims/survivors. SANE programs are staffed by registered nurses or nurse practitioners who have completed a minimum of 40 hours of classroom training and 40-96 hours of clinical training, which includes instruction in evidence collection techniques, use of specialized equipment (e.g., colposcope), injury detection methods (e.g., Toluidine blue dye), pregnancy and STD screening and treatment, chain-of-evidence requirements, expert testimony, and sexual assault trauma response (Department of Justice, 2006; Ledray, 1997, 1999). Most SANE programs are hospital-based (e.g., emergency departments) (75-90%), but some are located in community settings (10-25%) (e.g., clinics or rape crisis centers) (Campbell et al., 2005; Logan, Cole, & Capillo, 2007). Nearly all programs serve adolescents and adults, and approximately half serve pediatric victims/survivors as well (IAFN, 2008).

SANE programs strive "to minimize the physical and psychological trauma to the victim and maximize the probability of collection and preserving physical evidence for potential use in the legal system" (Young et al., 1992, p. 878). To address victims/survivors' psychological needs, SANEs focus on treating victims with dignity and respect to ensure that they are not re-traumatized by the exam (Campbell, Patterson, Adams, Diegel, & Coats, 2008). Many SANE programs work with their local rape crisis centers so victim advocates can provide emotional support (Hatmaker et al., 2002; Littel, 2001; Taylor, 2002). This delineation of roles is critical because rape victim advocates can offer victims/survivors confidentiality whereas SANEs may have to testify in court about their communications with survivors (Littel, 2001). To attend to victims/survivors' physical health needs, SANEs treat victims' injuries, offer emergency contraception for those at risk of becoming pregnant, and provide prophylactic antibiotics to treat STIs that may have been contracted in the assault (Campbell et al., 2006; Ledray, 1999).

For the forensic evidence collection itself, most SANE programs utilize specialized equipment, such as a colposcope, which is a non-invasive, lighted magnifying instrument used for examining the anogenital area for the detection of microlacerations, bruises, and other injuries (Voelker, 1996). A camera

is attached to the colposcope to document anogenital injuries (Lang, 1999). Toluidine blue dye can also be used for trauma identification by enhancing the visualization of microlacerations (Ledray, 1999). The forensic evidence collected by the SANEs is typically sent to the state crime lab for analysis. If a case is prosecuted, SANEs may provide expert witness testimony (Campbell et al., 2007; Ledray & Barry, 1998).

SANEs nurses provide extensive post-assault services for rape victims/ survivors, but truly comprehensive care involves the efforts of multiple service providers. Many SANE programs today operate as part of multidisciplinary response teams (e.g., Sexual Assault Response Teams [SARTs]) or coordinated community response initiatives (Hutson, 2002; Littel, 2001). Recognizing the importance of collaboration, some states require all SANE programs who apply for state funding to have a multidisciplinary team to oversee the implementation (Littel, 2001). Many SANE programs continue to work closely with the members of the multidisciplinary team after implementation to review cases and verify that victims/survivors received comprehensive care (Littel, 2001). Some SANE programs also offer formalized multidisciplinary trainings on sexual assault that address strategies for working effectively with survivors, why injuries may or may not be present, and how forensic evidence can be used in law enforcement investigations and prosecution (Littel, 2001; Stone, Henson, & McLaren, 2006).

B. The Impact of SANE Programs on Criminal Justice System (CJS) Case Outcomes

SANEs provide law enforcement personnel and prosecutors with valuable resources, including but not limited to state-of-the-art medical forensic evidence, so it is reasonable to ask whether this intervention model has a positive impact on prosecution rates. Several case studies suggest that SANE programs increase arrest and prosecution rates (Aiken & Speck, 1995; Arndt, 1988; Cornell, 1998; Hutson, 2002; Ledray, 1992; Littel, 2001; O'Brien, 1996; Seneski, 1992; Solola, Scott, Severs, & Howell, 1983). However, these evaluations did not include comparison groups or other methodological controls, so it is difficult to know whether the reported rates were significantly higher and attributable to the efforts of the SANE program. To date, only two studies have rigorously evaluated whether SANE programs increase prosecution.

With respect to research specifically on SANE interventions, Crandall and Helitzer (2003) used a quasi-experimental pre-post design to compare prosecution rates in a New Mexico jurisdiction two years before to three years after the implementation of a SANE program. Their results indicated that significantly more victims/survivors treated in the SANE program reported to the police than before the SANE program was launched in this community (72% vs. 50%) and significantly more victims/survivors had evidence collection kits taken (88% vs. 30%). Police filed more charges of sexual assault post-SANE as compared to pre-SANE (7.0 charges/perpetrator vs. 5.4). The conviction rate for charged SANE cases was also significantly higher (69% vs. 57%), resulting in longer average sentences (5.1 vs. 1.2 years).

These results are quite promising, but it is important to note that this New Mexico community may be somewhat atypical: the pre-SANE conviction rates were substantially higher than published reports (38% vs. 17% typically) and post-SANE rates were higher still, which raises the question whether such effects are possible in communities with lower starting conviction rates. In addition, it was unclear the extent to which the pre- and post-SANE cases were comparable (e.g., same jurisdictions/law enforcement agencies, similar kinds of sexual assault cases), which is critical for the methodological rigor of quasi-experimental designs (Shadish, Cook, & Campbell, 2002). If the pre- and post-cases differ in multiple ways, not just whether they were processed before or after the implementation of the SANE program, it is not possible to draw causal inferences. These issues were not directly addressed in the Crandall and Helitzer project, so whether the increased rates can be attributed to the SANE program is unresolved.

In the second study, Nugent-Borakove and colleagues (2006) collected case data from victims who received SANE-SART interventions (in a New Jersey county and a Kansas county, combined), a SANE-only intervention (in a Massachusetts county), and those who received no SANE or SART intervention (from the same New Jersey, Kansas, and Massachusetts counties). In the SANE-SART intervention cases, more types of evidence (e.g., sexual assault medical forensic kits, DNA, clothing, other fibers, photographs) were collected than in the other two groups. However, with respect to DNA evidence specifically, SANE-

SART cases had DNA collection only 37% of the time, as compared to 97% of the time in SANE-only interventions. The SANE-SART intervention cases were more likely to result in arrest, charges being filed, and case convictions, but in multivariate analyses, the effect for intervention type became non-significant when victim participation and victim/offender relationship were controlled. Victim participation was highest in the SANE-SART intervention group, but victim participation was significant in its own right, meaning that higher levels of victim participation—irrespective of the intervention approach the victim received or did not receive—predicted case convictions. Victim participation was lowest in the SANE-only approach, but the underlying reasons for these effects were not examined.

The findings from this study suggest that the *absence* of SANE and/or SART interventions was clearly associated with less successful legal case outcomes, but the results were less clear regarding the relative utility of the SANE-SART or SANE-only intervention. It is difficult to ascertain the extent to which the three groups in fact received different interventions (i.e., were mutually exclusive). For example, it appears that one site yielded both SANE-SART cases and non-SANE-SART cases. Usually when a community/county implements a SANE, SART, or SANE-SART, it becomes “the” model within the community and all or virtually all cases are treated within that intervention approach. It is unclear whether there were multiple cities or hospitals within this site that used different interventions, or whether the cases reflect different years within the focal county whereby older cases were non SANE-SART and more recent cases were SANE-SART. Either way, it does not appear that this study accounted for within site heterogeneity, within or across site comparisons, or effects over time (i.e., case year) making it impossible to know how different state laws, jurisdictional variability, and local community contexts may have affected the obtained results; as such, the findings need to be interpreted with caution.

C. The Mechanisms of Systems Change

Current data suggest that in some communities SANE programs can positively impact legal case outcomes. A critical next step is to identify the mediating mechanisms of how and why these programs

increase prosecution rates in order to identify “critical ingredients” necessary for such change. A systems change theoretical model can provide a useful framework for investigating these mediating mechanisms (Foster-Fishman, 2004; Foster-Fishman et al., 1999, 2001; Foster-Fishman, Nowell, & Yang, 2007; Klein & Sorra, 1996; Kozlowski & Klein, 2000). This theory conceptualizes social service organizations as units embedded in multi-level networks and focuses on understanding change processes within interorganizational networks (Foster-Fishman et al., 2007; Kozlowski & Klein, 2000). Information, resources, and expertise are exchanged among members of the network to create change throughout the entire system (Foster-Fishman et al., 2001; Klein, Palmer, & Conn, 2000). Foster-Fishman and colleagues (2007) noted that many systems have particularly influential actors whose participation in the system (or lack thereof) can have dramatic effects on system outputs. Applying these theoretical tenets to study of SANE programs suggests that we need to examine interrelationships among SANEs, police, and prosecutors to understand how they mutually inform their work, and in addition, as influential actors, victims’ participation in the legal system.

Unfortunately, research on the mediating mechanisms of SANE effectiveness is extremely limited, but available data suggest that these systems theory concepts are relevant. First, several case studies suggest that SANE and SARTs contribute to increased inter-agency collaboration and cooperation (Hatmaker et al., 2002; Hutson, 2002; Selig, 2000; Smith et al., 1998). Key informant interviews in Crandall and Helitzer’s (2003) study revealed that before the SANE program was implemented, community services were disjointed and fractionalized, but after care for victims/survivors was centralized and working relationships between medical and legal professionals had improved substantially. It is unclear if and how these systemic linkages contribute (directly or indirectly) to increased prosecution.

Second, there is also preliminary evidence that the information and resources provided by SANEs may positively impact how law enforcement conducts their investigations and the quality and completeness of the resulting documentation that is forwarded to prosecutors. Stone and colleagues’ (2006) survey of law enforcement personnel found that 85% felt that the statements victims/survivors make to SANEs are useful

in identifying and apprehending suspects; 93% indicated that the use of SANEs increases the likelihood that police will be able to create a successful case for prosecution; and 82% noted that SANEs are accessible to law enforcement after the exam and are willing to explain/interpret their findings. In addition, key informant interviews in Crandall and Helitzer's (2003) study suggested that police establish rapport with victims more effectively post-SANE, thereby increasing quality of witness statements.

Third, Nugent-Borakove et al.'s (2006) findings indicate that victim participation in the prosecution process is clearly important, but it is not clear how SANEs directly (or indirectly) affect criminal justice system participation. Victims/survivors report that the services and care they receive from SANE programs contributed to them feeling well-informed, educated, supported, believed, cared for, and empowered (Patterson, Greeson, & Campbell, in press; Ericksen et al., 2002), which indirectly may increase their willingness and ability to withstand the long, often grueling process of legal prosecution. On the other hand, it is possible that SANE care may empower victims/survivors to choose *not* to pursue legal prosecution (consistent with Nugent-Borakove et al.'s findings) and focus on their recovery in other ways (Patterson et al., in press). Alternatively, SANE programs may directly contribute to increased victim/survivor participation with law enforcement specifically. Stone et al. (2006) found that law enforcement personnel perceived higher victim cooperation when SANEs are involved in a case (see also ICJIA, 2003). The dearth of information about how SANEs work with the legal community and with victims/survivors suggests this is fruitful area for future inquiry.

III. THE CURRENT RESEARCH PROJECT: A MULTI-STUDY INVESTIGATION

A. GOAL #1: Is There An Effect of SANEs on CJS Case Progression?

The first goal of this study was to examine whether adult sexual assault cases were more likely to be investigated and prosecuted after the implementation of a SANE program within a large Midwestern county. We compared criminal justice system outcomes for adult sexual assault cases treated in county hospitals five years prior to the implementation of the SANE program to cases treated in the focal SANE program during its first seven years of operation. Prior research on the criminal prosecution of sexual assault has tended to focus on prosecutorial outcomes (e.g., charging rates). Given that the emerging literature on SANEs suggest that there may be positive effects in the earlier stages of cases processing (e.g., law enforcement investigations), we re-conceptualized our outcome variable as *case progression through the criminal justice system*. Some cases are never referred by police to the prosecutors, others are referred but never warranted by prosecutors, some are warranted but later dropped, and ultimately, some are charged and resolved through trials or plea bargains. In this study, we examined changes over time in the number of cases that moved through these different stages of system progression—how many reached what outcome, and did this change after the implementation of the SANE program? Are there more cases moving further through the criminal justice system post-SANE? It is hypothesized that there would be a significant increase in adult sexual assault case progression post-SANE.

To understand whether implementation of the SANE program affected criminal justice system case processing, we also needed to explore what factors predict case progression. What makes some cases more or less likely to move further through the system? Prior research on SANE programs has not yet examined this issue, which is vitally important because it is likely that police and prosecutors weigh multiple factors in their decisions to refer and warrant cases. Therefore, we tested a model that compared the predictive utility of victim characteristics (e.g., race, age), assault characteristics (e.g., victim-offender

relationship), and forensic medical evidence (e.g., injury, DNA) in explaining case progression. It was hypothesized that after victim and assault characteristics have been accounted, forensic medical evidence provided by the SANEs will explain a significant portion of unique variance in case progression outcomes.

B. GOAL #2: Why Is There An Effect? What are the Mechanisms of Change?

The second goal of this study was to understand why there was (or was not) a positive effect of the SANE program implementation on criminal justice system case progression. Knowing that there is an effect is certainly useful, but understanding the mechanisms that produced that effect is perhaps more important as such information identifies key ingredients necessary for successful change. To identify these mechanisms, it is necessary to understand the perspectives of all key stakeholders involved in sexual assault case processing. Therefore, we conducted in-depth interviews with law enforcement personnel and prosecutors regarding their perceptions of how the emergence of the SANE program affected their work investigating and prosecuting adult sexual assault cases. In addition, we looked for objective, behavioral indicators of changes in law enforcement investigations as critical gateway into the criminal justice system. In this project, we examined whether written police reports for sexual assault cases were substantively different after the emergence of the SANE program, and whether SANE involvement in cases affected the quality of law enforcement investigations. It was hypothesized that police would generate more complete, fully corroborated investigations post-SANE.

To understand how and why SANE programs may affect criminal justice outcomes, capturing the voices and experiences of the victims/survivors themselves is essential. Participating in research may be a difficult, scary proposition for survivors, which likely explains why the victims' point of view has been underrepresented in the SANE literature to date. To try to address this gap, we focused on reaching out to SANE patients through a variety of recruitment techniques in order to understand their experiences with the SANE program and the criminal justice system. In this component of the project we explored how the patient

care and emotional support provided by the SANEs affected survivors' well-being as well as their participation in the prosecution process.

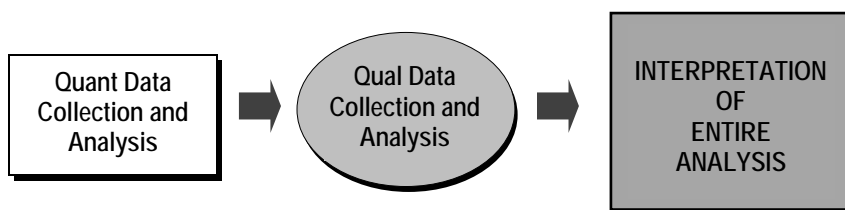
Finally, the other key stakeholders in this process are the SANEs themselves. In this study, we gave forensic nurses an opportunity to articulate their philosophy of practice with adult sexual assault survivors, and ask them how this may or may not relate to criminal prosecution. We were curious whether the survivors and forensic nurses would have similar or different views on whether SANE care contributed to victims' engagement with the criminal justice system. In addition, we explored how SANEs in this community work with their local police and prosecutors, how those relationships have evolved over time, and how these relationships may affect case processing.

C. Multi-Study Project Design: Sequential Explanatory Mixed Methods Design

To address these two research goals, we used a sequential explanatory mixed methods design (Creswell, Plano Clark, Gutmann, & Hanson, 2003) (see Figure 1).

FIGURE 1

Creswell et al.'s (2003) Sequential Explanatory Mixed Methods Design

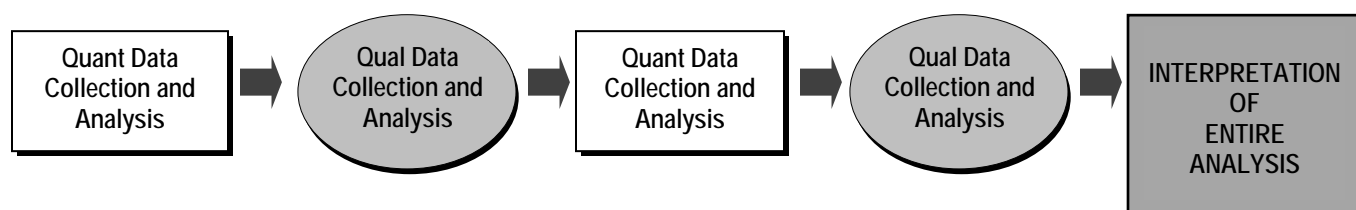


This design is characterized by the collection and analysis of quantitative data followed by qualitative data. The purpose of this design is to “use qualitative results to assist in explaining and interpreting the findings of a primarily quantitative study” (p. 227). Typically, primacy is given to the quantitative data, although Creswell et al. note that both methods can be treated as equal components, which is how we implemented this design in our project. The two methods are usually integrated during the final interpretation phase of

the study, but the design can be modified to work reflexively with both methods throughout the project. In this study, data collected with the first method (quantitative) were immediately analyzed and used to shape data collection with the second method (e.g., qualitative). Creswell and colleague's original description of the design characterized it as one "cycle" of mixed methods: quantitative followed by qualitative data collection. Given the complexity of our project and its twin goals of identifying whether SANE affected criminal justice case progression and the mechanisms by which such change happened, our design include two full cycles of sequential quantitative and qualitative methods (see Figure 2).

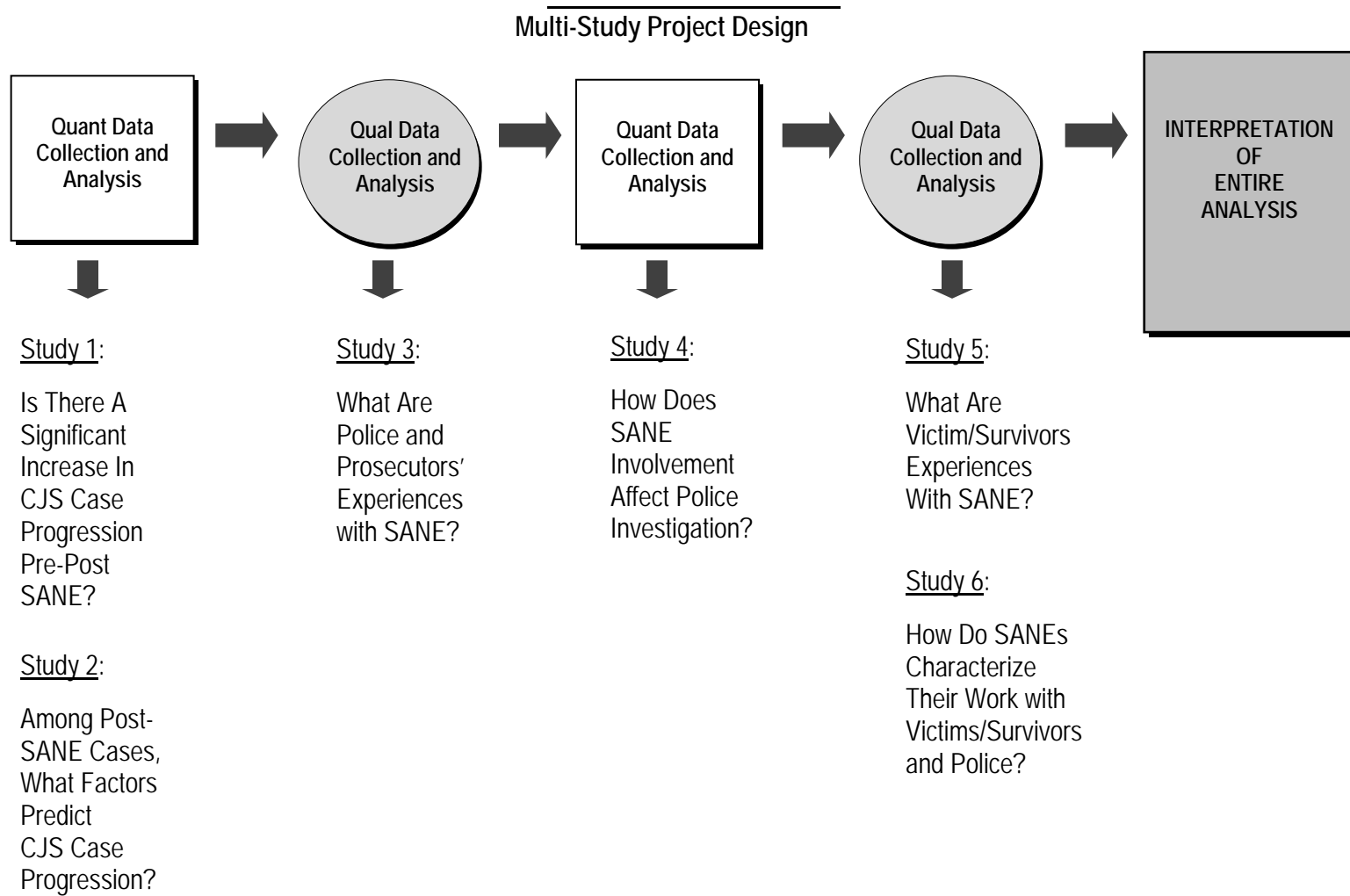
FIGURE 2

Adaptation of the Sequential Explanatory Mixed Methods Design



The final design of our project is depicted in Figure 3 (next page). Starting with quantitative method, Study 1 used police and court records to ascertain whether there was a significant increase in criminal justice case progression from before to after the implementation of the SANE program. Study 2 also used quantitative methods to examine what factors predicted case progression through the system, comparing the statistical predictive utility of victim, assault, and medical forensic evidence characteristics. These data were analyzed as quickly as possible in order to inform data collection in the next sequential component of the design. For Study 3, we conducted in-depth qualitative interviews with police and prosecutors about their experiences working with the SANE program. We did not disclose the findings of

FIGURE 3



the prior studies in these interviews, and instead sought independent validation of the results through a different methodology. In Study 4 we returned to quantitative methods and conducted a detailed content analysis of actual police reports to determine whether the nature of police investigations differed as a function of SANE involvement in a case. In Study 5, we cycled back to qualitative in-depth interviews with victims/survivors about their experiences with the SANE program and criminal justice system. Again, we did not share our findings of the prior studies with the survivors, and instead explored whether the survivors would provide independent verification of the findings that emerged in the previous studies. Prior to conducting the final study in the project, Study 6, we completed all other project data analyses to identify any unresolved, unanswered questions. In these qualitative interviews, we asked the forensic nurses to reflect on their work with their patients and with their legal community. After these open-ended discussions, we shared the findings from the other studies and asked the nurses for their interpretations and comments.

D. Research Setting

1. SANE program history. The setting for this study was a geographically diverse county in the Midwest with a population of 829,453 that included urban, suburban, and rural areas. In 1997, a multidisciplinary community task force was formed to address the problems of low reporting and conviction rates for sexual assault cases, inadequate forensic evidence collection, and victim blaming treatment by hospital emergency department personnel. The task force determined that a SANE program was needed in the community and the local rape crisis center was selected as the host for the program because of their 10 year history of providing comprehensive services to sexual assault victims. This group decided that the SANE program should be community-based (rather than hospital-based), and facilities were established in a medical office building that is easily accessible by public transportation. The program space consists of separate interview and exam rooms, a separate waiting area for family and friends, and a private bathroom with shower. The facility is also equipped with state-of the-art medical forensic equipment not generally available at hospitals in this county. This program is consistent with emerging national-level data on SANE

program characteristics with respect to size, staffing, number of patients served, services provided, and training/supervision of nurses (Campbell et al., 2005; IAFN, 2008; Logan, Cole, & Capillo, 2007).

2. SANE program services. SANE services are accessible 24-7 through the rape crisis center's 24-hour crisis line. When survivors call the hotline, staff members provide information about medical forensic exams and the SANE program as part of their crisis intervention services. If a survivor indicates that she/he would like an exam, hotline staff then pages a SANE and volunteer victim advocate to meet the survivor at the program facility. A similar protocol is used if a survivor's friend, family member, significant other, or other trusted individual contacts the hotline on her/his behalf. If a survivor makes first contact with the police (i.e., calls 911 or goes to the police department), the county-wide protocol stipulates that the responding officer will call the rape crisis center's 24-hour crisis line to request a page of a SANE and advocate. The responding officer then transports the victim to the program facility. If the survivor makes first contact with a county hospital, the medical staff there provides information about the SANE program, calls the hotline to request a page, and helps arrange transportation for the victim to the program facility. In the event a victim needed urgent medical care, the SANE program nurses and advocates would come to the hospital. The county-wide protocol stipulates that SANEs can conduct the exams on-site in every county hospital.

Once at the SANE program facility, the SANE and advocate work as a team to provide comprehensive medical treatment, crisis intervention, and follow-up services. First, the advocate meets with the survivor alone to explain the services offered by the SANE program, address any concerns the survivor may have, and provide crisis intervention. The advocate then introduces the survivor to the nurse and remains in the meeting room to provide emotional support while the nurse takes a patient history. Afterwards, the advocate ascertains whether the survivor would like the advocate to be present for the exam itself; if so, the advocate accompanies the survivor to the exam room.

The exam itself follows the practice guidelines established by the International Association of Forensic Nurses, but briefly stated, includes: a head-to-toe examination; head and pubic hair samples (pulled and combed); vaginal, oral, and/or anal swabs; fingernail clippings/scrapings; other evidence may be collected depending on the nature of body contact between the victim and suspect. Victims are assessed for the risk of pregnancy and STIs from the assault, and are offered emergency contraception and STI prophylaxis as appropriate.

After the exam, the advocate meets with the survivor again to address any concerns and explain the services available from the local rape crisis center. The advocate may discuss the next steps of criminal prosecution if the survivor has reported or expressed interest in reporting. The advocate also offers to follow-up with the survivor one week later. Finally, the advocates also meet with anyone who accompanied the survivor (e.g., family, friends) to provide crisis intervention and information about trauma reactions to decrease the likelihood of potential victim blaming by significant others and normalize the reactions the survivors may have to the rape. The advocate provides suggestions on how to support the survivor and refers the significant others to the county rape crisis center for continued support.

In addition to providing medical forensic exams to sexual assault survivors, this SANE program also conducts suspect exams. A suspect exam is similar to a victim exam in that the nurses use a standardized evidence collection kit to obtain evidence from the suspect's body. Suspect exams are conducted at the request of law enforcement, typically under a search warrant. The same nurse who conducted the victim exam usually performs the suspect exam because the survivor's exam may provide specific clues for things to look for on the suspect. To ensure that the SANE program remains a safe space for survivors and their significant others, suspect exams are done at the holding cells in the police departments or county jail. Law enforcement personnel accompany the nurses for the exams and remain physically present throughout the entire exam. The exam usually involves a head-to-toe examination as well as the collection of a DNA sample (buccal swab), head and pubic hair samples (pulled and combed),

penile swabs, and finger swabs; other evidence may be collected depending on the nature of body contact between the victim and suspect. Blood and urine samples may also be obtained for toxicology analysis. The completed kit and documentation are then turned over to law enforcement, who are responsible for taking the kit to the crime lab for analysis.

3. County law enforcement agencies and prosecutor's office. Police data were collected from the five largest law enforcement agencies in this county. Table 1 (next page) presents descriptive information regarding population served and number of rape and attempted rape offenses reported per year by department (according to Uniform Crime Reports [UCR]).³ Department 1 and 5 each have one designated detective to handle reported sexual assault cases. By contrast, Department 2 does not have designated personnel for sexual violence crimes; all detectives are responsible for responding to a full variety of crimes. Departments 3 and 4 have semi-specialized units: one has a family crime division, which includes domestic violence, child abuse, and sexual violence crimes; the other has a crimes against people unit, which includes all non-property crimes.

The prosecutor's office in the focal county has a specialized sex crimes unit that consists of five assistant prosecutors who handle all case decisions, including the decision to warrant cases. Vertical prosecution, whereby a case is assigned to a prosecutor who handles the case until final disposition, is only provided to victims under the age of 13. Therefore, adult victims may work with multiple prosecutors. For example, prosecutor A could make the decision to warrant the case, prosecutor B could handle the case at the preliminary hearing, and prosecutor C could handle the case at the trial. In some instances, prosecutors outside of the sex crimes unit may handle the case after the warranting decision is made.

³ We acknowledge that UCR data reflect only those sexual assaults reported to law enforcement, not all sexual assaults that occurred within a given jurisdiction/area.

TABLE 1

Law Enforcement Agency Descriptive Information

Department	Population	Number of Rape/Attempted Rape Offenses								
		1997*	1998	1999	2000	2001	2002	2003	2004	2005
1	43,729	1	0	0	2	1	1	3	4	7
2	156,562	27	28	66	58	85	82	83	26	25
3	134,974	71	81	39***	67	71	80	84	84	69
4	127,715	18	24	25	17	20	30	18	22	19
5	96,587	0**	75	69	76	59	28	30	21	20

*Data from 1994-1996 were not available from the state's crime archives

**No data was reported during that year

***Based on 6 months of data reporting

Source: Uniform Crime Reports (UCR), 1997-2005

IV. GOAL #1 STUDIES:

IS THERE AN EFFECT OF SANE ON CJS CASE PROGRESSION?

A. Study 1: Is There A Significant Increase in Case Progression Pre-Post SANE?

1. Research design. This study used a quasi-experimental, non-equivalent comparison group cohort design (Shadish, Cook, & Campbell, 2002) to compare criminal justice system outcomes for adult sexual assault cases treated in county hospitals five years prior to the implementation of the SANE program (January 1994 to August 1999) (the comparison group) to cases treated in the focal SANE program during its first seven years of operation (September 1999 to December 2005) (the intervention group). A quasi-experimental design was necessary because it was not feasible to randomly assign victims to receive exams at either the SANE program or a hospital. Once this county's SANE program was created, all hospitals in the focal county referred their cases to the SANE program (which also precluded collecting a concurrent comparison sample). It is methodologically preferable to draw the comparison sample from the same community (i.e., cases in focal county before the SANE program was implemented rather than cases from another county during the same period of time that the SANE program was operational) as such a design minimizes threats to internal validity (e.g., history, selection). In addition to these feasibility issues, a quasi-experimental design was selected due to the ethical concerns about randomly assigning sexual assault victims to a non-SANE condition for medical care. Previous research has indicated that SANE programs are significantly more consistent than traditional hospital emergency departments in providing vital services such as screening and prophylaxis for STIs and emergency contraception (Ciancone, Wilson, Collette, & Gerson, 2000; Campbell et al., 2006; Logan, Cole, & Capillo, 2007).

Shadish et al. (2002) noted that the cohort design is a rigorous quasi-experimental design that permits making causal inferences provided that the two groups compared are as equivalent as possible (see below) and that alternative threats to internal validity have been reasonably ruled out. To test for

threats to internal validity, key informant interviews were conducted with N=8 legal and medical system personnel prior to primary data collection. Our goal was to determine whether there had been other changes in case processing policies in this county since 1994 (beginning timeframe for this study), in addition to the emergence of the focal SANE program, which could pose a threat to the internal validity of the design. These data indicated that the adult sexual assault cases examined in hospitals pre-SANE were no more or less serious than cases currently seen in the intervention SANE program. Even if a victim needed emergency medical care, hospitals have a SANE nurse conduct the medical forensic exam at the hospital. The exam technology has not significantly changed from 1994 to the present, but it should be noted that hospitals were not using advances that were available. In addition, there have been no significant changes in the way the state crime lab processes evidence kits, but DNA testing technology has progressed since 1994 such that testing can be done with much smaller samples. This difference could increase the rates of conclusive DNA evidence obtained in the intervention group and this possibility was examined in the current study. There have been high profile adult sexual cases in the focal county that have garnered substantial media attention, but such cases have occurred both before and after the implementation of the SANE program, thereby minimizing the impact of a possible historical threat.

We interviewed an additional N=10 key informants (8 new; 2 re-interviewed from prior interviews) throughout the duration of the project to continue to monitor threats to the integrity of the research design. These interviews confirmed findings from the prior interviews that there have not been substantial changes in this county with respect to sexual assault case processing other than the emergence of the SANE program and improvements in DNA testing. However, these new data also suggested that because there had been changes in the elected county prosecutor over the course of the study, prosecution election year should be included in the analyses to account for possible differential attention to sexual assault crimes.

2. Sampling of cases. Adult sexual assault cases treated in county hospitals five years prior to the implementation of the SANE program (January 1994 to August 1999) (the comparison group) were

compared to cases treated in the focal SANE program during its first seven years of operation (September 1999 to December 2005) (the intervention group). Cases were sampled that fit the following criteria: 1) the victim was age 18 or older; ⁴ 2) the victim was assaulted within the focal county so that all cases would be processed by the same prosecutor's office; 3) the case was investigated by one of the five largest police departments in the county; there are 23 law enforcement agencies in the focal county, which would require extensive resources for county-wide data collection. However, according to Uniform Crime Reports from 1997-2005, the largest five agencies handled on average 70% of all reported sexual assaults, so this sampling still reflects the vast majority of cases processed in this county; ⁵ 4) a complete medical forensic exam (i.e., patient history, assault narrative, and physical/anogenital exam) was conducted by either county hospital personnel (comparison group) or the SANE program (intervention group); and 5) the exam results were analyzed by the state crime lab for DNA evidence. ⁶

For the comparison group, adult sexual assault case records were requested through the Freedom of Information Act from the five largest police departments in the focal county. Records were solicited from police departments because their files should contain copies of the hospital medical forensic exam records and this documentation is not available directly from the hospitals due to HIPAA restrictions. The five largest police departments processed 171 adult sexual assault cases from January 1994 to August 1999 that met the study's eligibility criteria. Fifteen of these cases were eliminated from the sample (seven victims were charged with false reporting and in eight stranger rape cases the offenders were never able to be identified), yielding a final sample of N=156 cases. To assess the reliability of the sampling procedures,

⁴ The Institutional Review Board (IRB) of record for this project required that only adult cases be sampled.

⁵ We acknowledge that a tradeoff of focusing on the five largest law enforcement agencies is that we do not have information about how smaller departments work with the focal SANE program. These other agencies serve some, but not all of the rural areas of the focal county.

⁶ Because one of the key aims of this project was to understand how DNA evidence influenced case progression, the sampling frame was limited to cases in which the kit was analyzed for such evidence. If a kit was never analyzed by the state crime lab, then there was no possibility for this kind of evidence to influence case progression.

30% of the records were randomly selected and reviewed by a second research assistant to determine if the same cases were selected for inclusion based on the five criteria for eligibility (100% agreement).

Information about the intervention sample was collected from SANE program records. The program served N=146 victims between September 1999 and December 2005 who met the study's five eligibility criteria. Nine cases were eliminated from the intervention sample (one victim was charged with false reporting, two victims recanted their police reports, in two of the stranger rape cases the offenders were never able to be identified, making prosecution impossible, and in four cases there were missing records regarding final prosecutorial outcome), yielding a final sample size of N=137. To assess sampling reliability, 30% of the SANE records were randomly selected and reviewed by a second research assistant to determine if the same cases were selected based on the five eligibility criteria (100% agreement).

3. Procedures for data collection and coding. For all sampled cases, complaint numbers and date of assault were recorded to search the prosecutors' databases for case outcome data. For cases that were warranted by the prosecutors, the accuracy of the database was checked against the police records for 30% of the cases to ensure that both sources of information stated that the case had been warranted (100% agreement). For cases not warranted by the prosecutors, police records were checked to clarify whether the case was referred by police to the prosecutors but was not warranted, or whether it was never referred by law enforcement (100% agreement between prosecutor database and police records for non-warranted cases). Complaint numbers and date of assault were also submitted to the state crime lab, which provided data as to whether the kit findings were positive, negative, or inconclusive for DNA evidence.

In addition to collecting case outcome data and DNA analysis findings, we anticipated being able to obtain medical forensic exam, assault characteristics, and victim and offender demographic information for both the intervention and comparison group cases. These data were available for the intervention cases from the SANE report, but the hospital medical forensic exam reports were almost always missing from the police and prosecutor records for the comparison group cases (and the existing materials in the file rarely

provided complete information). This was unanticipated because our first round of key informant interviews conducted prior to data collection (described above) indicated that the records *should* be in the police files. Therefore, in our on-going key informant interviews (conducted throughout data collection, described above), we inquired about the reasons why these records were missing (despite the fact they *should* be there). Legal personnel stated that the information contained in the pre-SANE hospital reports was usually not useful to the investigation, so most likely, law enforcement officers and prosecutors did not retain them. The informants also stated that the SANE reports are more helpful and they are systematically retained in police/prosecutor records (which we independently verified). The police reports had been de-identified (per IRB and FOIA requirements), which precluded obtaining at least some information about the assault, offender, and victim characteristics (in addition, searches of state crime databases did not yield sufficient data). Without medical forensic, assault, offender, and victim data available for the comparison group cases, the variables modeled in the current study (described below) focus on case outcome as predicted by the law enforcement agency that handled the case, DNA findings, and county-level factors, including prosecutor elections and the emergence of the focal SANE program.

4. Measures. The dependent variable for this study was case outcome, which we assessed as an ordinal variable to capture case progression through the criminal justice system: 1=not referred by the police for prosecution; 2=referred to the prosecutor but not warranted for prosecution; 3=warranted by the prosecutor but later dropped or acquitted; and 4=guilty plea or conviction. We recognize that the third ordinal category, warranted by the prosecutor but later dropped *or* acquitted, groups together two seemingly different scenarios: cases that did go to trial but ended without conviction and those in which the prosecutor initially began proceeding, but later dropped the case. Yet, in both situations, prosecutors invested effort in the case and pursued prosecution, but in the end, there was no conviction. From that point of view, it made sense to combine these kinds of cases into the third ordinal level (and indeed, the test of ordinality, described below, empirically supported this decision).

Five predictor variables were examined: 1) the law enforcement agency that handled the case (5 departments, dummy coded into four variables); 2) whether the medical forensic exam DNA findings were positive (1=yes; 0=no); 3) time/month in which case was processed over the twelve focal years (see below for more discussion on how time was modeled); 4) whether the case was handled during the prosecutor re-election year (1=yes; 0=no); and 5) whether the case was pre-SANE (0=comparison group) or post-SANE (1=intervention group).

5. Analytic Plan. Cases spanned 12 years (5 before and 7 after the implementation of the SANE program), and it is likely that cases handled near the same time were likely to have been influenced by shared historical circumstances other than the SANE program. To reflect these shared historical influences, cases were grouped for analysis by the month in which the case was processed. The extent of shared variance in the dependent variable appeared to be modest, with the intraclass correlation coefficient (ICC) = .02 indicating that 2% of the variance among case outcomes could be explained by month-to-month fluctuations. Grouping cases by month allowed examination of the data for time trends and possible seasonal effects that should be reflected in the analysis. Graphical inspection showed a small and non-significant upward trend in the extent of progression through the system across all the months. However, within each calendar year, there was a marked downward trend in level of system case progression from January through December. This trend was further identified as primarily a "December effect," in which cases processed in December reached lower levels of progression through the system compared with cases presenting during the other months of the year (Somers's $d = -.26$, $p < .05$). Cases processed in December were less likely to be referred for prosecution (29.5% vs. 55.4%) and less likely to result in a conviction or plea bargain (11.8% vs. 27.2%). However, fewer cases were processed in December relative to other months (18 vs. 25), so these specific comparisons should be interpreted with caution.

To reflect both the grouping of cases by month and the ordinal nature of the dependent variable, multilevel ordinal regression was used to analyze the impact of SANE program implementation on case

progression through the system (Hedeker & Gibbons, 1994). Ordinal regression analyzes the cumulative probability that a case will exceed each of several thresholds, or observed levels of the ordinal outcome variable, as a function of the predictor variables included in the analysis. Multilevel ordinal regression is an extension that incorporates the shared influence of predictor variables that affect groups of cases, along with variables that exert independent effects on individual cases. Like all multilevel analyses, multilevel ordinal regression produces standard errors that are appropriate for testing the influence of group-level predictor variables, reflecting their shared effects on individual cases nested within the same group.

Ordinal regression assumes that odds are proportional, namely that the effect of a predictor variable is the same across the thresholds or levels of the ordinal dependent variable (e.g., that SANE has the same effect on convictions/pleas vs. lesser outcomes as on referrals for prosecution vs. nonreferrals). Although in theory the validity of this assumption could be tested, the number of cases was not sufficient for a definitive test across all levels of the dependent variable. Similarly, it was not possible to estimate a proposed extension of multilevel ordinal regression that does not make the proportional odds assumption (Hedeker & Mermelstein, 1998).

The current analysis reflected two levels of data: individual cases (level 1), which were nested within months (level 2). The 293 individual cases at level 1 were nested within 126 months at level 2. (The level 2 *N* was 126 rather than the possible 144, because no cases were processed in each of 18 months scattered across the interval). Modeling time at a higher level of analysis is somewhat unusual in multilevel analysis, but this strategy is cited by Goldstein (2003) as appropriate for analyzing traditional time series data in which cases are nested within units of time. The effect of the continuous passage of time was examined in order to determine whether there was an identifiable upward, downward, or more complex trend over the months in the progression of cases through the justice system. To facilitate interpretation, months were numbered sequentially, centered so that 0 reflected the initial month of 1999, the year in which the SANE program was implemented. Linear, quadratic, and cubic effects of time were tested to

identify any underlying trends in case progression. No effects approaching significance were found, either unconditional or conditional on the effects of other predictor variables, so continuous time trends were omitted from further analysis.

Two predictor variables were modeled at level 1: the law enforcement agency that investigated each individual case (in order to adjust for confounding between time and police department effects due to anticipated unevenness in month-to-month fluctuation of case distributions across police departments); and whether the medical forensic exam was positive for DNA findings. The remaining predictor variables were analyzed at level 2 and characterized the month in which each case was processed: the seasonal "December effect" (i.e., whether case was processed in the month of December, dichotomously coded, 0/1); whether case was processed during the prosecution election year (dichotomously coded, 0/1); whether the case was handled pre-SANE (0=comparison group) or post-SANE (1=intervention group).

Analyses were conducted with HLM 6.04 software (Raudenbush, Bryk, & Congdon, 2004), using the hierarchical generalized linear model with a logit link function to characterize an ordinal dependent variable. Restricted maximum likelihood was used for estimation. To reduce the influence of nonnormality, robust standard errors were used to compute confidence intervals; however, results were virtually identical using robust or nonrobust estimation. Random intercept models were estimated, but variance estimates were consistently nonsignificant ($p > .5$), so intercept variances were fixed at 0 for all final models.

6. Results. Table 2 (next page) presents a summary of case progression outcomes pre-SANE to post-SANE. There was a decrease in the number of cases police did not refer for prosecution post-SANE (i.e., more cases were referred for prosecution post-SANE). Similarly, after the implementation of the SANE program, there was a slight decrease in the number of cases that were referred to the prosecutors, but were not warranted for prosecution. There was also a slight increase post-SANE in the number of cases that were warranted by the prosecutors, but were later dropped or acquitted. Although these case outcomes may be undesirable, this does reflect investment and effort on the part of prosecutors. Finally,

there was an increase in the number of cases that ended in guilty plea or conviction after the implementation of the SANE program. This pattern of decreases and increases is consistent with the hypothesis that the SANE program positively affected case progression outcomes. Multi-level ordinal modeling was used to determine whether these increases and decreases were statistically significant.

TABLE 2

Study 1 Descriptive Results: Case Progression Outcomes Before and After SANE Implementation

Outcome	Pre-SANE	Post-SANE
Not referred by police for prosecution	49%	43%
Referred to prosecutor, but not warranted for prosecution	17%	15%
Warranted by prosecutor, but dropped or trial acquit	10%	13%
Guilty plea or trial conviction	24%	29%

Results of the multilevel ordinal regression are summarized in Table 3 (next page). The first block of effects describes the expected cumulative probabilities of justice system outcomes at the three thresholds of the ordinal dependent variable, adjusting for the influence of other predictor variables. The log odds of conviction/guilty plea vs. other outcomes (i.e., warranted but dropped/acquitted, referred but not warranted, and not referred) was -2.06, which translates to a cumulative odds ratio (OR) of 0.13. This indicates that a pre-SANE case from Department 5 (the omitted comparison law enforcement agency), processed in a month other than December and in a non-election year (i.e., a case with scores of 0 on all predictor variables) was approximately one-sixth as likely (OR = 0.13) to attain a conviction/plea relative to other outcomes (i.e., warranted but dropped/acquitted, referred but not warranted, or not referred for

TABLE 3

Study 1 Multilevel Ordinal Regression Results

	<u>Log odds</u>	<u>Robust SE</u>	<u>Odds Ratio</u>	<u>T (df = 283)</u>	<u>p</u>	<u>Robust CI</u>
<u>Ordinal effect</u>						
Threshold 1 -- Convicted/plead vs. Warranted & Dropped/acquitted, Referred, or Not referred	-2.06	0.25	0.13	-7.43	0.001	0.07 - 0.22
Threshold 2 -- Convicted/plead or Warranted & Dropped/acquitted vs. Not warranted	0.59	0.09	1.81	6.19	0.001	1.50 - 2.19
Threshold 3 -- Convicted/plead or Warranted & Dropped/acquitted or Referred vs. Not referred	1.31	0.13	3.71	10.03	0.001	2.87 - 4.80
<u>Level 1</u>						
Law enforcement agency 1 vs 5	1.57	0.48	4.79	3.26	0.01	1.86 – 12.33
Law enforcement agency 2 vs 5	1.07	0.32	2.96	3.93	0.001	1.58 – 5.56
Law enforcement agency 3 vs 5	0.43	0.28	1.54	1.52	0.13	0.88 – 2.69
Law enforcement agency 4 vs 5	0.70	0.39	1.95	1.71	0.09	0.91 – 4.21
DNA positive	0.62	0.23	1.86	2.78	0.01	1.20 – 2.90
<u>Level 2</u>						
Seasonality (December vs. other months)	-1.08	0.55	0.34	-1.97	0.05	0.12 – 1.00
Prosecutor election year vs. non-election year	-1.13	0.54	0.32	-2.07	0.04	0.11 - 0.95
SANE (post-SANE implementation vs. pre-SANE)	0.53	0.23	1.71	2.32	0.02	1.09 - 2.69

*p < .05. **p < .01. ***p < .001.

The between-month variance of a random intercept model was not significant (p > .5), so in this final model, intercept variances were fixed at 0.

prosecution). The log odds of a case with the same characteristics (e.g., pre-SANE, Department 5, non-December, non-election year) being warranted vs. not warranted was 0.59, which translates to a cumulative OR of 1.81. A case with these characteristics was 80% more likely to be warranted (and either convicted or dropped/acquitted) than not warranted. Finally, the log odds of a similar case being referred for prosecution vs. not referred was 1.31, cumulative OR of 3.71. This indicates that a case with the same characteristics was three and a half times more likely to be referred for prosecution vs. not referred.

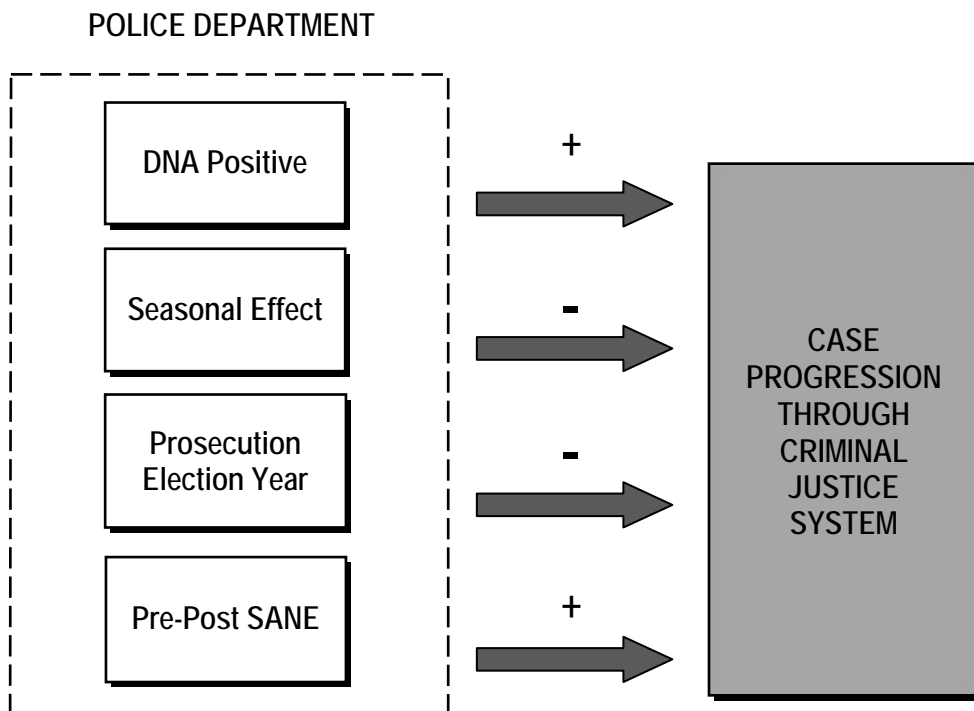
The second block of Table 3 shows the relative influence of the level 1 predictor variables. The law enforcement agency used as the omitted comparison (Department 5) had the lowest levels of progression through the system; all other police departments had comparatively higher levels. The highest was Department 1, where a case was 4.79 times more likely to reach a higher level outcome, in comparison with a similar case in Department 5. Department 2 was second highest – 2.96 times more likely to reach a higher level outcome, Department 4 was next – 1.95 times more likely, and Department 3 was closest to Department 5, which was 1.54 times more likely to attain a higher level outcome. All but the Department 3 police department had significantly higher expected case outcome levels, in comparison with Department 5. Cases that had positive DNA evidence were 1.86 times more likely to reach a higher level outcome.

The final block of Table 3 shows the average influence of the level 2 predictor variables. The December seasonality effect had a marginally significant impact on the odds that a case would progress to a higher level outcome; cases processed in December were about one third (OR = 0.34) as likely to reach a higher outcome, compared with cases processed in other months ($p = .05$). Similarly, cases processed during a prosecutor election year were about one third (OR = 0.32) as likely to reach a higher outcome, in comparison with cases processed in non-election years ($p < .05$). Finally, after adjusting for all other effects, cases processed post-SANE were approximately 70% more likely (OR = 1.71) to attain a higher level of outcome, compared with cases processed pre-SANE ($p < .05$).

An effort was made to test cross-level interactions to examine the possibility that SANE effects might differ by police department. None of the interactions was significantly different from zero, so these effects were removed from the final model. However, power for these tests was minimal, so the tests for these interactions should not be taken as definitive. Analyses were rerun omitting cases handled in the initial year of SANE implementation (1999), in order to ensure that effects were not dependent on the pattern of case outcome seen in this influential year. The concern was that high community visibility associated with the new program may have exerted such a strong effect that it could obscure a waning impact of SANE in successive years. Results of analyses omitting cases handled in the initial year were very similar, indicating that the results were not driven by initial implementation effects. Figure 4 summarizes the key findings from these analyses.

FIGURE 4

Summary of Study 1 Findings



B. Study 2: Among Post-SANE Cases, What Factors Predict Case Progression?

1. Research design. The purpose of this study was to examine whether victim characteristics, assault characteristics, and the presence and type of medical forensic evidence predicted case progression outcomes. This study used a post-only design because as discussed previously, victim, assault, and medical forensic evidence data were not consistently available for pre-SANE cases. Therefore, using only the N=137 post-SANE cases from Study 1, we examined the predictive value of forensic medical evidence in case outcomes relative to victim characteristics and assault characteristics. In other words, after the predictive power of victim and assault characteristics have been accounted for, would medical forensic evidence still explain a significant portion of unique variance in case outcomes?

2. Sampling of cases. The adult sexual assault cases from the Study 1 intervention group (post-SANE) (N=137) were used in this study. Table 4 (next page) presents descriptive information regarding victim characteristics, assault characteristics, and medical forensic information for: 1) the entire post-SANE sample (N=137); 2) the subsample of cases not referred by police to prosecutors (n=59); 3) the subsample of cases referred but not warranted by prosecutors (n=21); 4) the subsample of cases warranted but later dropped or acquitted (n=18); and 5) the subsample of cases with guilty pleas or trial convictions (n=39).

TABLE 4

Study 2 Descriptive Results: Victim, Assault, and Medical Forensic Evidence Characteristics

	Cases Not Referred (N=59)	Cases Referred, but Not Warranted (N=21)	Cases Warranted, but Dropped/Acquitted (N=18)	Cases Conviction/Guilty (N=39)	All Cases (N=137)
Victim Characteristics					
Age in Years	30.80 (13.30)	27.33 (15.20)	26.72 (9.86)	27.51 (11.41)	28.80 (12.70)
Race/Ethnicity					
Caucasian	84%	81%	94%	87%	86%
Minority	16%	19%	6%	13%	14%
Consumed Drugs and/or Alcohol	58%	65%	44%	33%	48%
Assault Characteristics					
Victim/Offender Relationship					
Stranger	30%	19%	6%	21%	22%
Intimate/Familial	14%	10%	39%	34%	22%
Acquaintance	55%	71%	56%	45%	53%

	Cases Not Referred (N=59)	Cases Referred, but Not Warranted (N=21)	Cases Warranted, but Dropped/Acquitted (N=18)	Cases Conviction/Guilty (N=39)	All Cases (N=137)
Assault Characteristics (continued)					
Type of Penetration					
Vaginal	59%	76%	94%	87%	74%
Oral	33%	29%	39%	59%	40%
Anal	24%	33%	44%	28%	29%
Assault Tactics					
Weapon/Force	58%	43%	72%	74%	62%
Victim Unconscious or Drugged	31%	29%	17%	16%	24%
Coercion or Intimidation	12%	19%	6%	8%	11%
Forensic Medical Evidence Findings					
Delay in Exam (in hours)	20.55 (20.66)	18.76 (19.10)	19.58 (23.66)	12.09 (12.83)	17.89 (19.77)
Positive DNA Results	40%	37%	59%	66%	49%

	Cases Not Referred (N=59)	Cases Referred, but Not Warranted (N=21)	Cases Warranted, but Dropped/Acquitted (N=18)	Cases Conviction/Guilty (N=39)	All Cases (N=137)
Forensic Medical Evidence Findings (continued)					
Bruising—Physical	51%	48%	61%	51%	52%
Bruising—Anogenital	10%	5%	17%	10%	10%
Abrasions—Physical	44%	19%	33%	49%	40%
Abrasions—Anogenital	12%	24%	39%	39%	25%
Redness—Physical	10%	24%	6%	18%	14%
Redness—Anogenital	14%	29%	17%	23%	19%
Tears—Physical	7%	5%	6%	3%	5%
Tears—Anogenital	22%	5%	22%	21%	19%
Foreign Matter	9%	24%	17%	18%	15%

Note: Standard deviation in parentheses.

3. Procedures for data collection and coding. The procedures for collecting the dependent variable (case outcome) and DNA analysis findings (one of the independent variables) were identical to Study 1 (see above). For the remaining independent variables, SANE program files were coded for victim, assault, and medical forensic evidence characteristics. Coding was performed by two research assistants and was consistently monitored to maintain reliability of kappa $>.80$; final kappa averaged across all variables = $.98$. There were no secondary sources against which to compare the accuracy of the victim, assault, and medical forensic evidence characteristics, so no validity assessments were conducted for these variables.

4. Measures. The dependent variable for this study was identical to Study 1: case outcome assessed as an ordinal variable to capture case progression through the criminal justice system (1=not referred by the police for prosecution; 2=referred to the prosecutor but not warranted for prosecution; 3=warranted by the prosecutor but later dropped or acquitted; and 4=guilty plea or conviction). Table 4 (prior page) provides a complete list of all independent variables (victim, assault, and medical forensic characteristics) coded from the SANE program files.

5. Analytic plan. Ordinal regression was used to analyze the impact of victim, assault, and medical forensic evidence characteristics on level of case progression through the justice system. Ordinal regression analyzes the cumulative probability that a case will exceed each of several thresholds, or observed levels of the ordinal outcome variable, as a function of the predictor variables in the analysis. Ordinal regression assumes that odds are proportional, namely that the effect of a predictor variable is the same across the thresholds or levels of the ordinal dependent variable (e.g., that a predictor such as whether the assault included penetration has the same effect on convictions/pleas vs. lesser dispositions as on referrals for prosecution vs. nonreferrals). Although the number of cases was not sufficient for a definitive test of this assumption across all levels of the dependent variable, the limited assessment that was possible found no evidence of violation. The analysis used a logit link function as most appropriate to the observed distribution on the dependent variable; as a check on robustness of the analysis to this

choice, parallel analyses were conducted using alternative link functions – a negative log-log and a complementary log-log; these analyses showed virtually identical results.

The smaller post-SANE sample precluded the use of multilevel regression methods to adjust for the possibility that cases handled within the same time frame may have been affected by common historical factors. However, as found in the analysis of pre-post SANE in Study 1, the extent of shared variance in the dependent variable appeared to be modest, with the intraclass correlation coefficient (ICC) of .02 indicating that only 2% of the variance among case outcomes could be explained by month-to-month fluctuations. So the inability to incorporate adjustment for this small proportion of shared variance in the post-SANE analysis is likely of minimal concern.

Predictor variables were examined in four ordered blocks. The first block identified the law enforcement agency that investigated each individual case; the five police departments were characterized by four dummy variables. The second block contained victim characteristics that may have affected case outcome, including the victim's age (dichotomized, with 34% age 21 or younger);⁷ which reflected a naturally-occurring break in the distribution); the victim's race (dichotomized white vs. racial/ethnic minority, most of whom were African American); and whether the victim had consumed alcohol or drugs prior to the assault (dichotomized yes/no). The third block contained assault characteristics, including the relationship of the suspected perpetrator to the victim (family member/partner, stranger, acquaintance);⁸ whether the assault included vaginal penetration, oral penetration, or anal penetration; and the tactics used in the assault, including weapon/force, victim unconscious/drugged, and coercion/intimidation.

The fourth and final block contained medical forensic evidence that was gathered by SANE, including DNA findings (dichotomized); bruising (physical and/or anogenital); abrasions (physical and/or

⁷ Age was dichotomized at age 21 to reflect the natural variability in the distribution of this variable.

⁸ We acknowledge that combining intimate partner-perpetrated assaults and family-member assaults into the same category obscures important differences between these kinds of rapes; however, we did not have sufficient sample size and variability to model each of these victim-offender relationships separately.

anogenital); redness (physical and/or anogenital); tears (physical and/or anogenital); and foreign matter. The block also included a dichotomous control variable characterizing the amount of time that had elapsed between the assault and the medical examination (25% more than 20 hours vs. 75% occurring within 20 hours of the assault).

The ordinal regression was performed in a hierarchical manner, entering each block sequentially in order to control for the effects of variables in earlier blocks when examining the effect of variables in later blocks. To reduce model complexity and optimize interpretability, variables showing no significant relationship to the dependent variable when entered were trimmed from the model (as recommended by Hosmer & Lemeshow, 2000). Likelihood ratio chi square tests were used to assess the significance of the contribution of variables in each block to the prediction of the ordinal dependent variable.

6. Results. Results of the ordinal regression are summarized in Table 5 (next page).⁹ The “ordinal effects” block describes the expected cumulative probabilities of justice system outcomes at the three thresholds of the ordinal dependent variable, adjusting for the influence of other predictor variables. The odds ratio for Threshold 1 (the odds of a conviction/guilty plea vs. a lower outcome) was lower than the odds for Threshold 2 (convicted/plead or warranted and dropped/acquitted vs. a lower outcome), which was lower than the odds for Threshold 3 (a higher disposition vs. not referred for prosecution). Because the variance in the ordinal dependent variable is substantially explained by the predictive variables in the model, the actual values of these coefficients are inflated and have no interpretive value.

Block 1 in Table 5 shows the relative influence of law enforcement agency on the cumulative probabilities of justice system outcomes at each of the ordinal thresholds. The law enforcement agency used as the reference comparison (Department 5) had the lowest levels of progression through the system; all other police departments had comparatively higher levels. The highest was Department 1, where a case

⁹ In these analyses, we have elected to present trend-level effects ($p < .10$) due to the dearth of prior research in this area with the intent of highlighting promising effects that can be pursued in future studies.

TABLE 5

Study 2 Hierarchical Ordinal Regression Results

	Log Odds	SE	Odds Ratio	Wald (1 df)	95% Confidence Interval		LR chi square	df
					Lower	Upper		
Ordinal Effect								
Threshold 1 -- Warranted & Dropped/acquitted, Referred, or Not referred vs. Not warranted	3.98	1.53	53.40**	6.79	0.99	6.97	0.00	0
Threshold 2 -- Convicted/plead or Warranted & Dropped/acquitted vs. Not warranted	4.80	1.55	121.55**	9.66	1.77	7.82		
Threshold 3 -- Convicted/plead or Warranted & Dropped/acquitted or Referred vs. Not referred	5.65	1.57	284.15***	13.01	2.58	8.72		
Block 1 - Investigating Law Enforcement Agency							11.26*	4
Law enforcement agency 1 vs 5	1.38	0.65	3.99*	4.59	0.12	2.65		
Law enforcement agency 2 vs 5	1.22	0.53	3.40*	5.40	0.19	2.26		
Law enforcement agency 4 vs 5	0.60	0.56	1.83	1.16	-0.50	1.71		
Law enforcement agency 3 vs 5	0.83	0.47	2.29 [†]		-0.10	1.75		
Block 2 -- Victim Characteristics				3.09			8.65*	2
Age 21 or less	0.86	0.37	2.35*	5.27	0.13	1.59		
Victim/survivor had consumed alcohol or drugs	-0.54	0.36	0.58 [†]		-1.24	0.17		
Block 3 -- Assault Characteristics				2.25			17.71***	2
Suspected perpetrator was family member/partner (vs. stranger or acquaintance)	1.00	0.44	2.73*	5.20	0.14	1.87		
Penetration (oral, vaginal, &/or anal)	1.81	0.58	6.13**	9.77	0.68	2.95		
Block 4 -- SANE Medical Evidence							18.78***	3
Time between assault and medical examination (> 20 hours vs. less)	-0.94	0.42	0.39*	4.90	-1.76	-0.11		
DNA evidence (genital or physical)	0.99	0.36	2.68**	7.57	0.28	1.69		
DNA evidence (non-genital or physical)	0.86	0.39	2.35*	4.70	0.08	1.63		

[†] $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

$N = 137$.

Model goodness-of-fit chi square = 322.235, $p = .304$.

was 3.99 times more likely to reach a higher level outcome, in comparison with a similar case in Department 5. Department 2 was second highest – 3.40 times more likely to reach a higher level outcome, Department 3 was next at 2.29 times more likely, and Department 4 was closest to Department 5, 1.83 times more likely to attain a higher level outcome. Departments 1 and 2 departments had significantly higher expected case outcome levels, in comparison with Department 5.

Block 2 of Table 5 shows the influence of victim characteristics. Cases involving victims age 21 or younger were 2.35 times more likely to reach a higher level outcome than those involving victims over 21. Cases in which the victim had consumed alcohol or drugs were only about half as likely to reach higher level outcomes (OR = 0.58). Although the coefficient for alcohol/drugs was not significant in the final model, the contribution of this variable was significant before variables in subsequent blocks were added to the model. Further analysis indicated that the variable sharing variance with alcohol/drug use was the amount of time that elapsed between the assault and the medical examination: a slightly higher proportion of the cases in which the victim had used alcohol or drugs were examined more than 20 hours after the assault (28.8% vs. 22.5%). Race of the victim made no contribution to the model and was dropped before addition of the next block of predictor variables.

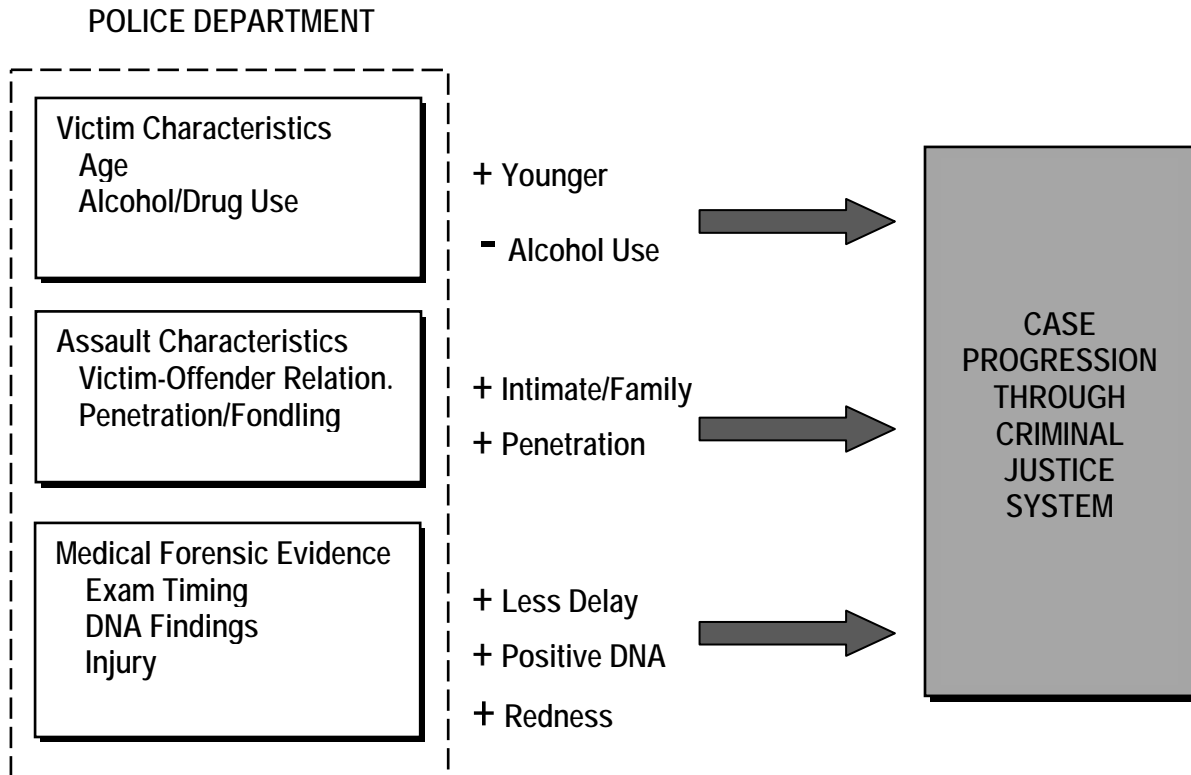
Block 3 of Table 5 shows the influence of assault characteristics on case progression. Cases in which the suspected perpetrator was a family member or partner of the victim were 2.73 times more likely to reach higher outcome levels compared to cases in which perpetrators were either acquaintances or strangers; outcomes of cases involving strangers or acquaintances was not found to differ in this sample. Cases involving penetration of any type (oral, vaginal, and/or anal) were 6.13 times more likely to reach higher levels of outcome than were cases that did not involve any penetration (i.e., fondling). Outcome was not found to differ by specific type or number of types of penetration. The tactic used in the assault (force/weapon, victim unconscious/drugged, coercion/intimidation) was not predictive of level of outcome after controlling for other variables in this and preceding blocks.

Block 4 of Table 5 shows the contribution of medical forensic evidence to prediction of case progression through the justice system. Time between the assault and the medical forensic exam was significantly related to case progression: cases exceeding 20 hours were less than half as likely to reach higher outcome levels (OR = .39). Controlling for time between the assault and the exam, two types of medical forensic evidence were positively related to case progression: DNA evidence was associated with 2.68 greater odds, and a finding of anogenital or physical redness was associated with 2.35 greater odds of higher level outcome. In this sample, other types of medical forensic evidence (e.g., abrasions, tears, bruises, foreign matter) were not associated with case progression. Specific findings such as anogenital bruising, physical abrasions, etc., did not make significant contributions to prediction, at least partly due to the low rates of these specific findings. As can be seen in Table 5, addition of each of the four successive blocks of predictors made a significant additional contribution to prediction of case progression.

In light of the small sample, the model was checked for the influence of problematic collinearity, suppression, and overfitting by examining the effects of variables in the final model with other predictors removed. Discrepant findings (e.g., effects reaching significance only when other variables were in the model) might identify suppression or other multi-variable effects that are too complex to be supported by the limited sample size. However, the coefficients for all predictors remained consistent regardless of the presence or absence of other variables, suggesting that model effects are robust and adequately supported by the sample size. Figure 5 (next page) summarizes the findings from these analyses.

FIGURE 5

Summary of Study 2 Findings



V. GOAL #2 STUDIES:

WHY IS THERE AN EFFECT? WHAT ARE THE MECHANISMS OF CHANGE?

A. Study 3: What Are Police and Prosecutors' Experiences with SANE?

1. Research design. The quantitative results from Study 1 and 2 indicated there was a significant increase in prosecution in the post-SANE era and that medical forensic evidence findings were significant predictors of case progression (even after accounting for victim and assault characteristics). Therefore, consistent with the sequential explanatory mixed methods design, our aim in this study was to validate these findings with a different methodology. The purpose of this study was to use a qualitative methodological framework to explore police and prosecutors' experiences working with SANEs and how those interactions may be a contributing mechanism to increased prosecution rates in post-SANE. The participants in this study were *not* told the results of the prior quantitative studies, and instead, we asked them whether they perceived that there had been a change in prosecution rates since the implementation of the SANE program. Then, we explored if and how SANEs affect the way in which police and prosecutors approach adult sexual assault cases. These in-depth interviews were conducted with law enforcement supervisors in the police departments from which the Study 1 and 2 cases were drawn (see above), and with all prosecutors in this county who are responsible for the prosecution of adult sexual assault crimes.

2. Sampling of cases. Law enforcement supervisors from five largest police agencies within the focal county were the target sample for this study (these are the same five departments from which the Study 1 and 2 cases were drawn). The target sample for this study was law enforcement personnel who were: 1) direct supervisors of detectives who investigate adult rape cases OR the detective with the most experience investigating adult rape cases within their department; and 2) knowledgeable about and responsible for implementation of any policy or procedural changes relevant for rape cases. A key informant approach was used to identify the participants in each law enforcement agency who fit the

study's sampling criteria. The director of the focal SANE program developed a list of supervisors who met the study criteria based on her knowledge of the police departments' organizational structure. A research assistant contacted the supervisors to confirm their eligibility and scheduled an interview if they agreed to participate in the study. In addition, the supervisors were asked to nominate a detective who has the most experience investigating rape cases. The research assistant contacted the detectives directly to explain the study and schedule an interview. Nine law enforcement participants were interviewed: five lead detectives and four supervisors of detectives. One law enforcement supervisor did not participate in the study due to schedule conflicts, despite repeated efforts to try to arrange an interview (90% participation).

Seven of the law enforcement participants were male, two were female. Their average age was 41 years old, with a range of 34 to 49 years old. All of the law enforcement participants were white. The highest level of education varied among participants: 11% had one year of college, 44% had an associate's degree, 34% had a bachelor's degree, and 11% had a master's degree. The average years of experience in law enforcement was 18 years, ranging from 12 to 24 years. The number of years in their current position ranged from one to nine years, with an average of five years in their current position. The average number of adult rape cases handled by the law enforcement participants over their entire career was 65, with a range of 10 to 112 cases.

The prosecutors in the focal county's sex crimes unit were also recruited to participate in this study because they: 1) have the sole responsibility of making warranting decisions about rape cases; 2) primarily prosecute the rape cases that are resolved through trials; and 3) have direct and daily contact with detectives who handle rape cases. All prosecutors who currently have a position in the sex crimes unit of the prosecutor's office (n=5) (or recently held such a position, n=1) were asked to participate in the qualitative interviews (100% participation rate, N=6). The average age of the prosecutors was 36 years old, with a range of 28 to 41 years old. All prosecutors were female and five were white. The average years of practicing law was 9 years, ranging from 2.5 to 13 years. The number of years in the sex crimes unit

ranged from two to eight years, with an average of four years. The average number of adult rape cases these prosecutors handled post-authorization (i.e., cases that had been warranted) was 70 (over their entire career), with a range of 20 to 240 cases. On average, 6 of these cases went to trial with a range of 0 to 13 cases.

3. Procedures for data collection and coding. Law enforcement and prosecutor interviews were conducted in-person by the PI or a research assistant in private meeting space at the participants' office/department. The length of the police interviews ranged from 50 to 110 minutes, with an average of 65 minutes. The prosecutor interviews ranged from 45 to 135 minutes, with an average of 1.50 hours. The interviews were tape recorded with permission and transcribed.

4. Measures. The semi-structured qualitative interviews with police and prosecutors explored four main topics: 1) whether they perceived a change in investigations and prosecution of adult sexual assault cases since the implementation of the SANE program; 2) their assessment of the quality and utility of the forensic evidence provided by the SANEs; 3) their perceptions regarding whether inter-agency training has improved the quality of police investigations and reports post-SANE; and 4) their perceptions regarding if and how the SANE program increased communication and collaboration among legal and medical personnel, and if such changes have influenced law enforcement investigational practices or prosecutor charging decisions (see Appendix C for interview protocol).

5. Analytic plan. Data analysis proceeded in a two-phase process. First, consistent with Strauss and Corbin's (1990) method of "open coding" and Miles and Huberman's (1994) concept of "data reduction," two analysts independently read the transcripts and identified a preliminary list of themes mentioned by participants. The analysts compared themes, discussed and clarified the meaning of the thematic codes, and revised the coding framework until there was consensus. Once the coding framework was finalized, the transcripts were independently coded by the two analysts.

In the second phase of data analysis, we used Erickson's (1986) analytic induction method, which is an iterative procedure for developing and testing empirical assertions in qualitative research (see also Patton, 2002). A key advantage of this method is that it elevates the analyses from the descriptive level (the first phase) to an explanatory focus. In this approach, an analyst reviews all of the data multiple times with the goal of arriving at a set of assertions that are substantiated based on a thorough understanding of all of the data. The next task is to establish whether each assertion is warranted by going back to the data and assembling confirming and disconfirming evidence. The analyst must look for five types of evidentiary inadequacy: 1) inadequate amount of evidence; 2) inadequate variety in the kinds of evidence; 3) faulty interpretative status of evidence (i.e., doubts about the accuracy of the data due to social desirability bias); 4) inadequate disconfirming evidence (i.e., no data were collected that could disconfirm a key assertion); and 5) inadequate discrepant case analysis (i.e., no cases exist that are contrary to a key assertion) (Erickson, 1986, p. 140). Assertions are revised or eliminated based on their evidentiary adequacy until a set of well warranted assertions remain.

For this study, two analysts worked sequentially through Erickson's method so that the second analyst could provide independent verification of the assertions. The first analyst developed a preliminary set of assertions that were *mechanistic* in nature. In other words, the assertions had to state how and why SANEs may influence the work of police and prosecutors. The first analyst then tested the preliminary assertions against the data, refined, and in some instances eliminated them. Once the first analyst had completed what was in her opinion a well-warranted set of assertions and assembled confirming evidence (i.e., quotes and longer interview excerpts), the second analyst then cross checked those assertions against the data and added more detail and nuance to the assertions. The revised assertions were discussed by both analysts and the PI to reach consensus on a final set of assertions that were well-supported by the data.

6. Results. Perhaps the most salient finding of this study was that both police and prosecutors independently affirmed that there have been significant changes in the investigation and prosecution of adult sexual assault cases since the implementation of the SANE program. In the interviews, the prosecutors directly stated that they believe prosecution rates have increased post-SANE, and that this effect is attributable to the SANE program. For example, as one prosecutor with thirteen years of experience in practicing law who has handled 45 adult sexual assault cases explained:

I think it has everything to do with the SANE program, I really do.... because, personally, when I get a case on my desk, I'm like, oh look, they reported right away, a SANE report, look there is injury . . . I'm sitting here thinking to myself, I've got a good case. I've got corroboration, I've got medical, I've got a good case and I'll use that with talking to the defense attorney. Dude, I've got medical, are you kidding me, I've got injuries here, you know I'm offering this one time offer only you want to take it fine, if not, I'll kick your ass at trial.... Again, I think it is the corroboration and the proof. The proof that the jury needs to say that it happened [2A02].

Similarly, the law enforcement interviews highlighted how the SANE program is an effective “tool” for building strong legal cases. Since the implementation of the SANE program, law enforcement can count on more thorough evidence documentation, which is instrumental to creating a solid case. For instance, a detective supervisor with eighteen years of experience in law enforcement, who has handled 38 adult sexual assault cases noted:

We [law enforcement] use the [SANE] examiners like I said, to collect, process evidence and things like that . . . [it's] another link in the chain of probable cause. I think that the prosecutor's office uses them to put together a much stronger case. The stronger your case, the better your chance of conviction and better conviction rate since implementation of the program in my opinion. [3A01]

The interview excerpts above are typical of our conversations with police and prosecutors in that there was wide consensus that SANEs are instrumental in the development of more complete, fully corroborated investigations. As a result, police are more likely to refer cases to the prosecutors because they feel it is a

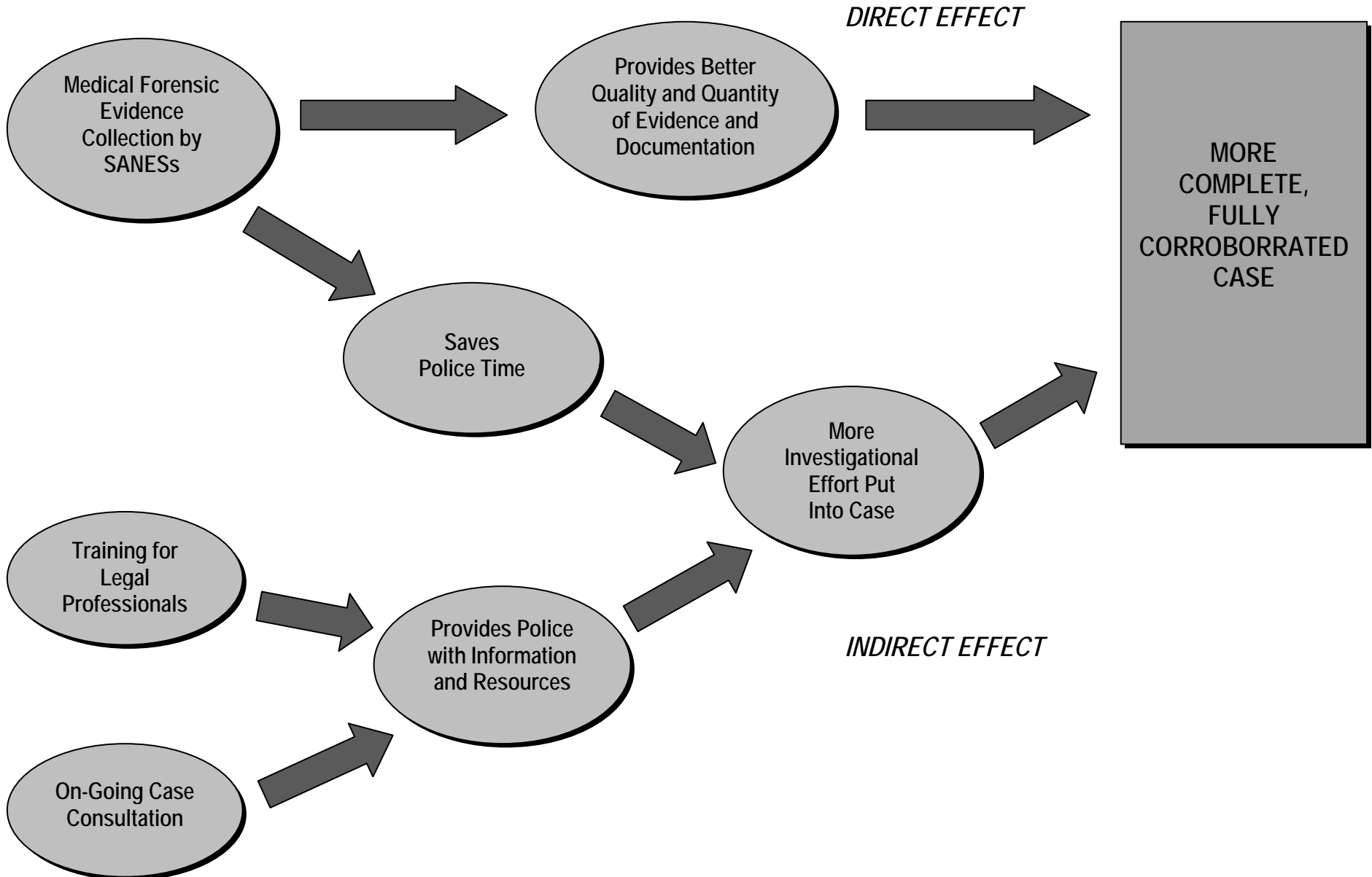
strong case with good evidence and are invested in its outcome. And consequently, what arrives to the prosecutor is indeed a well-developed case that is more likely to be acted upon. Therefore, the increased prosecution post-SANE may be attributable in part to the efforts of SANE during the early stages of criminal justice case processing, the law enforcement investigation.

We then examined the data in more detail to identify the mechanisms by which the SANE program contributes to the development of more complete, fully corroborated investigations. Figure 6 (next page) depicts the mechanisms supported in our data. First, the medical forensic evidence (and accompanying documentation) collected by the SANEs is of better quality and quantity than that obtained by traditional emergency department personnel, which contributes to more complete, fully corroborated cases in the post-SANE era (i.e., a *direct effect*). Second, the SANE program's evidence collection procedures save law enforcement time on administrative tasks, which allows the detectives to focus on other aspects of investigating the case, thus producing a more thorough investigation (i.e., an *indirect effect*). Third, this SANE program provides ongoing case consultation and specialized training to law enforcement, and this information also contributes to increased investigational effort. Each of these findings is described below.

a) SANE provides better quality and quantity of medical forensic evidence. As part of the SANE examination, the nurses obtains a medical history from the victim regarding the assault, conducts a head-to-toe exam, and documents injuries (e.g., type and size of injury) on a body diagram. The police and prosecutors interviewed for this study noted that compared to medical personnel in hospital emergency departments, the SANEs were more thorough in all aspects of the exam process. For example, the nurses work with their patients to obtain a detailed description of what happened during the rape and the specific areas of the body that were touched or penetrated. In the following example, a prosecutor with six years of experience compares how the SANE program obtains the history of the assault compared to the medical personnel of the emergency department.

FIGURE 6

Summary of Study 3 Findings



The E.R., you know when you go to the doctor's office and they say, So what are you here for? And you say, an earache or whatever. That's their statement. That's the patient's statement, according to the E.R. or the doctor, ok, so if I was to go to the hospital or to my doctor and say, the nurse, the one who takes it, and they just say, What are you here for or why are you here? Because I was raped. That's the statement. That really is the only statement that we should be allowed to get in under the medical hearsay exception. Now, with the nurse examiners, because they are trained and know how important these statements are, they will say, So, tell me what happened and why you're here. And, tell me, not in all detail, but tell me where [you were touched] so that I know what to look for. So, because of the way [they ask], they will have a statement that sometimes a ½ written page [2A06].

Similarly, a prosecutor with thirteen years of experience practicing law compared the differences of the assault documentation by the SANE program to the medical personnel of the emergency room:

My SANE report that I get is like fifteen pages long and the hospital report I get is not even a page and I'm like did you take a history, did you get any statements, did you do all these things and they don't, they don't do all those things that the SANE nurses do [2A02].

A thorough history of the assault is important because it guides the exam. That is, the nurses are more likely to find evidence when they have a thorough medical history of the assault. For example, if the victim notes that the offender licked or kissed her skin, the nurse can swab the area for potential DNA. In addition, the medical history of the assault can corroborate or confirm the victim's statement or contradict the suspect's statement. In the following example, a prosecutor with nine years of experience practicing law discusses how the evidence collected by the SANE program corroborated the statements made by a victim:

She told me he grabbed me by the hair, he grabbed me by the throat, he, we had injury to her neck, we had fingerprints on her neck, that helps the case, gives her more credibility, yes, in fact, she told the police he did this, this and this and sure enough she had bruises to prove it. She said at one point when she was talking to the police he grabbed me by my arm and dragged me and then my head hit the table, she had a big welt on her head so that all just lends credibility to our victim. Ultimately, it is their [victims'] testimony that they [jury] are going to have to decide on. Obviously if we get some trauma to the vaginal area

that coincides with what they did, whether it be a finger they used or penis they used or object they used, if definitely obviously lends them credibility in her statement [2A04].

As shown in this quote, the medical forensic evidence confirmed the victim's statement, which increased her credibility and led to the case being charged.

The thoroughness of the SANEs evidence collection procedures was consistently praised by police and prosecutors. For example, a detective supervisor with eighteen years of experience compared the differences between the SANE program and the emergency department in the thoroughness of evidence collection procedures:

Instead of doing a full kit, an E.R. doctor or nurse may have done, well you know the victim said that only these things happened so we didn't collect from these areas of the body because they didn't complain or say there was anal penetration, they didn't say anything about anal penetration, it was strictly penile vaginal, so we didn't do any swab, not thinking there could be some transfer of fluid from one orifice to another. Whereas, the forensic nurses will do the full kit knowing that there could be that transfer and we may not find it here but we may find it here. So, those things save time in the end because we don't have to go back and in many cases if a certain amount of time has gone by, you can't go back. [3A01]

As illustrated by this detective supervisor, the thoroughness of the evidence collection by the forensic nurses may lead to more available evidence for cases. In fact, the participants believed that they had more cases with medical forensic evidence when the SANE program began conducting the examinations. The next example by a prosecutor with six years of experience practicing law illustrates how the thoroughness of the evidence collection by the SANE program can help strengthen a case. The prosecutor discusses a case in which the forensic nurse used dental floss to identify the correct offender among multiple suspects. In this case, the victim provided an assault history that included forced oral penetration, which led the forensic nurse to utilize dental floss on the victim's teeth to collect potential DNA specimen:

They found DNA evidence on dental floss . . . it was a girl who was passed out in a hotel room; she knows that there was 3 boys there, but we don't know which one to finger and now we do because we are going to be able to now get a, we were able to get a search warrant so we're able to get the 3 young men's DNA and we will be able to charge this guy with oral penetration. Had we not had SANE, that girl would have never gone - the hospital would have never found that evidence. And apparently, that's not the first time [dental flossing has found evidence]; that's happened once or twice before. That type of evidence is unheard of in a hospital. They just don't take the time. They do a [vaginal] scrape; they don't do the, they don't follow the kit the way that it's supposed to be done. They lose all the evidence on the outside of the vaginal area. They don't do anything head to toe. . . . I'd say 90% of the time, hospital personnel do not do the [rape evidence] kit appropriately [2A06].

As this quote explains, this case would not have been authorized because the victim was passed out and did not know which suspect had raped her. Thus, the thoroughness of the evidence collection procedures by the SANE program can help identify suspects and lead to the charging of rape cases.

Another way the SANE program provides more documentation of medical forensic evidence is by taking pictures of injuries on the victim's body, which was not conducted by the emergency department medical personnel. In this next example, a detective supervisor with twenty years of experience in law enforcement notes that the quality of photographs of injuries has improved in the post-SANE era:

I know the quality of documentation has improved from what we've seen in the past. Particularly with the addition of, you know, photographs of injuries, we never had that from an ER. If we had pictures, we took them ourselves and then a lot of the, you know if it wasn't a significant enough injury to treat, it might have gone undocumented in the past but now the forensic nurses do a better job of capturing, not just the trauma related to, say the sex assault, but the associated trauma to the victim also, defensive wounds, things of that nature [3A04].

As identified by this detective supervisor, photographs of injuries may have gone undocumented through photography because they were not taken systematically by medical personnel or law enforcement prior to the SANE program. In addition, participants noted that the SANE program is better at capturing the nature of the injury than law enforcement and because forensic nurses receive specialized training and practice in taking pictures of injuries, their quality is substantially better.

In addition to examining victims, the focal SANE program examines suspects for potential evidence (termed suspect exams), which was not occurring prior to the implementation of the SANE program. As illustrated in the next exchange, a detective with sixteen years of experience in law enforcement explains how suspect exams may lead to a more complete corroborated case.

They [forensic nurses] document scratches, lacerations, any type of biting or bruising [on a suspect] where a victim may fight back. They also document whether or not there is vaginal fluid left on a male suspect per se or whether or not there's - they will pull pubic hairs for DNA. They will do swabbing [of] the genitalia, everything. [3B03]

I: So it is one more opportunity to find evidence.

Absolutely. Absolutely and it is great for like a guy who says "well I was never there. I was never with her." Well, why do you have her vaginal secretions on you if you were never with her? [3B03]

As this detective notes, evidence found on the suspect may corroborate the victim's story, especially if the suspect denies any sexual contact with the victim.

The importance of medical forensic evidence, from the victim and/or suspect, to the case outcome cannot be understated. Injury and DNA evidence is particularly important in important in rape cases because it can corroborate the victims' statements and move the case beyond a stereotypical "he-said/she-said" dynamic. For example, a prosecutor with thirteen years of experience in practicing law explains why medical forensic evidence is critical in rape trials:

It [evidence] is a huge part and it is a valuable part, it is in and of itself, it is a big part, plus for the most part it will back up what our victim has said happened. It will back up other scientific evidence, so it becomes part of this picture that runs together and backs each other up. And I can say to the jury, okay, now this is what she talked about. And let's look at the scientific evidence. And, you know, this is what the nurse said about the injuries and let's look at what was found at the scene. I mean, so it is a picture that I can paint for the jury that for the most part goes together. I mean sometimes it doesn't, but for the most part if I'm doing my job right, you can make this cohesive argument saying, this is what happened that night and this is how we know it happened that night [2A03].

Similarly, another prosecutor with nine years of experience practicing law noted that medical forensic evidence holds strong weight with jurors:

The thing is medical evidence always carries almost more weight than the actual person's testimony itself. In this day and age, especially with TV and people think there is so many resources out there for police, medical, you know, it can make a case that we never would have authorized into one we would authorize. So, depending on the actual physical evidence, it can make a case [2A04].

I: Because jurors expect to see that?

Yes, they do, mm-hmm [2A04].

Medical forensic evidence holds weight in rape cases because jurors expect evidence to be found. Given the value of evidence in rape cases, the quality of medical evidence collection is important. Law enforcement and prosecutors of the focal county noted that the forensic nurse examiners conduct comprehensive evidence collection and documentation of the victim and suspect exams, which provide more available medical forensic evidence and thus, more complete and corroborated cases.

b) SANE medical forensic evidence collection procedures save law enforcement time. The SANE program's procedures save law enforcement time on administrative tasks, which allows the detectives to focus on other aspects of the investigation, thus creating a more complete case. For instance, the law enforcement participants noted that the 24/7 availability of the SANE program makes it easier to coordinate the early stages of their investigation. In this next illustration, a detective supervisor with eighteen years of experiences explains how the continual availability of the SANE program saves time for law enforcement:

SANE, first thing that comes to mind is that it is very useful during the off hours. For instance when I am on call, if I get called in during the middle of the night, one or two in the morning, it is nice that I have a resource that I can call and have somebody. They have somebody on call and they are willing and able to come in at any time to conduct their examination. That is nice because obviously you don't have to wait until normal business hours to have this done... I suspect if we had to take someone to a normal E.R. or hospital we'd be sitting around forever probably waiting for someone to become available. With the

SANE program they are right there. You are not waiting in line, somebody will come right in and all they have to grab, with their equipment obviously, they will take that person in then they will start their examination [3B01].

I: You talked about one of the benefits [of SANE] is that they are available off hours and they have immediate response. Why is that important to you as a detective?

Because it makes things, if they weren't available, things would be thrown away. I would have sit around waiting to have the examination done. We can go immediately to that because there are several things we have to do with CSCs [criminal sexual conduct], especially if it is a long drawn out process. Especially if there is a suspect that you get in custody, there are several things you have to do. For any one of those to be delayed it would throw everything else off. You are talking, we've had one where I was here seventeen hours straight just on that one particular case because we ended up getting a suspect in custody and I have to type up search warrants to get his body examined and that takes time. Obviously interviewing the victim takes time, having her examined takes time, and all this stuff, for any one of those things to be put off would throw everything out of order and make the process take even longer [3B01].

Prior to the SANE program, law enforcement would wait hours, along with the victim, before the examination was conducted. As the detective supervisor notes, because the SANE program examines the victim immediately, the detective can attend to other investigational tasks.

Another time-saving practice used by this SANE program is to conduct suspect exams at the police department rather than the SANE location (which also keeps the SANE program a safe space for victims). In this next example, a detective with nineteen years of experience in law enforcement explains why conducting suspect exams at the police department saves them time.

And then, certainly another time saver and you know, helpful situation, the aspect of the suspect examinations that they do. They come here [to police department]. We've arrested somebody for a sexual assault and now we want to get evidence off of this person to help strengthen our case.... These are all time savers; these are things that they do that make it easier on us.... Other advantages to them coming here, just the sake of convenience, you know, I can be multi-tasking as opposed to sitting around if I had to go to an off-site facility and escort this prisoner, I'm tied up. Or if it's not me that's tied-up, two police officers that could be doing something else are tied-up. Here we don't have that issue. We're already here. So, I can, if it's in the jail, there are officers that are up there working anyway, they can stand by why the nurse does what needs to be done and I can be down here

conducting an interview or preparing some paperwork necessary for the case. It allows me to focus my attention elsewhere [3B04].

As the detective explains, having suspects examined off-site requires two law enforcement officers to transport the suspect. By having the suspect examined at the police department, law enforcement no longer needs to leave their department. This is particularly advantageous because the detective can focus on other investigational tasks instead of waiting off-site for the suspect exam to be conducted.

Prior to the implementation of the SANE program, the police noted that they would have to obtain a search warrant in order to receive the hospital's documentation of the forensic exam. This SANE program has a consent form that victims can sign if they choose to release documentation of the medical forensic evidence findings to law enforcement. In this next illustration, a detective with twenty four years of experience explains why the SANE procedures of releasing documentation save time:

Oh, the SANE is much more organized than the hospital was. And SANE information is received rather quickly, if not the same day the following day you have the information. With the hospital it took time to go through their records to obtain any additional reports which made it difficult for us to proceed with our investigation.... You'd have to go through the records, yeah, through the hospital and at times some of them don't know what they are dealing with if we couldn't get a release from the patient right away, or anything like that then we'd have to obtain a search warrant to obtain the records. I believe right up front at the forensic nurse examiner program they sign a waiver allowing the information to be turned over to the police so we are able to get that information more expediently [3B02].

I: So would you say that saves you time by just having it handed over as opposed to having to get a search warrant?

Certainly it saves us time. A search warrant takes a lot of time. Not so much of writing up the search warrant but finding the judge to read it, authorize it or magistrate and then to effectuate that search warrant. You know go into the hospital. If they don't readily give us the records we are requesting well then we have to look through all their files, not that we've ever had to. Once you show them the search warrant they usually comply but it is just another step and another, time is being burned up when it could be used for things that are more beneficial to the investigation [3B02].

In addition to saving time, the documentation can assist detectives by providing new avenues to pursue in the investigation. Moreover, because the documentation becomes part of the law enforcement's record, it is also presented to the prosecutor for charging decisions.

Prior to the implementation of the SANE program, law enforcement participants reported that they spent a great amount of time trying to serve subpoenas to medical personnel of the emergency department. Since the implementation of the SANE program, the participants noted that they can mail the subpoenas to the forensic nurses and trust that they will arrive to court. In this next example, a detective with nineteen years of experience in law enforcement explains how this procedure saves them time.

I: One thing, when you were talking about, you said that it would take a lot of red tape to get an E.R. doc or a nurse to testify. Does that take a lot of resources as a detective, does that take up a lot of your time to do that?

It takes up an incredible amount of time and it's very frustrating.... I can't testify to an injury. I need a doctor to say that I've diagnosed an injury so I have to subpoena that doctor that treated it. And, when I get that subpoena handed to me to serve, I know that it's not going to be accepted gladly. I know that the majority of the subpoenas that I receive, I'm able to place them in an envelope, mail them and not worry, people receive them, they accept them and it's great, but when it has a doctor's name on it or a nurse's name on it and they are acting for the health care facility, I'm not allowed to go into that facility and personally serve it, I can't place it in an envelope and trust that it is going to be handed to that individual, they've got their, hospitals typically have their corporate counsel and you have to go through the legal department and they're not particularly helpful.

The doctors, especially the doctors, time is money, being tied-up in court, if they have other interests outside of emergency room and they're working in private practice and they have patients that day, they can't clear their calendar to hang around in court, they don't want to come, it is a problem for them.... Not the case with the SANE people, they go into this with eyes wide open. That's part of their training, what you do is going to be part of a court case and because of that, what you do is going to necessitate that you maybe have to testify in court and this is how you are going to do it. I can get those subpoenas with the SANE nurses' name on them, place them in an envelope and never worry again because I know when the court date comes that nurse will be there [3B04].

All participants noted that investigation time and court time is very precious and the SANEs work with law enforcement and prosecutors to make efficient use of everyone's time.

The consistent, unwavering accessibility of the SANEs and the quality of their work has fostered tremendous trust of the SANEs by members of the legal community. This trust is also instrumental in freeing up more time for other aspects of the investigation because police know that the medical forensic elements are being handled appropriately. A detective supervisor with twenty years of experience in law enforcement explained this interrelationship clearly:

Trust is everything. When you have that level of trust, the information that you receive, you don't have to spend a lot of time considering, well, how...does this individual, do they know what they are doing? Is their perception of the information they are giving me actually reality? There is less time spent deliberating over the information that is received by either party because of the trust, because of the experience, because of your knowledge of their level of training. Their knowledge of your level of training and experience and reputation with regard to the investigation and evidence collection or documentation, injuries, dealing with the same people. I guess there has already been some, because of the relationship, and it will get even better over time. It has already been through a validation process [3A04].

Similarly, a detective with 19 years of experience in law enforcement and direct experience handling 75 adult sexual assault cases noted that because of his trust of the SANEs, he can invest more time in obtaining a quality victim and suspect interview because the medical forensic component is in good hands:

I know that my physical evidence is going to be completely collected and its not even a concern, allowing me to focus then my attention more so on the victim and obtaining the statement and then being able to then focus my attention on the suspect and again obtaining the statement there. It just takes the whole worry of the evidence out of the equation and just focus on the people instead of the inanimate things, the evidence. [3B04]

As illustrated in this example, trusting the forensic nurses eliminates time spent trying to determine if their information (verbally or written) is trustworthy. As these detectives note, the law enforcement's experience with the forensic nurses has "validated" the SANE program as trustworthy.

c) Ongoing case consultation and specialized training to law enforcement provides information and increases investigational effort. The SANE program provides ongoing consultation to law enforcement for

individual cases. Law enforcement may request further information about the victim or case, inquire about the medical forensic evidence findings from the exam, and/or brainstorm with the nurse further investigational leads on the case. For instance, a detective supervisor who had handled 100 adult sexual assault cases in his 19-year career explained how these consultations can directly “lead to more leads:”

So they [forensic nurses] tell you this looks like an injury caused by a coat hanger. You get the search warrant, you go to the house, low and behold there is a wire hanger that is, you know, bent. [3A05]

Similarly, a detective supervisor with twenty years of experience explained how consulting with the forensic nurses benefits law enforcement’s investigations:

If the detective has a theory about how the event had played out with the offender and the victim, the interaction between the two parties; they may, “hey, would this fit what you found? Can you give me an informal opinion?” They want to know, is the investigation heading in the right direction? Could this have caused this injury? “Hey do you think this could have happened during the assault?” It is great to be able to reach out to those people [forensic nurses] and get their opinion. [SANE might say] “Yeah, it’s possible but it could be something else too.” They might give you a new avenue to pursue, something else to look for, which saves time and prevents attacks on the case later on because you closed down, when you can shut down things that are impossible, get them out front, the possible sequence of events; you are better prepared for the attacks [by defense lawyers] that come at court [3A04]

As demonstrated by this example, the consultation with the forensic nurses may lead to the detectives investigating the crime further, creating a more complete case. Further, a thoroughly investigated case is stronger because it is less likely to be weakened by the defense lawyers during the legal proceedings.

In addition to on-going case consultation, this SANE program provides an annual four-day multi-disciplinary training attended by forensic nurses, law enforcement, prosecutors, crime lab staff, and advocates from the rape crisis center. Training faculty include a national SANE trainer as well as local professionals. This annual training is a rare opportunity for legal system personnel to receive training

specific to rape investigation. The training is free for legal system personnel and they may attend the training as often as they would like. All of the participants in this study noted that this training is instrumental in providing information and resources that help develop stronger cases.

During the training, law enforcement learns that the SANE program obtains a detailed medical history of the assault and why it is important for law enforcement to review that medical history during their investigation. As such, law enforcement who attend the training have gained an understanding of how the SANE documentation assists their investigation. In the next set of examples, the law enforcement participants explain how the SANE documentation helps their investigation:

Well it [documentation] helps us to, let our investigation know where it should lead to, what questions to ask. We are not always asking the same questions over and over again. So it makes us aware of things that possibly we might forget to ask [3B02].

Many of the investigations we had before, go into the hospital ...we get minimal information, you get body diagrams that show nothing, just trying to get that information from the hospital it was incredibly hard. In fact, now [with SANE] almost immediately you have that information available to you as a detective. Where that can as an investigator leads you to, down a certain path that you may not have had. And I'll give a ton of credit to SANE because we didn't know how we dealt with sexual assaults, we didn't know all the evidence that we could get. We didn't know, a lot of ways that this would help our investigations in the different ways that we could conduct the investigation. When I say SANE is a tool. There are so many things that they can do that assists us, that we didn't know [3A05].

As illustrated in these quotes, law enforcement utilizes SANE documentation to assist their investigation such as helping detectives know what questions to ask the victim or suspect. Again, law enforcement learns how to utilize SANE documentation through the SANE training.

Another component of the training includes instruction on genital anatomy and medical forensic exam terminology. Participants reported that the training helps law enforcement understand how to incorporate the medical forensic findings into their reports that are presented to the prosecutor. In these next quotes, police explain why understanding this terminology is important in their investigational practice.

You know what the term means, you know what they are referring to, you don't have to have them [SANEs] explain it again and not only that you're more knowledgeable about what you are talking about too when you are trying to explain what actually happened in the sexual assault when you are testifying or what you are writing in your report, so it is the increase in knowledge [3B02].

...they [SANEs] can better educate the detectives as to the significance of their findings so that the investigative reports that are drafted can go to the prosecutor's office, who is the decision maker for the charges that were brought, is better informed because their report is more complete and the information gathered is put into better perspective and we get better charges then and stronger cases because the prosecutor then has an easier time making sense of the case, determining how to present that to a judge or to a jury....It helps the investigator to put that into better perspective for the prosecutor because we have the prosecutor's ear. We are the ones presenting the case to him and if we don't fully understand the information that has been gathered and do a poor job of presenting to the prosecutor, we may not get the charges that they should be had on the case. Or if we give too much significance to findings, in our report, we may get a charge that is too high and we can't win in court. So I think the training provides better understanding for our investigators to take their findings, translating them into their investigative report to present to a prosecutor...[3A04]

As identified in these examples, gaining knowledge of the medical forensic terminology helps law enforcement write a clear explanation of the rape and thus, produces a more complete report for the prosecutor. A complete report makes it easier for the prosecutor to understand what occurred during the rape, which helps make a more informed decision about charging the case.

This training program also provides law enforcement with advanced instruction on conducting interviews with victims and rape investigations, which leads to more comprehensive investigations. The prosecutors interviewed in this study stated that they have perceived an improvement in the quality of police investigations because of the training, and that the reports they review are better after they go to the training. In the next exchange, a prosecutor with nine years of experience practicing law explains how police work changes post-training:

I: You also said the training helps law enforcement; it makes them better at how they handle cases? What do you mean by that?

The more training you go to, the better you are going to get at investigating them. Again, just knowing how to relate to the victim, knowing what they are looking for, knowing what the SANE person is looking for, more familiarity with anything makes you speak more confidently in anything so the more training you have, the more confident they can speak and the more confident they can testify. The more aptly they can do their investigation and they can know what they are looking for. So I guess all those combined makes them a better investigator in a particular case [2A04].

I: Does it help them, does the SANE training help them be more, the only word I can think of is, do more comprehensive investigations?

Yes, I think that would be a very good word. And this may seem broad but I just feel that I like working with officers that have gone through the training better than officers that don't know what they are doing. They are just better at investigating. I know if I'm dealing with, say, "Andy", he's been through the training, I know he's going to do a good investigation, I know he's going to do a good interview and I can call him and he'll have the answers I am looking for. Whereas, if it is someone who hasn't been through the training, I'm basically telling them, well ask her this, ask her what kind of penetration there was, was there any digital? [2A04].

As explained by this prosecutor, it appears that the training helps law enforcement present a more comprehensive case to prosecutors, which helps them make more informed decisions about charging.

In summary, the qualitative data from detectives, detective supervisors, and prosecutors indicated that the SANE program has been instrumental in the creation of more complete, fully corroborated cases. The high-quality medical evidence provides direct "proof" of the assault, and with the medical evidence safely in the hand of the SANEs, law enforcement can put more investigational effort into other aspects of the case. The training and on-going consultation provided by SANEs can also suggest investigational leads and strategies for building a solid case. As a result, what is put forward to prosecutors reflects the collective efforts and expertise of law enforcement and the SANEs, and not surprisingly, the cases *are* stronger. Consequently, prosecutors are more inclined to move forward with charging cases, and over time, the prosecution rates did increase.

B. Study 4: How Does SANE Involvement Affect Law Enforcement Investigations?

1. Research design. The purpose of this study was to return to a *quantitative* methodological framework to explore how SANEs influence the work of law enforcement specifically as a contributing mechanism to increased prosecution rates in the post-SANE era. The qualitative data from Study 3 clearly indicated that SANEs have had a demonstrable influence on how law enforcement approach their investigation of adult sexual assault cases. In this next component of our sequential explanatory mixed methods design, we sought to validate these findings with quantitative methods. The Study 3 qualitative analyses were completed prior to the quantitative modeling for this study, and those narrative results were not shared with the statistical analyst in order to ascertain whether consistent findings would emerge from each methodology.

In this study, we examined police reports written before and after the implementation of the SANE program to determine whether there have been substantive changes in ways sexual assault cases are investigated since the emergence of the SANE program. Furthermore, within the post-SANE era, we wanted to explore what specific aspects of SANE case involvement affected law enforcement actions. This study complements the prior qualitative study (Study 3) by examining whether there were objective, behavioral differences in law enforcement investigation, identifiable in the police reports themselves. Specifically, our aim was to test whether the relationship between SANE involvement in a case and referral of a case to the prosecutors was mediated by law enforcement investigatory efforts. It was hypothesized that SANE involvement would be associated with increased police investigation effort and decreased victim withdrawal, which in turn would be associated with increased case referral to the prosecutors.

2. Sampling of cases. Adult sexual assault police reports were requested under the Freedom of Information Act from three law enforcement agencies in the focal county. Only three of the original five departments examined in Studies 1 and 2 were targeted for this study of police reports due to the resource demands of coding and analyzing micro-level data from the reports. We selected these three departments

(Departments 2, 3, and 4) because they had comparative high adult sexual assault case loads and the records/information systems in these departments were more sophisticated. All cases that fit the following eligibility criteria were requested: 1) the reported crime was classified as a criminal sexual conduct offense (the focal state's term for sexual assault crimes); 2) the victim was 18 years old; and 3) the crime occurred between January, 1994 to December, 2005 (which spans the five years prior to the implementation of the SANE program [January 1994 to August 1999] to seven years after SANE [September 1999 to December 2005]). Unfortunately, even within the highly organized records units of these departments, police reports from 1994 were completely unavailable, and only 52 were available from 1995 through August 1999 (the pre-SANE era). As a result, our capacity to test for changes in police reports before and after the implementation of the SANE program was limited (see below), but it was still possible to examine what specific aspects of SANE involvement (in the post-SANE era) affected law enforcement actions.

A total of N=393 reports were provided by the three departments, and these records were reviewed by two research assistants to verify whether all cases fit the study criteria. Of the original cases, 41 were excluded: 31 cases were dropped because the survivor was under 18 years old (sampling error); 8 cases because the police report was largely incomplete; and 2 cases because the reported crime was not a sexual assault (sampling error) (92% sampling reliability). The research assistants then conducted a quantitative content analysis on the remaining N=352 cases.

3. Procedures for data collection and coding. To develop the content analysis coding framework, a random sub-sample of 20 reports was reviewed by the PI, co-investigators, and research assistants. Each independently developed a list of broad thematic codes that should be captured for each report. The team met to compare ideas, develop a final list, and write operational definitions for each of the broad thematic codes. Nine major thematic areas were selected: 1) report characteristics (e.g., days between assault and initial report; length of lead detectives report); 2) victim characteristics (e.g., age, race/ethnicity); 3) suspect characteristics (e.g., age, race/ethnicity, relationship to victim); 4) assault characteristics (e.g., type of

penetration/fondling); 5) medical forensic findings (e.g., DNA, injury documentation); 6) law enforcement interactions with victim and suspect (e.g., interviews conducted, attempted to resolve inconsistencies); 7) other law enforcement investigation actions/effort (e.g., collection of other evidence, interviewing witnesses); 8) consultation with SANE and/or other professionals about the case; and 9) case outcome (e.g., no referral/referral to prosecutor).

Once these broad thematic codes were established, the PI worked with the research assistants to develop multiple sub-codes within each theme to capture specific information (over 200 variables were created). A detailed codebook was developed that included operational definitions for each sub-code, along with examples of what would and would not be considered an appropriate application/exemplar of the code. The 20 cases randomly selected for use in the development of the coding framework were independently coded by two research assistants. Initial inter-rater reliability was fair, which prompted more team discussion of inconsistencies and revisions to the codebook. These 20 cases, plus 20 new cases, were re-coded, which finally yielded acceptable inter-rater reliability (percent agreement >90%, kappa >.80). Overall, 30% of the total reports were double coded to monitor inter-rater agreement, which remained high (percent agreement >90%, kappa >.80).

In addition to coding the thematic content of the police reports, we recorded the badge number for the officer/detective who wrote the report to verify whether that individual had participated in any of the law enforcement sexual assault trainings conducted by the focal SANE program (cross-checked against the official training attendance rosters). Once this information was obtained, the identifying badge number was removed from the database, and only the variables reflected training participation (yes/no; if yes, the number of times trained) remained.

4. Measures. As noted above, the coding process resulted in the development of numerous variables, but for the analyses in this report, we focused on a subset of variables that were pertinent to our primary hypotheses (described above). The dependent variable in these analyses was whether the police

had referred the case to the prosecutor (i.e., referral) (154 cases, 54%). For the independent variables, our indicators of SANE involvement included: 1) whether the sexual assault occurred after implementation of the SANE program (300 cases, 85%); 2) whether there had been a forensic examination of the victim (168 cases, 49%); 3) whether SANE conducted a suspect exam (29 cases, 8%); 4) whether law enforcement had consulted with SANE about the case (60 cases, 14%); and 5) whether any member of the police team investigating the case had received SANE training (78 cases, 22%).

For the mediating variables, the indicators of law enforcement effort included: 1) whether evidence in addition to the medical forensic exam had been collected (e.g., evidence found at crime scene) (186 cases, 53%); 2) whether one or more suspects had been interviewed (187 cases, 53%); 3) whether witnesses had been interviewed (157 cases, 45%); 4) whether inconsistencies in the victim or witness statements had been resolved (94 cases, 27%); 5) whether the suspect had been offered a polygraph (63 cases, 18%); 6) whether other professionals had been consulted in the course of the investigation (191 cases, 54%); and 7) the number of pages comprising the police report ($M = 5.32$, $SD = 1.66$, range = 1 to 8). In addition to these indicators of law enforcement effort, whether the victim had withdrawn from the law enforcement process (126 cases, 36%) was also examined as a mediator. All analyses controlled for the impact of rape kit results that supported the victim's account (present in 26 cases, 7%).

5. Analytic plan. Data analysis focused on identifying law enforcement investigatory efforts that were associated with SANE involvement in a case. Of the original $N=352$ cases, 9 were dropped due to missing data on key variables, yielding a final analysis sample size of $N=343$. These 343 cases were investigated by law enforcement teams led by 152 police officers. To account for possible similarities in law enforcement effort across cases handled by the same lead officer, cases (level 1) were nested within lead officer (level 2) for analysis; the number of cases handled by each lead officer ranged from 1 to 19 ($M = 2.98$, $SD = 3.37$). Each officer was associated with one of three law enforcement agencies, which were incorporated as two dummy-coded variables at level 2. Cases spanned 11 years: 4 years (1995 through

1998) prior to the implementation of SANE and 7 years (1999 through 2005) following the initiation of the SANE program. Because cases handled near the same time were likely to have been influenced by shared historical circumstances other than the SANE program, the month of each assault was incorporated in the analyses at level 1. Graphical inspection and preliminary analysis showed no identifiable linear or nonlinear trend over time in rates of referral for prosecution.

To reflect the nesting of individual cases within lead officer, multilevel modeling was used to analyze the effect of SANE involvement on law enforcement effort, victim withdrawal, and referral for prosecution. Multilevel random intercept models allowed for between-officer variability in the frequency of various investigation activities and produced standard errors appropriate for testing the influence of group-level variables, reflecting the lack of independence of their effects on individual cases (Raudenbuch & Bryk, 2002). Other than law enforcement agency, covariates were modeled at level 1 (i.e., as varying across individual cases); this allowed for within-officer comparisons of cases handled by the same lead officer before and after they received SANE training. This approach controlled for individual officers' case-handling styles and optimized precision through within-person comparison.

Because all but one of the variables was dichotomous, most analyses used multilevel logistic regression (i.e., the hierarchical generalized linear model with a logit link function). The remaining effort variable, number of pages in the police report, was relatively normal in distribution and was analyzed using linear multilevel regression. All analyses used restricted maximum likelihood and were conducted using HLM 6 software (Raudenbush, Bryk, & Congdon, 2004). To reduce the influence of nonnormal distributions, robust standard errors were used to compute confidence intervals; however, results were virtually identical using robust or nonrobust estimation.

6. Results. Table 6 (next page) summarizes the first set of regression equations, which tested whether the five SANE involvement variables predicted the hypothesized mediators—the law enforcement effort variables and victim withdrawal from the case—as well as police referral of the case to the

TABLE 6

Study 4 Multilevel Regressions Results: The Effect of SANE Involvement on Law Enforcement Effort

Law Enforcement Effort and Victim Withdrawal from Case

	Collected Evidence	Interviewed Suspect(s)	Interviewed Witnesses	Resolved Inconsistencies	Offered Polygraph to Suspect	Consulted With Professionals	Length of Police Report (Pages) ^A	Victim Withdrawal From Case	Referral to Prosecutor
	<i>Odds Ratio</i>	<i>Odds Ratio</i>	<i>Odds Ratio</i>	<i>Odds Ratio</i>	<i>Odds Ratio</i>	<i>Odds Ratio</i>	<i>Coefficient</i>	<i>Odds Ratio</i>	<i>Odds Ratio</i>
Law Enforcement Agency Level 2									
Intercept	0.347*	0.954	0.379*	0.133***	0.124**	0.704		0.243**	1.359
Dept. D. vs. Dept. C.	0.705	1.924 ^t	1.497	2.755**	1.560	1.569	4.381***	1.421 ^t	
	1.969	1.430	1.404	1.499	1.580	1.117	1.634***	1.992	
Dept. E. vs. Dept. C.								0.637	0.325**
Control Variables									
Month	0.986	1.000	0.992	0.996	0.984 ^t	0.988 ^t	0.003	1.005	0.992
Rape kit supported	2.078	1.315	1.348	1.341	0.752	3.083*	0.544	0.813	2.329 ^t
victim's account									
SANE involvement									
Post-SANE	1.724	0.723	1.398	1.422	1.458	0.978	0.715**	1.933	1.119
implementation		0.636	1.355	0.614	0.858	2.214**	0.397 ^t	0.676	0.786
Forensic exam of victim	5.178**	4.655*	1.990	2.908**	1.247	1.646	0.592*	0.385 ^t	
SANE exam of suspect	6.192**	1.439	1.712	1.442	2.578*	1.006	0.485**	0.554	5.413**
Consultation with SANE	1.272								2.382*
SANE trained to SANE	1.717 ^t	1.165	1.323	1.963*	1.823 ^t	1.766 ^t	0.243	1.662	0.892

^tp < .10. *p < .05. **p < .01. ***p < .001.

^A Linear multilevel regression was used for length of police report; all others used logistic regression appropriate for dichotomous dependent variables.

prosecutor. Law enforcement agency, month, and whether the forensic exam evidence supported the victim's account were also included in these analyses. Whether the case was handled before or after implementation of the SANE program was not significantly related to nearly all law enforcement effort variables; cases handled after SANE implementation had significantly shorter police reports than those handled before SANE. As noted previously, most cases in this study were post-SANE (85% of the sample), and this restricted variability may have played a role in the non-significant results. On the other hand, perhaps it is the *nature* of SANE involvement in a case, rather than the simple before/after SANE contrast, that matters with respect to law enforcement effort in a case.

Indeed, there were several significant associations between specific features of SANE involvement in a case and law enforcement effort (as well as victim withdrawal and police referral outcome). A forensic exam of the victim was associated with consultation with other professionals and with shorter reports. A SANE suspect exam was positively related to law enforcement officers' collecting additional evidence, interviewing suspects, and resolving inconsistencies; and it was associated with shorter police reports. Cases with a SANE suspect exam were 40% as likely to involve a victim withdrawing from the case (i.e., victims were less likely to withdraw if there had been a suspect exam). Cases with a SANE suspect exam were also more than 5 times more likely to be referred to the prosecutor than cases without a suspect exam. Law enforcement consultation with SANE was related to offering a polygraph to the suspect and to shorter police reports as well as to greater likelihood that the case would be referred to the prosecutor. Having a SANE-trained member of the law enforcement team was associated with a greater likelihood of resolving inconsistencies in victim's and suspect's accounts and, at $p < .10$, with collecting additional evidence, consulting with professionals, and offering a polygraph to the suspect.

Table 7 (next page) presents the results of the mediational analyses. These regressions tested each of the law enforcement effort variables, along with whether the victim withdrew from the case, as mediators of the effect of SANE involvement on referral to the prosecutor. With the exception of the length

TABLE 7

Study 4 Mediation Results: Indirect & Mediated Effects of SANE Involvement on Referral Through Law Enforcement Effort & Victim Withdrawal

Independent variable --> Intervening variable ^a	<i>Coefficient</i>	<i>SE</i>	<i>p</i>	Intervening variable --> Dependent variable ^b	<i>Coefficient</i>	<i>SE</i>	<i>p</i>	<i>Indirect Effect</i>	<i>Sobel</i>	<i>p</i>
Forensic exam --> Collected evidence	1.644	0.256	0.001	Collected evidence --> Referred to prosecutor	0.827	0.311	0.009	1.360	2.088	0.037
Forensic exam --> Consulted professionals	0.795	0.261	0.003	Consulted professionals --> Referred to prosecutor	0.504	0.495	0.309	0.401	0.966	0.334
SANE suspect exam --> Collected evidence	1.824	0.631	0.005	Collected evidence --> Referred to prosecutor	0.827	0.311	0.009	1.508	1.957	0.050
SANE suspect exam --> Interviewed suspect(s)	1.538	0.627	0.015	Interviewed suspect(s) --> Referred to prosecutor	1.878	0.352	0.001	2.888	2.229	0.026
SANE suspect exam --> Resolved inconsistencies	1.067	0.416	0.011	Resolved inconsistencies --> Referred to prosecutor	0.206	0.448	0.645	0.220	0.453	0.651
SANE suspect exam --> Victim withdrew	-0.954	0.554	0.086	Victim withdrew --> Referred to prosecutor	-2.110	0.349	0.001	2.013	1.656	0.098
Consulted with SANE --> Offered polygraph to suspect	0.947	0.460	0.040	Offered polygraph to suspect --> Referred to prosecutor	0.621	0.364	0.089	0.588	1.314	0.189
SANE-trained team member --> Collected evidence	0.540	0.323	0.095	Collected evidence --> Referred to prosecutor	0.827	0.311	0.009	0.447	1.415	0.160
SANE-trained team member --> Resolved inconsistencies	0.675	0.329	0.041	Resolved inconsistencies --> Referred to prosecutor	0.206	0.448	0.645	0.139	1.437	0.150
SANE-trained team member --> Offered polygraph to suspect	0.600	0.362	0.098	Offered polygraph to suspect --> Referred to prosecutor	0.621	0.364	0.089	0.373	1.531	0.126

of the police report, all SANE involvement variables that were associated with law enforcement effort at $p = .10$ or less were included in these analyses (see first section of Table 7). The middle section of Table 7 lists the direct effects between the intervening/mediating variables and the dependent variable (referral to prosecutor), controlling for all SANE involvement variables, all law enforcement effort variables, whether the victim withdrew from the case, the law enforcement agency, month, and whether the evidence kit produced evidence supporting the victim's account. As can be seen, two of the potential mediators did not relate to referral for prosecution: consulted with professionals and resolved inconsistencies. Collected additional evidence, interviewed suspect(s), and victim withdrew all showed significant associations with referral to the prosecutor; consulted with professionals was also associated with referral at $p < .10$.

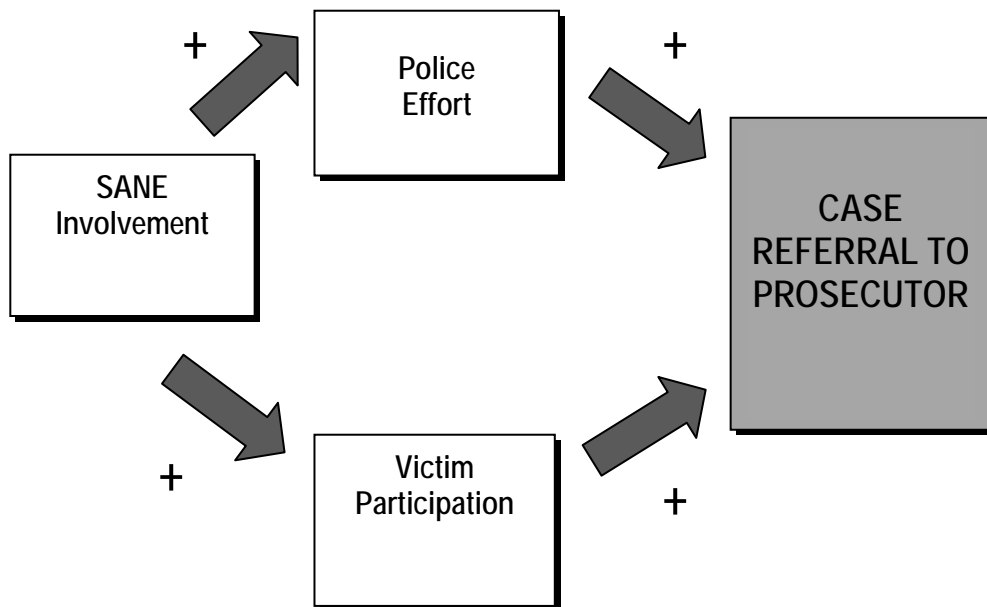
The final section of Table 7 presents formal tests of the indirect effect of each SANE involvement variable on referral for prosecution, through each of the law enforcement variables. Three indirect effects were significant at $p < .05$ (and one trend at $p < .10$). First, medical forensic exam through law enforcement collected evidence: in cases in which the victim had a forensic exam, police collected more kinds of other evidence to support the case, which was associated with increase likelihood of case referral. Second, SANE suspect exam through law enforcement collected evidence: in cases where SANE conducted a suspect exam, police collected more kinds other evidence to support the case, which was associated with increase likelihood of case referral. Third, SANE suspect exam through law enforcement interview of suspect: in cases where SANE conducted a suspect exam, police were more likely to interview the suspect(s), which was associated with increase likelihood of case referral. Finally, SANE suspect exam through victim withdrawal (trend): in cases where SANE conducted a suspect exam, victims were somewhat less likely to withdrawal, which had a modest positive effect on case referral.

Because SANE suspect exam showed a significant direct effect on referral for prosecution, its effects, through collected evidence, suspect interview, and victim withdrawal, can be termed mediated effects. The effect of forensic exam through collected evidence is typically not considered a mediated effect

because the direct effect of forensic exam on referral for prosecution was not significant (Holmbeck, 1997), although it can be termed an indirect effect. Figure 7 summarizes the key findings from these analyses.

An effort was made to test cross-level interactions to examine the possibility that the effects of SANE involvement or law enforcement effort might differ by law enforcement agency. None of the interactions was significantly different from zero, so these effects were removed from the final models. However, power was not optimal, so the tests for these interactions should not be taken as definitive.

FIGURE 7
Summary of Study 4 Findings



C. Study 5: What Are Victims/Survivors' Experiences with SANE & the Criminal Justice System?

1. Research design. Studies 1-4 in this project focused on criminal justice case progression and police and prosecutors' experiences working with SANEs. Another essential perspective to understand when evaluating the impact of SANE programs is that of the rape survivors themselves. This study used a qualitative framework to understand how victims/survivors' characterized the care they received at the focal SANE program as well as their experiences with the criminal justice system. These data were collected after quantitative Studies 1 and 2, and so we knew that there was evidence suggesting that prosecution had increased in the post-SANE era; data from Study 3 (qualitative interviews with police and prosecutors) and Study 4 (quantitative coding of police reports) were collected simultaneously. Therefore, we wanted to obtain rich descriptive information about survivors' experiences with SANE and the criminal justice system, and also explore whether SANE care had a direct effect on survivors' participation in the legal system as a possible mechanism by which SANE contributes to increased prosecution. We did *not* tell the survivors the results of our prior studies, and instead approached the interviews from a more traditional qualitative exploratory philosophy of trying to capture women's lived experiences.

2. Sampling of cases. The target sample for this study was adult female sexual assault victims who: 1) were age 18 or older at the time of the assault; 2) were victimized in focal county; 3) reported the rape to law enforcement; and 4) received an exam by the SANE program between September 1999 (opening date of program) to June 2007. Two strategies were used to recruit victims for the study: prospective sampling and community-based retrospective purposive sampling.

For prospective sampling of victims/survivors, the focal SANE program agreed to modify their existing patient paperwork to include a form requesting participation in evaluation research. This form described the study and asked victims if they would be willing to be contacted at a later date by the research team regarding their experiences (positive or negative) with the SANE program and legal system. Victims who consented to be contacted completed a contact information form including information on how

and when they can be safely contacted by the research team. Victims were contacted ten weeks after completing the form, which is typically enough time for them to have had some contact with the legal system. If the victims agreed to participate, the research assistant assessed the status of their court case. If the case was dropped (by the victim or system personnel), the interview was scheduled. If the case was in progress, the research assistants maintained contact with the victim, and scheduled an interview when the case was further along. Half (n=10) of the participants were recruited through prospective methods.

It was anticipated prospective recruitment would not be sufficient to obtain the desired sample size because victims may not be ready to talk about their assault until later in their healing process (Campbell, Sefl, Wasco, & Ahrens, 2004). Therefore, we also used community-based retrospective methods to recruit "older" cases that have gone through the focal SANE program. For this recruitment strategy, the goal was wide-spread dissemination of information about the study throughout the community including posting advertisements at local businesses (e.g., grocery stores, hair salons), public transportation, community-wide mailings, and posting in human and health service agencies including the rape crisis center. This strategy allowed victims to decide privately for themselves whether to contact the research team (see Campbell et al. [2004] for more discussion of this methodology). If victims were eligible to participate and decided to contact the research team, they were screened for eligibility, and then scheduled for an interview. Half (n=10) of the participants in this study were recruited through this method.

Participant recruitment and interviewing continued until the sample size allowed for saturation, whereby the same themes were repeated, with no new themes emerging among participants (Starks & Trinidad, 2007). A sample of N=20 participants is a reasonable size for a qualitative study examining phenomenon in-depth (Creswell, 2007; Sandelowski, 1995). Descriptive information about the sample is provided in Table 8 (next page). In this table, descriptive information is presented for: 1) the entire sample (all participants who reported their assaults) (N=20); 2) the subsample of participants with prosecuted cases (N=9); and 3) the subsample of participants with cases that were not prosecuted (N=11).

TABLE 8

Study 5 Descriptive Results: Survivor, Offender, and Assault Characteristics

	All Cases (N=20)	Prosecuted Cases (N=9)	Non-Prosecuted Cases (N=11)
Survivor Demographics			
Age in years (mean)	28.05 (10.74)	31.78 (12.75)	25.00 (8.16)
Race/Ethnicity			
White	85% (N=17)	100% (N=9)	73% (N=8)
African-American	10% (N=2)	0% (N=0)	18% (N=2)
Albanian	5% (N=1)	0% (N=0)	9% (N=1)
Education			
Some high school	20% (N=4)	22% (N=2)	18% (N=2)
High school diploma	30% (N=6)	33.5% (N=3)	27.5% (N=3)
At least some college	50% (N=10)	44.5% (N=4)	54.5% (N=6)
Offender Characteristics			
Race/Ethnicity			
White	60% (N=12)	44.5% (N=4)	73% (N=8)
African-American	30% (N=6)	33.5% (N=3)	27% (N=3)
Latino	5% (N=1)	11% (N=1)	27% (N=0)
Asian	5% (N=1)	11% (N=1)	27% (N=0)
Victim/Offender Racial Dyad			
White victim/offender	55% (N=11)	44.5% (N=4)	64% (N=7)
Minority victim/offender	10% (N=2)	0% (N=0)	18% (N=2)
White victim/minority offender	30% (N=6)	55.5% (N=5)	9% (N=1)
Minority victim/white offender	5% (N=1)	0% (N=0)	9% (N=1)

	All Cases (N=20)	Prosecuted Cases (N=9)	Non-Prosecuted Cases (N=11)
Assault Characteristics			
Victim/offender relationship			
Stranger	20% (N=4)	22% (N=2)	18% (N=2)
Intimate/Familial	40% (N=8)	44.5% (N=4)	36.5% (N=4)
Acquaintance	40% (N=8)	33.5% (N=3)	45.5% (N=5)
Offender used a weapon	10% (N=2)	0% (N=0)	18% (N=2)
Victim was drugged	10% (N=2)	0% (N=0)	18% (N=2)
Victim consumed drugs or alcohol	40% (N=8)	55.5% (N=5)	27.5% (N=3)
Victim sustained injuries			
Physical injury	60% (N=12)	67% (N=6)	54.5% (N=6)
Anogenital injury	40% (N=8)	44.5% (N=4)	36.5% (N=4)
Victim reported rape within 2 hours	50% (N=10)	67% (N=6)	36.5% (N=4)

Note: Standard deviation in parentheses

3. Procedures for data collection and coding. Victim interviews were conducted in-person at administrative office of the rape crisis center affiliated with the focal SANE program by three interviewers including the PI and two research assistants. The interviewers were trained by PI on strategies for building rapport and increasing the victims' comfort during the interviews (see Campbell, Adams, Wasco, Ahrens, & Sefl [in press] regarding the interviewer training program). Ongoing weekly meetings were held to review interview transcripts and discuss emerging themes to address in subsequent interviews. The length of the interviews ranged from 1.5 to 4 hours, with an average of two hours. The interviews were tape recorded with permission and transcribed. Participants were paid \$30 and given a resource packet of local services.

4. Measures. The semi-structured interview protocol was developed in four stages. First, the interview was adapted in part from a prior study, which was co-developed with advocates, sexual assault survivors, and community personnel (Campbell et al., 2001). This formative work helped identify appropriate phrasing of the questions so that they were understandable and supportive to rape victims. Second, the literature on law enforcement interactions with victims was reviewed and informed the protocol of the current study. Third, key legal and medical personnel in the focal county were consulted on the content of the interview protocol, which was revised accordingly. Fourth, the interview protocol was pilot tested with five rape survivors to assess the content and probes, and provide an opportunity for the research assistants to receive training on qualitative interviewing with rape victims.

The interview consisted of four main topics: 1) the rape itself and initial disclosures; 2) victims' experiences with SANE program staff including nurses and victim support advocates; 3) the specific role forensic medical evidence (e.g., injuries, DNA) played in victims' decisions to participate in prosecution; and 4) victims' experiences with law enforcement, prosecutors, and judicial proceeding, and if/how the forensic nurses and advocates influenced those interactions (see Appendix C).

5. Analytic plan. The two-phase analysis process used in Study 3 was also followed in this project. Briefly, data were open-coded for thematic content and then analytic induction methods were used to identify empirically-supported mechanistic assertions. As with Study 3, two coders completed the analyses, and final review and consensus was conducted by both coders and the PI.

6. Results. The overwhelming majority of survivors had remarkably positive experiences with the SANE program. They characterized the care they received from the nurses and victim advocates as incredibly healing and humanizing. Interestingly, the data did not suggest that these positive experience *directly* affected victims' participation in the criminal justice system. However, an indirect effect of the SANE program on victim participation in the criminal justice system was supported: victims/survivors reported feeling supported, believed, and well-cared for by the SANEs, and this positive treatment gave them hope

and confidence for continued participation, or at the very least, prevented them from immediately withdrawing. At the same time, positive experiences with SANE did not guarantee good outcomes with the legal system as victim had mixed experiences with police and prosecutors (see Figure 8, next page).

a) Victims' medical forensic exam experiences with the SANE program. The vast majority of the survivors were highly satisfied with the care they received from the SANE program. One of the most common things cited by victims as helpful was having the nurses thoroughly explain the entire exam process. Explaining the exam procedures was important to victims because it helps them reinstate control after such an invasive violation of their bodies, as these two survivors explained:

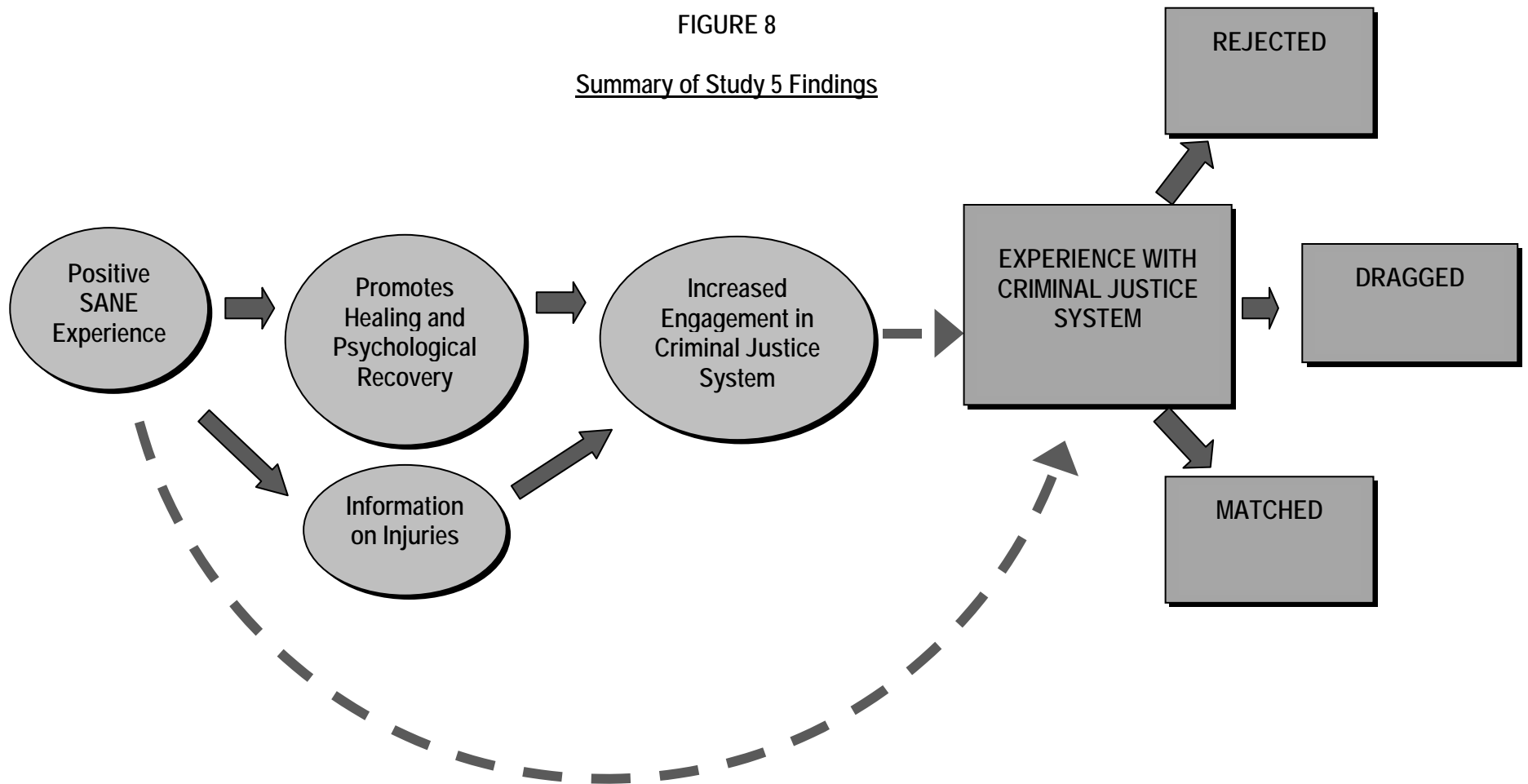
I felt like I was included and not like something was just happening to me...just like it wasn't like I was just there being poked and prodded [4114].

They talk you through it so you know what's going on, you know WHY they're doing it and like I said, a man has just done without asking, without telling, without saying anything. The last thing you want to do is take you by surprise and freak you out. Because at that point, it's still playing in your head. You're still living it [4129].

The medical forensic exams are conducted within 96 hours of the rape, so the trauma of the assault is still very vivid to survivors. Having a complete physical and pelvic exam so soon after being sexually assaulted can be very distressing and experienced as a second attack on the survivor's body. But, the survivors we interviewed said this trauma was mitigated because the nurses explained the exam thoroughly and carefully, which helped them reinstate control over their bodies.

The survivors also reported that the nurses took their needs and concerns seriously, and treated them compassionately. Victims reported feeling comforted when the nurses were personable (e.g., asking what name they would like to be called, talking about everyday life, asking questions about the survivors' family), used humor appropriately, and tried to make them as comfortable as possible, as seen in these excerpts from three survivors' interviews:

FIGURE 8
Summary of Study 5 Findings



It was like, you know, all their effort, all their energy was focused on you and making you comfortable, Are you cold? Are you hot? You know. How are you doing? [4130]

They were very good about answering any question I had no matter how stupid it seemed [4108].

It did help me feel more human, asking me what I preferred to be [called]..., little things like that really helped too....and asking me questions about my family [4108].

Although the vast majority of victims felt that the nurses were compassionate, a few stated that the nurse examiner responded in a cold manner. For instance, a white survivor who was raped by her long-term partner who is also the father of her two children said:

I don't know. Just kind of...I mean I don't want to say she wasn't compassionate or anything...this was just so routine for her. For me, this really wasn't. I was crying...[4109].

Although it was not typical that the survivors had negative experiences with the nurses, when it did occur, it was quite hurtful to the survivors who expected and needed supportive care. For example as 19-year old rape survivor who was assaulted by her former best friend stated:

It was okay...She gave me all the medicine I needed so that I wouldn't get nothing. She just didn't explain the things that I felt I should know. I just thought maybe she was, I don't know, maybe she doesn't like her job... She just didn't care. I don't know. I can't really explain it. She just, she was cold... She just made me feel like she just wanted to do her job, and go back home. That's all she talked about, how she had to get out of bed [4107].

In the SANE program that was the focus of this study, victim advocates are also present to provide emotional support to the survivors throughout the exam process. In the interviews, survivors noted that the nurses and advocates worked well together as a team, which was comforting to them.

They felt that having an advocate attend to their emotional needs allowed the nurse to focus on the evidence collection, as explained by two of the victims we interviewed:

Well, having one person examine you and take pictures, they're not necessarily focused on you mentally. They're focused on the evidence that they can collect, and having the second person there, sort of to hold my hand, it made me feel more like a person, and less like a piece of evidence, you know [4108].

... it just helped me out a little bit because the nurse, if the nurse didn't have something, couldn't think of what to say, it really helped me [to have an advocate], you know what I mean, I can't think of what it is, and then like the advocate kind of helped her out, and said something to me [4110].

In addition to the direct support the advocates provided them, the survivors appreciated the support advocates gave their family members during the exam. This took some of the pressure off the victim so that she could focus on getting through the exam without worrying about her family. In this next example, an 18 year old white female who was raped while on the job by one of her co-workers explains why it was so helpful to have an advocate available:

[It was helpful] because my mom probably would have wanted to come in the room with me and its just like, I didn't want her to. I wanted her to stay in the other room, be calm about everything, and that was really helpful because the lady [advocate], she helped with, like stay calm and everything [4110].

The combination of supportive care from both the nurse and the advocates was instrumental in facilitating survivors' healing. Indeed, survivors repeatedly stated that their healing process began in earnest at the SANE program—it was the first time since they had been raped that they felt safe, cared for, and in control, all of which are vital parts of recovery. In this next quote, a white woman who was separated from her husband when he sexually assaulted her explains how the care and concern of the nurse and advocate made her feel safe enough to attend to her emotions:

When I walked in the doors it was the first time I felt safe. It was the first time I felt like I wasn't being violated more. I was kind of struck because they cared without wanting me to want them to care... It was very odd at first. Because all of a sudden I felt like I could drop my guard and the minute I did I started to cry... when I walked in there they made it very clear that they would make sure that I was okay and that I could stay there as long as I wanted. [4125]

Letting survivors feel safe enough to start processing their feelings helps their healing process begin. The fact that the SANE program was focused on their healing was noticed and deeply appreciated by survivors. Regardless of what happens to their cases in the criminal justice system, survivors still need to heal emotionally. A survivor who was assaulted by her neighbor explained this point quite clearly:

It was very, at least in my case, it was a very supportive experience, and it made me feel right away, the same night it happened, "I'm not a victim," and "I can get over this." You realize you're not the only one, because that's how you feel...I think [SANE] is very good as far as the human process is concerned, because it doesn't matter whether you prosecute or not. You still have to heal [4108]

Rape is a dehumanizing experience, whereby perpetrators treat their victims as objects to control, rather than as a human being. SANE program staff have the opportunity to restore victims' humanity. Below is a continuation of the comments from the same survivor (the woman assaulted by her neighbor, see above), who described how the nurse and advocate placed their primary emphasis on her well-being instead of evidence, which made her feel human again.

Up until that time, it would have just been formalities, collecting evidence, the police doing that, and it was the first time (at SANE) where I felt like human after going through such a horrendous experience and made to feel I was just a bitch in heat...or a pig being led to the slaughter. It's right away, that it starts the healing. And people like the advocates and the nurse examiner, they . . . make you feel like they're more interested in you, in helping you cope with what happened, and that makes it easier, too, because they're looking at you like a person I didn't feel like another body on a slab. [4108].

Later in the interview, this same survivor noted that her nurse examined her so carefully and thoroughly, which she appreciated because she wanted her assailant convicted. Helping restore survivors' humanity while doing meticulous evidence collection is possible.

b) The role of SANE in victims' participation in the criminal justice system process. In the interviews, we asked survivors whether their experiences with the SANE program influenced their decision to participate in the prosecution process. We hypothesized that the positive experiences survivors had at the SANE program would directly contribute to more engagement with the criminal justice system. Instead, most survivors saw their experiences with the SANE program as distinct and separate from the criminal justice system, and that one did not "lead to the other." This may be due to the fact that vast majority of survivors had positive experience with SANE, and unquestionably mixed encounters with the criminal justice system (see next section below). In addition, this SANE program did not push or pressure victims to report (see Results in Study 6 below), which also contributed to survivors' perceptions that SANE was distinct from the legal system.

Yet, our data indicate that for some survivors, there was an indirect effect of the SANE program on their participation in the criminal justice system. Some survivors noted that the positive, respectful treatment they received by the nurses and advocates at the SANE program gave them hope and confidence in themselves and in their case to continue with prosecution. For example, the survivor cited above (the white woman who was sexually assaulted by her neighbor) explained how being treated with respect was instrumental in her continued participation in criminal prosecution:

...being treated with respect helped me to, I mean I can't say that anybody along the way treated me with any kind of disrespect and so all of these little pieces built up, it wasn't just the Nurse Examiners. It was being treated with respect by the police officers, and then being treated with respect by the Nurse Examiners, and being treated with respect by the people at the hospital, and the detective. I mean, being treated with respect made it easier for me to continue with the process [4108].

I: How did that make it easier to continue, being treated with respect by all of those people?

Because, it's like a stepping stone across a big river and the respect is stone, so you're standing on that bit of respect and you can see that, "Okay, they treated me with respect, so the next person will," you know, at first you're doing things because you have to or because you're urged to by someone else but every time you're doing things you don't want to do, there's no part of me that wanted to do any of this, and being treated with respect each time I dealt with anybody from the system made me feel that, "Okay, the next person will be just as respectful," and that, I think, made it, was one of the biggest things to help me through the process, is just being treated with respect and not being treated like I was somehow at fault. Not really being treated like, I don't know, just being treated with respect and being taken seriously [4108].

Some survivors noted that they may have dropped their cases if they had received disrespectful treatment at the SANE program. For example, continuing with the example from above, this survivor went on to explain that it would have been difficult to testify in court later on if she had been revictimized by the staff at the SANE program. She noted that the SANE personnel helped her cope immediately with the rape, which made her feel strong enough to testify later in the process:

I: You said they [nurse and advocate] made it easier to go forward. What did you mean?

They didn't, they don't make you feel like a victim. They start people-izing you right away, and it gives you this humanity or the people-izing effect they have on you, is, it doesn't make you feel like a victim, and it's very hard to stand up in court when somebody has treated you like a victim, even though you're not. I, myself, don't generally wear short shorts, and halter tops unless I'm in my back yard, but that doesn't mean that anybody shouldn't be able to do that, [4108]

... you've just gone through an experience where you have been treated like animal, and it's very dehumanizing, and being treated like a human being again, is, it's one of the most beneficial things, I would say, because you're not feeling human, especially so soon after the situation. You're not feeling like a human being [4108].

I: And feeling human helps you be able to get through it?

It helps you get through the whole process...because by the time you get to court, then you go through the whole thing again... The respect that they give you, and the humanizing qualities that they try to bring to the situation, it makes it easier to take each small step at a time...so that by the time you get to court, you're ready to testify... [4108]

In addition to beneficial effects of being treated with respect, several victims mentioned that having documented injuries by the nurse examiners gave them the courage to continue with prosecution. The information provided by the SANEs about their injuries helped victims feel more informed and confident about their criminal case as illustrated by the following survivors:

I was just happy that she [forensic nurse] had found something, she had found the stains and put towards as evidence. Something that could help with the case [4121].

[It was helpful that the nurse found tears] because it was like, ok, now I know, for me, sitting there going, it shows that it was more forceful ...[4130]

Survivors believed that documented injuries would increase the likelihood of cases ending in a guilty verdict. That is, victims believed that documented injuries would serve as “proof” of their rape to criminal justice personnel as well as jurors. For instance, an 18 year old white woman who was raped at work by one of her co-workers said that the evidence of injury obtained by the SANE was very important to her and her willingness to stay engaged in the criminal case against her assailant:

That's part of the reason [that I continued]. I am because I had evidence towards it...Because that will just show that he did things to me, and I have proof [4110]

I: Why is proof important?

Because that's what people need in the world is proof [4110].

I: Let's say that when the nurse did the exam, that there wasn't any proof, there was no tearing, which does happen for some women. If there was no proof, do you think that would [affect] whether or not you wanted to press charges?

I think that it would have changed, yes, because I don't think I would have believed that I had a good chance, but at the same time I probably would have because he was on tether for [another] criminal sexual conduct [4110].

I: Would it be fair to say that the evidence sort of helped it along...

Mm hmm [4110].

Because medical forensic evidence provides the victims with courage to continue with participation, it is important that forensic nurse examiners explain the exam findings to their patients. However, some victims mentioned they were never informed if and what types of injuries were found, which was unfortunate because such information would have likely influenced their participation in the prosecution process, as this survivor explained:

I: Why did you feel discouraged?

Cuz I didn't think there would be enough evidence and that maybe they were not going to be able to get him [4117].

I: Ok. If there was enough evidence would you have felt comfortable going through the court process?

Yeah [4117]

On the other hand, many victims do not have injuries, and SANEs need to normalize the absence of injuries. Some survivors thought that medical forensic evidence would be necessary for successful prosecution, those who did not have documented injury were unsure about continued prosecution. For example, a 20 year-old white woman was invited to a party at her ex-boyfriend's house. There she was drugged and assaulted by a friend, which she believes was arranged by her ex-boyfriend, who had been physically abusive during their relationship. She noted that without injury evidence, she felt like she had no legal options:

I would have a leg to stand on. It would give me more confidence to like turn around and say to someone, you did this to me whereas right now, I don't. I just have what I know in my heart, which clearly isn't enough for the law. So, there is only so much, I don't have that power. I never had that like vindication or closure on the fact that I know exactly who did this to me. It's kinda just like well, this happened, end of story [4119].

Survivors wanted to know if there was evidence of injury, and if not, it would have been helpful to them if the SANEs and law enforcement had discussed with them the implications of that for their legal cases; otherwise, victims assumed that there was no other recourse.

c) Victims' experiences with the criminal justice system process. Survivors had three distinct patterns of experiences with the criminal justice system. Specifically, victims' encounters were substantially different depending on the match between the victims' desires to prosecute and the criminal justice systems' inclinations to prosecute. First, there were cases in which the victim wanted the case to be prosecuted, but criminal justice system personnel did *not* prosecute the case, which we termed "*rejected cases*" (n=7). Second, in some cases, the victims wanted the case dropped, but the criminal justice system personnel forwarded the case despite the victims' expressed desire to drop (termed "*dragged cases*") (n=4). Finally, there were cases in which the criminal justice system's response matched the victims' wishes (termed "*matched cases*") (n=9). Most typically, this occurred when the victims wanted the cases to be prosecuted and the criminal justice system personnel did indeed move forward with prosecution, but there was one victim who wanted the case dropped and the prosecutors dropped the case after the victim expressed her wishes.

In the *rejected cases*, victims wanted to prosecute but the system did not pursue the case. These survivors were not offered the opportunity to see their perpetrators prosecuted, thereby making them feel rejected by the system. In this first example, a 19 year old white female was raped by her brother's friend in her bedroom. The assailant fell asleep in her room and did not leave until the next morning. The victim told her father in the evening (approximately 24 hours following the assault) and they went to the police department to make a report. The assailant was never arrested and the case was never charged by the prosecutor due to lack of sufficient evidence. The assailant was convicted on a non-related case for raping his 13 year old cousin. In this example, the victim describes how she felt about her case being rejected:

I had called the detective to see how things were proceeding and stuff and he said that there wasn't, there was lack of sufficient evidence, so they dropped the case.

I: How did this make you feel, not being able to go forward?

It made me feel, not really sad, but disappointed because I wouldn't be able to help put someone away that did something bad [4117].

Cases were rejected due to insufficient evidence as shown in the previous example, or because law enforcement did not believe the survivors. In the next example, an 18 year old white female was in her workplace parking lot (on break) talking to a male friend. Her friend raped her in his car; afterwards she returned to work to finish her shift. She called the hotline of the local rape crisis center, which encouraged her to receive a forensic examination. During the exam, the victim declined to speak to the police officer but accepted the phone number of the police department. The victim made the police report two days after the assault. The assailant was never arrested and the case was not charged. In this example, the victim explains why she did not feel believed by the detective in her case.

She (detective) was kind of like, "I don't understand how this could happen. Show it to me." I had to position (a) chair next to me and show her exactly what happened. She said she was just doing her job, and being thorough. She told me, "What he said makes more sense than what you're saying." It made me feel hurt because she pretty much (was) saying she believes him and not me [4114].

I: Okay, and that made you feel, her saying that and making you show her

Like she didn't believe me or something, like she was trying to pick on me or something just pick apart my story and she said it was her job [4114]

Victims who were told their was insufficient evidence often expressed feeling disappointed that they did not get an opportunity for justice, but those who were not believed felt hurt or wounded by the system. In another example, a 21 year old white woman who was assaulted by her ex-boyfriend, whom she had recently broken up with, described how she was hurt when the detectives treated her like she was lying:

Yeah, they were just like non-reaction. No, "how are you doing with this? Are you OK?" . . . they were just, kind of, they were victim-blaming. They were kind of looking at me like well, you had control of this situation. You should have did this or you should've done that. Well, that's not what happened. There are a lot of women who don't even report it, but you're gonna sit here and treat me like crap because you think that I'm lying?

I can't really, really tell [the detectives] what happened because the attitude that [they are] carrying with me is that [they] really don't give a fuck is what it comes down to...[If they had acted like they cared] I would have been more able to describe to them what it was. If they hadn't been cold or unapproachable, it would have been easier for me to tell them, well, this is what it was; this is what he's done; that's why we broke up. This is why he's still here, you know. They made me feel like a little kid when I was talking to them like, well, kind of almost scolding me for letting him stay there. I have a father for that; I don't need you to tell me what I should and shouldn't do. [4127]

The second pattern of system experience, *dragged cases*, was less common, and indeed this finding has not been previously discussed in the extant literature. In these cases, victims contacted 911 because they were in immediate danger but did not want to press charges (e.g., survivors who were being physically and sexually assaulted by intimate partners) or their family members contacted law enforcement against their wishes. Some of these survivors were told by the responding officers that their cases would be prosecuted, regardless of whether they wanted to press charges. These victims did not want to participate in the criminal justice system, but they felt like they had to, as explained by these two survivors:

They [law enforcement] were definitely gonna charge him. I didn't have to press charges on him. They said when I made the call, I guess years ago it was different, but now if I call, they press charges [4109].

I had to go in like tell the police the whole story, and I was so uncomfortable, I didn't want to do it 'cause I didn't want him to be in trouble as much as I was so mad and upset, I just didn't want him to get in trouble, but I had no choice.

I: You said you didn't have a choice, what do you mean by that?

My mom called them. What was I supposed to say? . . . I didn't want to press charges against him, but the state [law enforcement] said they picked that up said I didn't have a choice... They said if I don't press charges the state will press charges, so either way it didn't matter. [4107]

Other survivors noted that they were never given the choice by the responding officers or detectives about whether they wanted to report. In other words, some survivors were never directly told that they had to participate, but they were also not informed this was a choice. These survivors described law enforcement as “pushing” them to go through the reporting process so quickly that that their participation felt required. For example, one survivor who was raped by her husband stated:

I didn't want to do anything. You know, like, they rushed me, I felt the Detective. He was a nice gentleman, he was just pushy I guess....well, when I say pushy, it was just like we're going here or we're doing that, you know what I'm sayin'. I didn't feel like I had a say-so in anything [4128]

It is important to note that all of these survivors did not actively refuse to participate because they believed they “had to participate.”

There were often unintended negative consequences for victims from having their cases forced through the system. For example, a 32 year old white female was raped by her long-term partner who is also the father of her children. The woman had had two drinks several hours prior to going to bed, and later woke up when her partner began raping and beating her. She escaped into the bathroom and called 911. The assailant was arrested by the responding officers immediately upon their arrival and told her that she must press charges. The assailant was charged with rape, but released on bail soon after the arrest. Despite being told that the assailant could receive 10-15 years of prison, the case was eventually resolved through a plea bargain of probation:

You know, since this happened, he's done no jail time. He's been sitting at home... I've had Protective Services in my house. They were gonna make me go take parenting classes. Because I had had two drinks that night, they were gonna send me to AA, they were gonna make me go to domestic violence classes...And he's been sitting at home all this time, not doing a damn thing, and it's like, 'How is this right?' [4109].

As illustrated in this quote, being dragged does not necessarily lead to offender accountability, and in this case left the victim feeling punished. This survivor did not want her partner to be prosecuted, but instead wanted him to receive counseling. However, the victim was forced to participate in an intensive counseling program whereas the assailant was not.

Similar to some of the rejected victims, the dragged victims felt hurt by the system. Continuing with the previous example cited above, we asked this survivor who was raped by her long-term partner how she felt about the fact that the case was going forward against her wishes:

In a way it bothered me. The biggest thing that bothered me is, you know, I don't have out and out hatred for him. I'd really like to see him get some help...and move on, and be a better person. I don't want him on a sex offender's list. My son's named after his dad. It's gonna follow him around everywhere we go for the rest of his life, you know...and they're telling me he's going to prison for 10 or 15 years. I didn't want that for him. I don't want him back. I miss him, but I don't want to see his family go through that. [4109]

Furthermore, survivors in the dragged cases described their experiences with the police and prosecutors as harmful and/or humiliating. One survivor was required to submit to having her genitalia photographed (by non-SANE personnel):

Which was very, that was very humiliating. I didn't want anybody touching me or looking at me. I just wanted to get dressed and you know, she said she had to do that, it was part of evidence, and I didn't know any better [4109].

Similarly, a woman who was sexually assaulted by a stranger, whose ex-husband reported the assault against her will, described what it was like talking to the police:

Exhausting (crying). It was just aggravating because you had to tell the story over and over and over and then it was like – you know – then it's like okay this story matched the first time she told me – it's like oh, why would I make anything up, but that's the cops' job [4122].

Most “dragged cases” did not end in successful prosecution (e.g., the case not warranted by prosecutor; the case acquitted by jury). This exacerbated survivors’ frustration with the system because they were told by law enforcement to go through this difficult process and yet, did not feel like they received justice. A survivor who was assaulted by her husband discussed how she went to the SANE program because the detective told her to, only to have him be acquitted of the rape charges at trial:

I mean what the hell did I go through all that for – you know what I’m sayin’? Why did I go through all that? Why did I have to spread my legs on the table and let her, you know, why did I have to go through what I went through? For what? [4128]

The third pattern of cases, “*matched cases*,” occurred when both the system and the survivor wanted the offender prosecuted (or both did not want prosecution). In the next example, a 24 year old white female was getting ready for work when her boyfriend raped her. Afterwards, the victim went to work because she did not want to be fired. After her shift, the victim noticed a police officer in the parking lot at her place of employment and inquired if she could “press charges” against her boyfriend. The police officer suggested that she make a full report with a detective at the police department. The assailant was arrested a few hours after the victim made the report and the case is scheduled for a trial. In this example, the survivor explains how the law enforcement officer responded to her interest in reporting the rape.

I was talking to him (police officer), can you actually do anything? And he is like, well yeah. Even though he is my boyfriend and I live with him? And he’s like, yeah, we can press charges if you really want... I thought about it for a minute, I’m like okay, and so I went there and I filled out the report... I wanted to go through with it just ‘cause the fact, I don’t want him on the streets, I don’t want him to think that he can just do (this) to anybody, even if they are his girlfriend [4112].

In contrast to the rejected and dragged cases, these victims wanted to prosecute and the system moved forward with their cases. In the matched cases, the survivors said that law enforcement personnel were empathic and helped them through the difficult parts of the legal process, which was completely absent in

the rejected and dragged cases. In this next example, an 18 year old white female was raped by her co-worker during a midnight shift at a fast food restaurant. The victim disclosed to another co-worker on a shift the following day because the victim was scheduled to work with the assailant again. When a police officer entered the drive thru for food, the victim decided to tell the officer about the assault. The officer recognized the assailant's name because he was on a tether for prior convictions. The assailant was arrested the following day and the case ended in a plea bargain. In this instance, the victim describes how the detective was sensitive when the victim began reliving the rape during the interview:

I: When the detective was asking you about what happened, what was it like answering those questions?

It felt like I was there again, and I didn't want to answer the questions. It felt like I was there, and it was happening again [4110].

I: Did the detective do anything to try and help you through that?

Yes, she slowed down. Like, she wasn't going fast, but if she noticed that I was not handling it too well, she would slow it down and talk to me, and help me through it ...[4110].

Even in the matched cases, victims described their experiences with the criminal justice as difficult (but not hurtful as did the survivors in the rejected and dragged cases), but they also found it empowering to hold their perpetrators accountable. One survivor we interviewed was a 53 year-old white woman who was raped in her apartment by a neighbor after forcing his way into her apartment. The victim did not have a phone and so called 911 when her next-door neighbor came home. The assailant was charged with rape and found guilty by a jury. In this example, the survivor explains why the criminal justice process felt empowering to her:

In the long run, even though it's a very difficult process, it's also a very liberating process. I don't how to explain it, but by just getting it off my chest...and saying it in front of a jury, and having the jury believe me rather than the slimeball is very, it's empowering, and it helped me, at least in part with the healing process...In a manner of speaking, it's taking back your life [4108].

In light of the fact that survivors had such disparate experiences with the criminal justice system, it perhaps is not surprising that they did not perceive a direct connection between their SANE care and legal case outcomes. In the rejected cases, victims had a positive experience with the SANE program, but a hurtful experience with law enforcement. Survivors with matched cases had positive experiences with both the SANE program and criminal justice system. However, in the dragged cases, victims had negative encounters with the legal system, and even though it was not common for victims to have negative SANE experiences, those who did were the dragged victims. There are some potential reasons for the linkage between the less positive experiences with the SANE program and the criminal justice system's response to drag the case through the system. One possibility is that the SANE's mission of providing supportive empowering care is sometimes compromised by the need to foster collaborative relationships with the legal system. On the other hand, the victims in the dragged cases often had more severe injuries (e.g., broken nose) and ongoing abuse by their offenders than the victims in the matched and rejected cases. Therefore, it is possible that both law enforcement and the SANE program ignored the victims' wishes because of concerns about the potential lethality of the situation. Nevertheless, even if the intention of the SANEs, police, and prosecutors was to protect the survivors, these women found it hurtful to have their needs and preferences ignored.

D. Study 6: How Do SANEs Characterize Their Work With Victims/Survivors and Police?

1. Research design. The final perspective we needed to capture in this project was that of the SANE nurses. The other studies focused on how other stakeholders—police, prosecutors, and survivors—interacted with and perceived the SANEs. This study used a qualitative framework to explore how the forensic nurses in the focal SANE program characterize their work with sexual assault patients and with law enforcement. These data were collected after all other studies in this project had been completed so that we could independently cross-check and verify findings. The results from Study 5 (qualitative interviews with survivors) suggested that the care victims received at the SANE program was very helpful and healing, but it did not *directly* affect their participation with prosecution. An indirect effect was supported such that the empathic respect shown by the nurses, along with the medical forensic evidence they collected, did help some survivors feel more confident about moving forward with prosecution. The quantitative data from Study 1 indicated that prosecution rates did increase post-SANE, and both the qualitative (Study 3) and quantitative (Study 4) data from police indicate increased victim participation and increased law enforcement investigational effort due to the SANE program. Therefore, in-depth interviews with SANEs were necessary to understand these indirect effects in more detail. Specifically, this study examined forensic nurses' perspectives on how the SANE program could affect survivor participation with prosecution *indirectly* and how the interactions between SANEs and law enforcement could be contributing to increased investigational effort. These interviews began with an exploratory, open-ended approach to capture the nurses' spontaneous views on these issues. Then, in the second half of the interviews, we shared our findings from the previous studies and invited the nurses' comments and interpretations.

2. Sampling of cases. At the time these data were collected, the focal SANE program had N=11 nurses on their staffing roster who conduct adult sexual assault forensic exams. The program director indicated that among her staff, there were N=6 nurses who took the majority of the adult cases and were the most experienced working with survivors and law enforcement. Therefore, we defined the sampling

frame for this study around that key informant information and targeted all N=6 nurses for participation. A research assistant contacted the nurses to request their participation in this study, and all agreed. All nurse participants were white females, with an average age of 46 years, range of 30 to 55 years old. Fifty percent have an associate's degree and the other fifty percent have a bachelor's degree. These nurses had on average 6.75 years experience specifically in forensic nursing (ranging from 5.5 to 9 years).

3. Procedures for data collection and coding. The forensic nurse interviews were conducted in-person by a research assistant in private meeting space chosen by the participants. The length of the interviews ranged from 45 to 67 minutes, with an average of 45 minutes. The interviews were tape recorded with permission and transcribed.

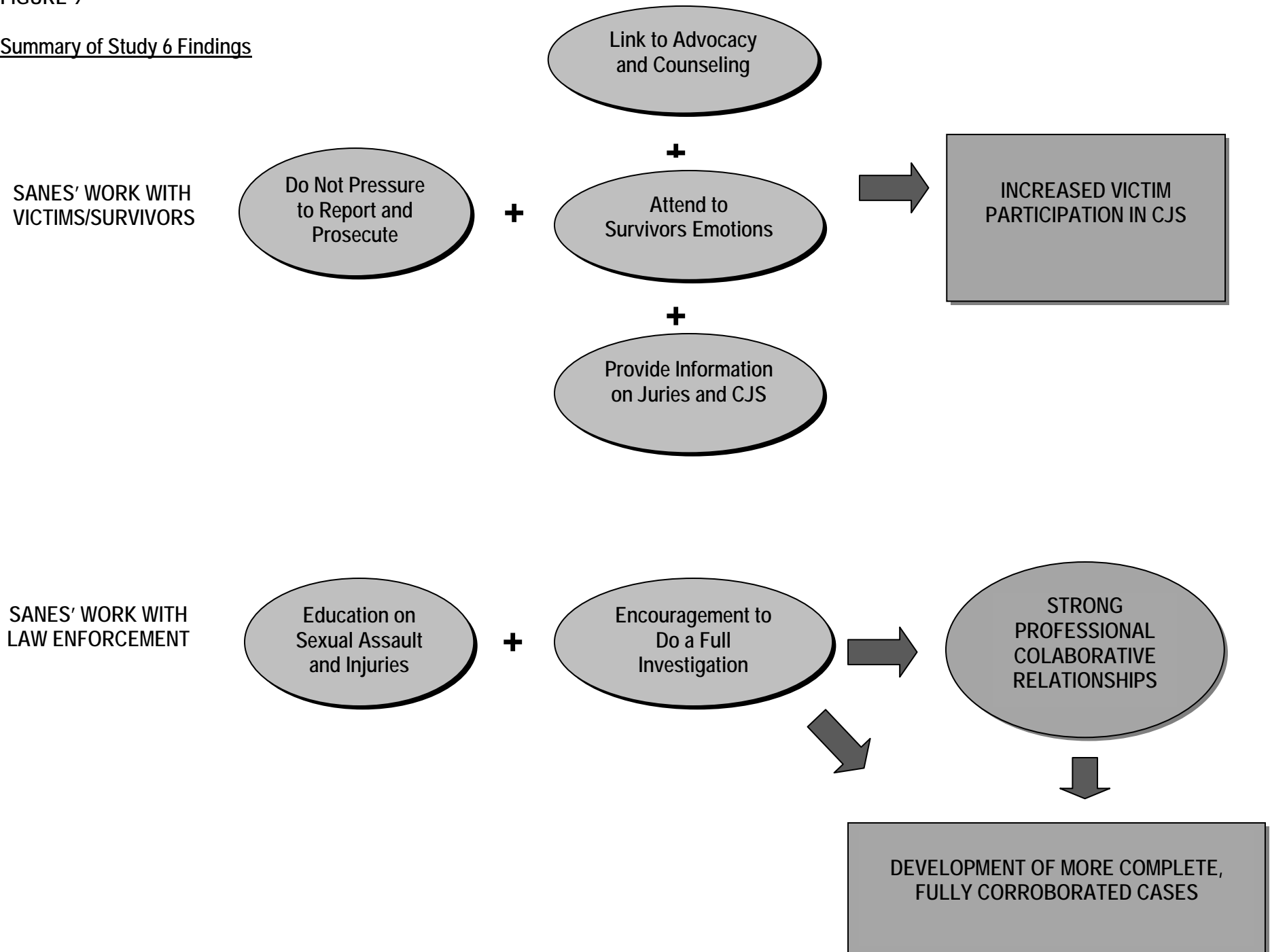
4. Measures. The semi-structured qualitative interviews with the forensic nurses explored three main topics: 1) the nurses' philosophy on victim reporting and participating in prosecution; 2) their perceptions regarding how patient care may or may not affect victim participation in the criminal justice system; and 3) their perception of how the SANE programs influence the work of law enforcement investigational practices (see Appendix C).

5. Analytic plan. The two-phase analysis process used in Study 3 (qualitative interviews with police and prosecutors) and Study 5 (qualitative interviews with survivors) was also followed in this project. Briefly, data were open-coded for thematic content and then analytic induction methods were used to identify empirically-supported mechanistic assertions. As with Studies 3 and 5, two coders completed the analyses, and final review and consensus was conducted by both coders and the PI.

6. Results. The SANEs emphasized that their primary responsibility is to their patients—not the legal system; and their primary role is to provide medical care for their patients—not build a legal case (see Figure 9, next page). The nurses were clear, emphatic, and unambiguous about this mission. In their interviews, the nurses explained that they do not pressure survivors to report to the police, and instead,

FIGURE 9

Summary of Study 6 Findings



emphasize to their patients that it is *their* (survivors') choice whether to pursue prosecution. Yet, these interviews also revealed that the program's emphasis on patient care clearly has some positive indirect effects on victims' participation in the legal system. In their work with law enforcement, SANEs provide education about sexual assault and actively encourage police to conduct thorough investigations in all cases, not just the ones with strong medical forensic evidence.

a) SANEs' philosophy on victim reporting and prosecution. The SANE program provides medical forensic evidence collection, but the nurses strongly emphasized that their overarching programmatic goal is to improve victims' well-being by providing quality acute patient care. As part of that care, the SANEs try to help victims feel safe and in control of their lives again. In this first example, a forensic nurse with nine years of experience treating over 200 adult sexual assault patients explained that the program's ultimate outcome is providing patient care:

It's first and foremost to provide care and support to a patient, and part of that is that collect evidence I think that the ultimate outcome I would want is for them to feel like they're in control of their life again.... The most that I could offer would be that they feel safe, they feel like they have had that first step . . . And if I can give them that, or give them any measure of that, I think I've done the best job that I can do [5A01].

The nurses view their primary responsibility to be patient care, not the investigation or prosecution of cases. Therefore, it makes sense that many of the survivors interviewed in Study 5 did not directly connect their experience with SANE to participating in prosecution—that's not the message they received during their care. In this next example, a forensic nurse with six years of experience of providing care to 90 adult survivors explained that victims likely view the SANE program as a place for medical care:

I think that the focus when they come is, at least from my angle, is on making sure they're [patients] OK and doing an exam for them. And it's not, my exam isn't being done for prosecution purposes. . . . It's not something that right away I'm saying, "This is going to have an impact on prosecution." And I don't think—my focus is on patient care. And my care isn't going to change and I make it clear my care doesn't change whether or not you

report or not. So right from the beginning, it's clear, I make it clear that I'm not going to treat them any different than someone else, whether or not they choose to report [5A06].

I: So, from their [patients] perspective, they're just getting really good care. It's medical; they're getting good medical care?

Yeah, yeah [5A06].

It is important to note that the nurses are mandatory reporters, but believe it is victims' decision whether to pursue prosecution. That is, the nurses report the crime to the police, but inform victims that it is their choice whether they want to actively participate in the reporting process. Additionally, if a survivor does not want to report, the nurses inform law enforcement that the victim is not ready to make a report and therefore, the officers will not force the victim to report. In this next example, a forensic nurse with six years of experience working with over 150 patients described how she discusses reporting with victims:

I've never told them not to [report], it is their choice, I make sure that they are totally aware, it is your choice, I can't influence you, I can tell you what would happen. I try to make them comfortable making their decision. But it ultimately is to be your decision. It is the same kind of power that I give them when the exam. I said if you don't want the exam done, okay. And they go, well what about law enforcement? I just tell law enforcement she refuses the exam. ... It is your [the survivor's] call, you are in charge of this exam, you've been through an ordeal, it is time that you, we give you that power back. And this is a first step. You are totally in charge [5A03].

As illustrated in this example, the forensic nurses believe that allowing victims to make that decision is part of the process in helping victims' restore feelings of control. In this next example, a forensic nurse with six years of experience in providing care to 60 adult rape victims explains why it is important to allow victims to make their own decisions about reporting the rape:

Well, that gives them control. Their control has been taken away, and this gives them some of their control back, to handle their situation and not be the victim. To help them get back into that, give them some kind of, and even when I'm doing the exam, I walk them through what's going to be happening. If anything is uncomfortable or anything, this is your exam, if you're uncomfortable with this portion of it, just say so, and we're not going to do it. So, I give them control, right away try to get them back into the, so they are feeling not so victimized [5A05].

As demonstrated by this example, nurses try to help restore victims' control by offering options, including the decision to make a report to law enforcement. To assist the victims' decision, the nurses or advocates will provide information about the next steps in reporting the rape (e.g., who to contact to make a report).

While the program's philosophy is to let the victim make the decision to participate, there are some situations in which SANEs may encourage a victim to participate in the reporting process. For example, one nurse explained how she does encourage some patients to report if she believes they will remain in danger:

Would you say that there have ever been situations where you encourage or discourage people from participating [in the legal system]?

I think on the lethality standpoint, we've had some really bad cases. Not that they are not all bad, but some really lethal cases, I should say, where like they are at-risk for their life, they really are. And you know, I probably do try and encourage that a little bit more and educate the safety of why it [prosecution] needs to be done. Again, it is to educate them. It is like, I am concerned for your life. But I think, overall, we have a bad, not our county, but the legal system can't protect people. So I can't blame them, but there are times when I would probably want to encourage them more and educate them more in the lethality of it. [5A04]

I: Okay, so situations where you feel like the victim might be in danger, like her life might be in danger.

We've had several . . . where their life is in danger. [5A04]

As illustrated in this example, the nurse does not specifically tell victims to participate but instead brings up concerns about their safety. However, as noted previously in Study 5, these kinds of situations often ended up as "dragged cases" whereby survivors felt that both the SANE program and the legal system were ignoring their wishes. SANEs and law enforcement pressed the issue due to lethality concerns, but survivors certainly noticed, and did not appreciate, that their choice was not being respected. However, nurses emphasized that most the time they remain neutral about the victims' decisions to report and prosecute, as one explained:

I try not to push them [victims] that far away from where they are here. They're here now in this acute phase, and court is way down the road, usually. And I try not to jump those hurdles before they're ready to jump those hurdles. If it comes up we'll have to go court, "Well yeah, you'll probably have to go to court, and you'll have to go on the stand, and you'll have to tell them exactly what happened to you. And he may be sitting right there in front of you." So I'll go through that process, but I don't try to discourage them or encourage them until—I try to stay pretty neutral [5A05].

As illustrated, the nurse will provide information about the criminal justice process specific to the immediate concerns of the victim. However, she neither encourages nor discourages the victim from reporting or participating. It is also important to note that none of the nurses discourage any of their patients from reporting or participating in the prosecution process.

b) SANEs' patient care practices and their effect on participation in the criminal justice system. If SANEs are taking a neutral position (most of the time) with their patients regarding legal reporting and prosecution, then why in our other studies do we see increased victim participation and prosecution? As suggested in Study 5 (qualitative interviews with survivors), SANEs have an *indirect effect* on victims' engagement with the criminal justice system. They do not encourage, solicit, or advocate participation directly, but something about their patient care, something about how they work with survivors, seems to be having a positive effect down the road. One of those "somethings" is providing information about longer-term advocacy and counseling services, which may help victims feel less alone and scared about prosecution. In these next examples, two nurses explain how resources for longer-term advocacy and counseling may increase victim participation:

I think that right away, having a strong support system and advocacy, and whether it be family support as well as making sure that they get the information and get set up with an advocate or follow-up. And I think that that could potentially have an impact on them following through with prosecution [5A06].

Just that there is support for them for that [participating in prosecution]. You know, let them know of [the local rape crisis center's] counseling and availability to support them through that process. So there again, at least they'll know that they don't have to be alone in that,

that there are people who can give them some guidance and that, though it might, won't be me, but this organization has that capability, and can help them through that process [5A01].

As illustrated by these nurses, it may be possible that victims are more likely to participate if there is an availability of formal support for victims while going through the criminal justice system.

Another way that SANEs may indirectly affect victims' participation in the criminal justice system is by attending to survivors' emotions, particularly their feelings of guilt and blame. The nurses noted that victims often arrive at the SANE program feeling guilty and ashamed, and indeed, other research suggests that contact with police and prosecutors usually exacerbates those feelings (Campbell, 2006; Campbell & Raja, 2005; Campbell et al., 2001). SANEs try to nip that in the bud and re-frame this issue, emphasizing to their patients that rape is never the victims' fault. In this next example, a forensic nurse with six years of experience treating over 300 adult sexual assault patients explained how decreasing victims' feelings of guilt and shame may lead to increased participation in the criminal justice process:

Somebody will come in, and they're feeling guilty, like they did something to bring this on. And by letting them know that opening this report and getting this conversation flowing, they realize that they didn't mean to have this happen. They didn't ask for this to happen and that by disclosing and following through with it, they're going to actually help themselves, because they didn't ask for this. They just didn't [5A02].

In addition to decreasing the victims' feelings of guilt, the nurses will verbalize victims' strengths, as illustrated in this next example from a forensic nurse with nine years of experience:

I would hope that the care that we give here, and the care that I give when I see each individual, would make them feel that, "OK, this was something that was scary, the fact that I came here," because we always tell them [it was] out of strength for you to come here. And we're here for them and to provide them care. So always let them know that and then in the whole process, hopefully that's the sense that they come out with, is that, "Wow, I feel good about what happened to me here." You know, yeah it's an invasive process, but, "I felt comfortable, and relaxed, and safe with the care that I was provided." So, hopefully then, "If I can feel safe here, having been afraid to come here, hopefully then I can move on or move forward in the process, and feel safe and comfortable there as well." [5A01]

As identified by this nurse, it may be possible that victims are more likely to participate in the prosecutorial process if they feel strong enough to get through the various stages of the criminal justice system.

SANEs may also indirectly contribute to increased victim participation in prosecution because in the process of the medical forensic exam, the nurses educate their patients about injuries and evidence, which may build victims' confidence in their own cases. For victims who were injured in the assault, the documentation of that fact by the SANEs, and the communication of those findings to the survivors, may help victims feel like they have a stronger case, as explained by these two nurses:

I think that the general thought process with a lot of patients is, "If there's injury, this is going to be easier [to prosecute], and please find something. Please find something" [5A06]

I: If there's injury found, would you say that maybe, in your experience, that they [victims] would have more confidence about their case if there was injury found?

I think law enforcement, everybody, is more confident—not everybody, because I don't think it's any big thing—but I would say law enforcement, prosecution, everybody I think is more confident when there's injury involved. And it's just because, you know they've been through the training for the most part, and they, "Oh, there's no injury!" You know what I'm saying? You can see, I'm sorry, there's no injury. But I think that makes them all feel better when there's injury [5A05].

I: Including the victim?

Yeah [5A05].

Given that law enforcement also place high value on injury, it is not surprising that victims also feel more confident about their case. However, sustaining injuries from rape is not common, so therefore, the nurses also discussed how important it is to normalize the absence of injuries. In this next example, a forensic nurse with six years of experience explains how she talks with her patients who do not have injuries:

And I explain to them right off the get [go] that no injury is more common than injury. 99 percent of the cases I see, with forcible rape, has no injury. And they find that mind boggling, so you have to go through the whole reason why that is, because the estrogen and the whole stretch of elasticity and all that, with them, and then it's like, OK, they get it then. So I don't want them to feel bad they don't have injury [5A05].

As shown in this example, nurses provide information about female anatomy to help survivors understand why injury is uncommon. Some victims will arrive at the SANE program feeling uncertain if their experience qualifies as rape, and if the exam does not identify any injuries, this can be particularly troublesome. In response, the nurses help validate that what happened to them was indeed rape:

I think some of them . . . may look at the diagram, they go out as no injuries and then it is like a, "he said/she said" kind of thing. The idea that you can actually have been assault[ed] without injury means that wow, you know, I do have a case . . . And once they understand that, they feel more comfortable. See, I don't think lay people understand that concept.. [5A03]:

The nurses relayed that victims often worry that no one will believe them, so normalizing the absence of injuries is critical, as explained in this next comment from a nurse with nine years of experience:

And that's something, I think, that we try, or I try, when I talk to people, to discuss with them, is to know—you know, I always kind of give them those little steps, that about 80 percent is no injury. That does not mean an assault didn't occur. So that . . . while we're going through this process, and they say, "Did you find anything? Did you find anything?" that doesn't shatter them to think that, "Oh, they haven't found anything. Nobody's going to believe me." So we try and build those bridges . . . [the absence of injuries doesn't mean that] nobody's going to believe you that something occurred [5A01]

The combination of respectful, empathic care and patient education about sexual assault and injuries gives survivors hope about their cases. This may also instill hope among survivors that other social system personnel (e.g., the police) will also believe them and treat them well. To prevent false hope, the staff in this SANE program works actively with law enforcement to try to ensure that victims are given fair treatment.

c) *SANEs' work with law enforcement.* When asked about their work with law enforcement, all nurses mentioned that education and consultation are the most salient and important resources they provide police. Perhaps the most common issue they address with law enforcement is the "injury question:" if the victim was really raped, then why doesn't she have injuries? To address this question (and others), this SANE program offers an annual, free, fully-accredited training program for law enforcement on sexual assault (see Studies 3 and 4 for more details). One of the training goals is to provide medical information on female anatomy and physiology to change participants' stereotypes and misperceptions about the presence or absence of injuries. Below, a nurse describes how she has seen a difference among detectives who have gone through this training:

I think that having them, the sexual assault detectives, and even some first responders, to go through a day of training with the SANE . . . you can see that wow, they had no clue, no idea whatsoever. Even with just the basic structures of the female genitalia they think they know . . . You can tell what detectives you're talking to, who has been through the training. They get it, you know what I mean? And they do understand. So I think they should all have to [participate in the training] [5A05]

Because not all law enforcement personnel participate in this training, the nurses must also tackle this issue in their daily interactions with police on specific cases. One of the forensic nurses with six years of experience described how she challenges police officers' beliefs about injuries:

I explain to them, "I've seen trauma patients come into the ER, the car is totaled and there is not a scratch on them." You explain that. So she tells me she was raped. And um, doesn't have any injury. They [the police say], "well it is different;" and [I say] "tell me what's different about it? The car is totaled, she tells me she was raped, she doesn't have injury." So once you give them examples, it is okay, and then you explain a little anatomy and physiology to them. [5A03]

I: That's a lot of effort to do [that educating with police], so what do you feel is the benefit to doing that with law enforcement?

They can have a better understanding of the patient. That, you know, don't convict them [victims], don't say they are not telling the truth until you know all different aspects . . . [5A03]

I: Do you feel like educating them on the absence of injury, helps them maybe investigate further or take the case more seriously?

Especially if you've got strong demeanor and a strong history [5A03]

Educating police about sexual assault in general, and injuries in particular, is important because such information can be useful to law enforcement for their investigation. As we saw in both Study 3 (qualitative interviews with police) and Study 4 (quantitative modeling of police referral decisions), SANE involvement and consultation was associated with increased police investigational effort; our interviews with the SANEs shed additional light on why that may be. SANEs repeatedly emphasize to law enforcement that the absence of injury does not necessarily mean that nothing happened; to figure out whether an assault occurred requires a full investigation, perhaps even more so if there were no documented injuries. The SANEs challenge the long-standing practice of having medical forensic exams function as litmus tests for whether a full investigation is warranted (i.e., full investigations are reserved only for those cases where there is evidence of injury). SANEs repeatedly bring up with law enforcement that a sexual assault may indeed have occurred, with or without injury, and more investigational effort is necessary to figure that out, as this nurse explained:

If they [police] asked it [the injury question] in such a way of the expectation is that there should be something, then you had to do a little, you know, intervention [and say], "Now, just because there's no injury, according to her history, this was what was said." But, no physical injury doesn't mean that no assault happened. And you might even go over the statistics, you know, 80 percent or whatever, thereabouts, there is no injury. And some would ask . . . why would there be no injury in a case of an assault? And so you'd have to do a little bit of education for them, to say, "Well, because, this is how the body is structured, and this its response, and it has nothing to do with wanting it." [5A01]

I: What do you think that kind of information does for a case?

So, I would hope it would mean, don't think that this is an investigation that doesn't need to go any further, based on the fact that there's no injury there. "OK, well we can slack off on this," or, "we can table this, because nothing happened." Hopefully, that would just add

strength to the fact that it absolutely should move forward, or your investigation should go the way it should, because normal doesn't mean nothing happened. (5A01)

Nurses mentioned that they are repeatedly asked by police whether they (the nurses) believe the victims and whether the case is “real,” presumably to check whether the case is worth more investigational effort. The SANEs noted that they will not offer their personal opinions—their patient histories and medical forensic documentation can speak for themselves—and instead take the opportunity to encourage police to investigate the case fully and carefully, as this nurse explained:

Law enforcement will say ‘do you believe this story is a bunch of crock?’ I go really, what’s a crock about it? . . . I don’t really care if she is telling me the truth or not. That’s up to you guys to figure out what’s true. That’s investigating. That’s not up to me. If she tells me she was raped, she is raped.... I do believe a patient that comes in and is complaining of chest pain . . . If you say you got chest pain, well you got chest pain, same thing, you tell me you were raped, okay. [5A03]

Over time, the pay-off from this increased investigational effort has become evident as more cases have been successfully prosecuted. Even “bad cases” police would have passed over before are sometimes pursued with good outcomes. Having the SANEs readily accessible for consultation, and even more importantly in some instances, for expert witness testimony has shown detectives that SANEs really will be there to support them and their cases:

They [law enforcement] know to still believe the patient; they know we’ll be there to back them up . . .and testify to it. I think that’s a huge thing is that, okay, they can do all this work, but if no one from healthcare is going to come testify to it, then they are going to fall on their face. And you know, my favorite detective, he took on a lot of . . . really bad cases that no other detective would have taken on. Because he knew we’d come in and back him up. Even if it is just the education of this is why she doesn’t have injury, he was backed up and validated . . .

And, you know, maybe in law enforcement’s terms, they are a “bad victim.” Meaning they’ve got . . . arrests, drug histories, they are really drunk, they are not a good . . . victim. Those are obstacles law enforcement has to face about when they take the stand. And that’s the reality of it too. But I think them knowing that okay, the SANE nurse is going to come in and say this. You know, they are going to say this is why there is no injury, this is why this, you know, so I can go forward, I got backup on it [5A04]

Taken together, these interview data suggest that SANEs' work with law enforcement helps develop a strong professional relationship characterized by mutual respect and trust. More complete, fully corroborated cases emerged in the post-SANE era due, in part, to a greater awareness among all key stakeholders that sexual assault cases are complex puzzles, and no one responder can fully develop a case. As one nurse noted, "[We're] working together as a team. We are all part of the jigsaw puzzle." [5A03]. The medical care SANEs provide to their patients can provide useful information to police for their investigation, but it is only one part of the investigation. As a team, SANEs and law enforcement can positively influence victims and help move a case along, as one nurse discussed:

You want [the case] to be fact based . . . I just don't want [the case to be about] my opinion—I would hope that the strength of what I've done, and the kind of care that I've given would be the strength . . . That the documentation is there and supportive. And hopefully those things will help build a case in the direction that it should go . . . It's one piece of the puzzle, that I do this well, and I do it good enough, that it's a building block in the way it should go [5A01]

In this community, the SANEs and law enforcement have developed a clearer understanding and appreciation of their different roles and responsibilities, and together, they can develop stronger cases:

I think it can help in that . . . a general team approach can help strengthen cases immensely. If the law enforcement knows the role of the nurses, knows that the role of the nurses is primarily for patient care, if there's more of a collaboration between the police and the nursing program, the nurse examiner program, and the hospitals, and whoever, who is ever involved on the prosecutors—that everybody's aware of everybody's role, so that we can work together. And I think that that, if anything, has the best, the most positive impact on good patient care and building cases, if you will, so that everybody knows everybody's role, in working together. [5A06]

Good communication and collaboration between SANEs and law enforcement is certainly evident, but that is not necessarily why there is increased prosecution. These data suggest successful case prosecution comes about because each stakeholder provides unique, important information to the table, which results in the development of a more complete, fully corroborated, and ultimately stronger, legal case.

VI. DISCUSSION OF FINDINGS

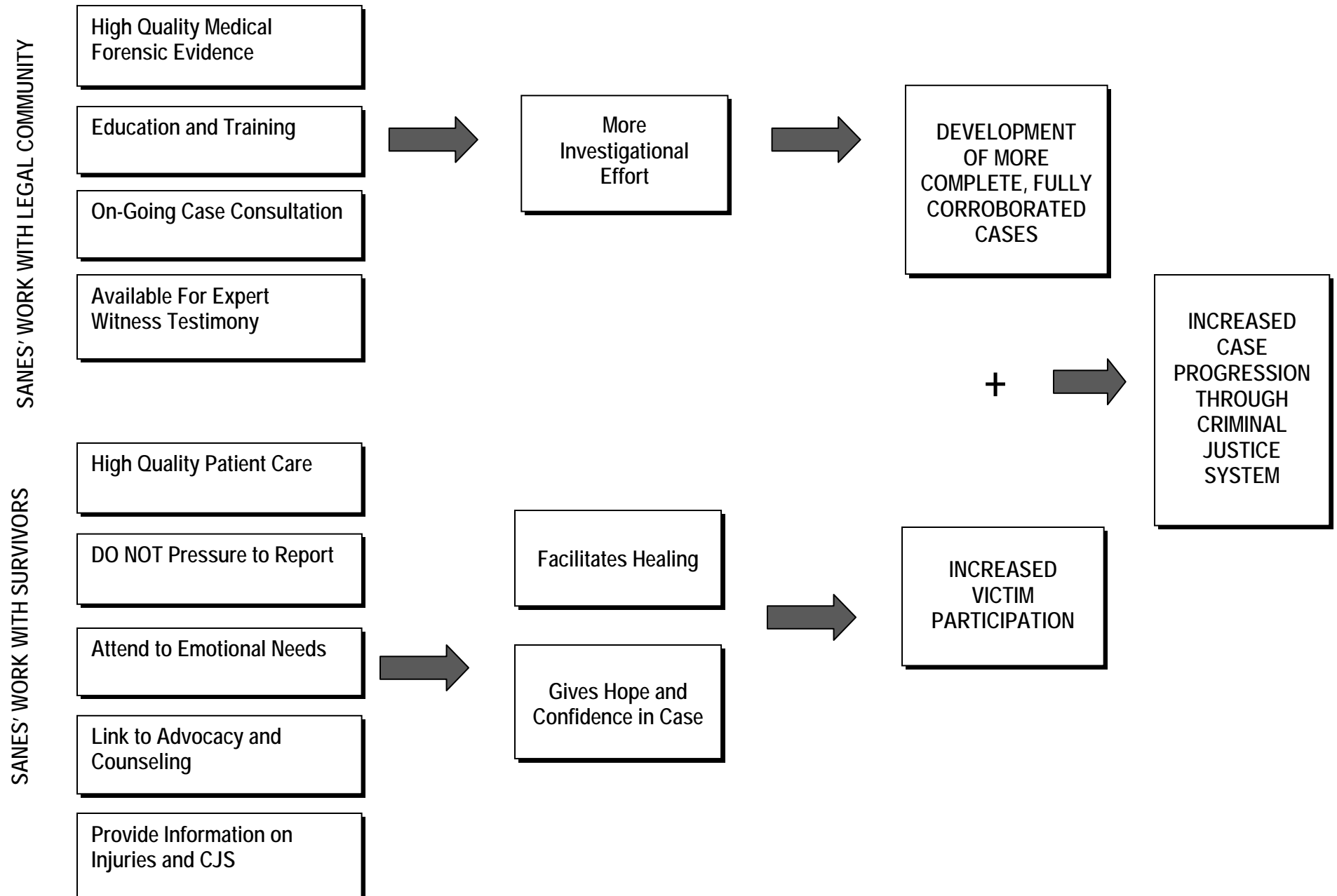
A. Summary of Cross-Study Findings

SANE programs are complex, multi-faceted interventions that address sexual assault survivors' psychological and physical health care needs, and also offer medical forensic evidence collection for possible use in the investigation and prosecution of a criminal case. In this project we used a multi-study, mixed method design to examine whether SANE programs have a positive effect on criminal justice system case processing, and if so why. We analyzed both quantitative police and court records, and conducted qualitative interviews with law enforcement, prosecutors, victims/survivors, and forensic nurses to evaluate the impact of SANEs in a legal context. Through this mixed methods design, we assessed outcomes *and* captured the processes that led to those outcomes. Understanding the mechanisms by which positive effects can be obtained is essential because it is highly unlikely that the mere implementation of a SANE program would change the actions of law enforcement and prosecutors. The legal community may draw upon a resource if indeed it is resourceful to their work of investigating and prosecuting sexual assault cases. Using a system change theoretical model, we examined what resources are provided by SANEs to the legal community and to their patients, how are they utilized, and the processes by which systemic change occurred in this county. First, we will summarize the key findings across the six studies included in this project (see Figure 10 next page); then, we will examine the strengths and limitations of this project and highlight implications for future research; and then we will conclude with implications for policy and practice.

1. Findings from the Goal #1 Studies: Is There An Effect of SANEs on CJS Case Progression? The first goal of this study was to evaluate whether the implementation of the focal SANE program affected criminal justice system case progression for reported adult sexual assaults. Most prior research on the impact of SANEs in the legal system has used case study designs or quasi-experimental designs, which

FIGURE 10

Summary of Overall Project Findings



is common in evaluation research on new interventions (Rossi et al., 2004). However, case studies rarely allow for causal inferences, and prior quasi experimental projects have had methodological limitations that weakened the strength of their conclusions. Therefore, our aim in this project was to build upon this prior work by using a rigorous quasi experimental design to determine whether criminal justice system case progression improved after the implementation of the SANE program, and whether such effects (if found) could be reasonably attributed to the efforts of the SANE program.

a) Pre-post SANE changes in case progression. Study 1 had a rigorous sampling design to ensure that the cases in the pre-SANE comparison group were equivalent to the post-SANE intervention group along several important dimensions: all victims were adult women assaulted in the focal county, their cases were reported to the same law enforcement agencies, all had a complete medical forensic exam, and the results of which were analyzed by the state crime lab. The key difference, which was the very crux of this study, was whether the medical forensic exam was conducted by the non-SANE hospital personnel or the SANE program forensic nurses. The results from the multilevel ordinal regression models indicated that there was a significant increase in criminal justice system case progression pre-SANE to post-SANE. More sexual assault cases were moving further through the system, reaching higher levels of case disposition (i.e., plea bargains and trials) after the implementation of the SANE program as compared to before SANE. Case progression was higher for the SANE cases, and this effect was significant after accounting for department-level and county-level effects in this community over time. We also conducted key informant interviews prior to and throughout data collection to assess other threats to internal validity. No other policy or programmatic changes had occurred (other than changes in elected prosecutor, which was already accounted for in the statistical models), and there was no evidence of history threats. Taken together, these results indicate that the increase in criminal justice system case progression can be reasonably attributed to the emergence of the SANE program in this community.

In addition to our finding that post-SANE cases had significantly higher case progression, our results indicated that which law enforcement agency investigating the case was a significant predictor of case outcome. The five police departments in this study were not consistent in their processing of cases: one was significantly less likely to refer cases to the prosecutor, but even in this department, there was still an increase from pre- to post-SANE. This department was by no means the most resource-strapped as they did have one designated detective for sexual assault cases (but they did not have a semi-specialized unit either). On the other hand, the departments with specialized investigation units did not have consistently higher referral/case progression. Other effects in the multilevel model demonstrated the importance of organizational-level resources. We uncovered a seasonal effect such that cases processed in month of December were significantly less likely to reach higher levels of case disposition outcome. It seems probable that less investigational time was put into cases due to holiday vacations. Time to invest in cases also appears relevant at the prosecutorial level. During prosecution election years, cases were also somewhat less likely to progress to higher levels ($p=.05$). These effects highlight the importance of organizational-level factors, but do not resolve the issue of whether specialized detective units are instrumental in advancing sexual assault cases for prosecution.

As expected, positive DNA evidence was also a significant predictor of higher case progression. It has been suggested that DNA evidence is particularly important in sexual violence crimes because it provides “hard” evidence to support survivors’ accounts (Arndt, 1988; Littel, 2001). Although we were not able to capture the details of how the DNA evidence was used by law enforcement in their investigation or by prosecutors in plea bargains or trials, its presence was clearly influential. Unfortunately, we did not have sufficient statistical power to test an interaction effect between DNA and SANE intervention to see if positive DNA was more likely in the post-SANE era, which merits further investigation.

b) Predictors of case progression in post-SANE era. We had planned to examine what factors predict case progression for the pre- and post-SANE cases. It seemed possible that the availability of high

quality medical forensic evidence from the SANEs might make victim and assault characteristics less salient in the determination of whether a case would move forward through the system. Prior research has consistently found that extra-legal factors, such as victim credibility and the degree of intimacy between the victim and offender, often determine case outcome (Campbell, 1998; Campbell et al., 2001; Frohmann, 1997, 1998; Kerstetter & Van Winkle, 1990; Spears & Spohn, 1996, 1997; Spohn et al., 2001). If more evidence (both in type and quality) were available to substantiate the occurrence of the assault, then perhaps these other factors would not be so influential. Unfortunately, we were not able to obtain victim, assault, and medical forensic evidence information for pre-SANE cases. The police records did not consistently contain this information, and our key informant interviews suggested this was because hospital medical forensic exam reports were difficult to obtain, and when available, their information was of mixed quality (at best). To some extent, this further underscores the utility of the SANE program as their records were consistently found within the post-SANE police files. Nevertheless, our exploration of what factors predict case progression could only be examined among post-SANE cases (Study 2).

Because our pre-post analyses indicated differences among the five law enforcement agencies in their referral/case progression outcomes, we accounted for this organizational-level effect in our model prior to examining the relative contributions of victim, assault, and medical forensic evidence findings in the prediction of case progression. With respect to victim characteristics, survivors between the ages of 18 and 21 (i.e., younger women in the sample) were significantly more likely to have their cases move to higher case disposition outcomes. Prior research in non-SANE communities has found the opposite effect such that middle-aged women were more likely to have their cases prosecuted (LaFree, 1981; Rose & Randall, 1982; Spear & Spohn, 1996, 1997). Why this effect is different among SANE cases is unclear and merits replication, but it is possible that despite their younger age, these survivors were viewed as credible for other, unknown reasons. Prior studies have yielded mixed results whether the victims' race/ethnicity predicts case outcome (no effect: Frazier & Haney, 1996; Kerstetter, 1990; Spears & Spohn, 1996, 1997;

racial effect such that white victims were more likely to have their cases prosecuted: Campbell et al., 2001; Chandler & Torney, 1981; Spears et al., 2001). In this study, we did not find a significant effect for victim race/ethnicity, but our sample was predominately white, consistent with the racial composition of the focal county, and there may not have been sufficient variability to detect to an effect—if there was one to be found. However, we did replicate prior findings that alcohol use by the victim prior to assault significantly decreased the likelihood that the case would be prosecuted (Campbell, 1998; Chandler & Torney, 1981; Spears & Spohn, 1996; Frohmann, 1997).

With respect to assault characteristics, penetration crimes were significantly more likely to be prosecuted, but the more complicated issue is the effect of victim-offender relationship. Older studies (of non-SANE samples) indicated that stranger rape cases (if the assailant was identified) are more likely to be prosecuted (Bradmilller & Walters, 1985; Chandler & Torney, 1981; Chappel et al, 1977; Kerstetter, 1990; LeGrand, 1975; Rose & Randall, 1982), but more recent work (also non-SANE samples) finds no effect (Bachman, 1998; Spohn & Horney, 1993; Spears & Spohn, 1996, 1997). In this study, if the offender was an intimate partner/husband, ex-intimate partner/husband, dating partner, or family member (i.e., stronger relationship bonds between the victim and offender), the case was significantly *more* likely to advance to higher disposition levels. This may be due to the substantial efforts of the domestic violence advocacy community to have intimate partner crimes recognized and prosecuted by the criminal justice system (see Salazar, Emshoff, Baker, & Crowley, 2007). On the other hand, many of the “dragged” cases were intimate partner sexual assaults, suggesting that that mandatory prosecution policies (or similar pro-prosecution efforts in domestic violence cases) may have some unintended consequences that merit further study.

After accounting for these victim and assault characteristics, medical forensic evidence could still predict significant variance in case outcomes. In other words, what determined whether post-SANE cases would proceed through the criminal justice system was not solely based on features of the survivor and/or the assault. Not surprisingly, the more delay there was between the assault and when the survivor had the

medical forensic exam, the less likely the case would progress through the system. This could be because with more delay, there was less remaining evidence of the assault and/or because law enforcement continues to question the veracity of survivors who do not immediately seek help (Frohmann, 1997; Kerstetter, 1990). Positive DNA evidence significantly increased the likelihood of case progression, but the effect of specific injuries was difficult to discern. Our data were coded at a micro-level, distinguishing between multiple types of physical (body) injuries and anogenital injuries. However, as noted throughout this report, many survivors do not sustain injuries from the assault, and hence we had very low base rates on nearly all injuries we attempted to include in the statistical models. We did find an effect that physical or anogenital redness was associated with increase likelihood of case progression, but why this specific medical forensic finding was influential is not clear and merits replication. A substantially larger sample size may be needed to test the predictive influence of specific injuries given their low base rate occurrence.

2. Findings from the Goal #2 Studies: Why Is There An Effect? In light of our findings that there was a significant increase in criminal justice system case progression pre-SANE to post-SANE, our second question was to understand why there was an increase. What are the mediating mechanisms of change? To identify these processes, we used a systems change theoretical model to examine the interrelationships between all key stakeholders involved in sexual assault case processing: law enforcement, prosecutors, forensic nurses, and victims/survivors.¹⁰ Systems change theory focuses on how information, resources, and expertise are exchanged among members of the network to create change throughout the entire system. Therefore, our goal was to examine *how* these key stakeholders work together (e.g., collaboration and communication), and perhaps more importantly, *what* they work on (e.g., what are their roles and responsibilities and what resources they contribute to the case). We conducted in-depth qualitative

¹⁰ We did not have the resources within this project to conduct a study with the rape victim advocates who work in the focal SANE program to capture their perspectives, which remains a limitation of this project. However, in our interviews with the victims/survivors and the forensic nurses, we did include questions about the role and importance of rape victim advocates.

interviews with representatives from all groups (Studies 3, 5, and 6), and in addition, we performed a quantitative content analysis of sexual assault police reports to look for behavioral indices of the impact of the SANE program on the work of law enforcement (Study 4). The results from these studies were cross-replicated across method, which indicates strong support for the findings (summarized below).

A reported sexual assault cannot be prosecuted if the case never makes it to the prosecutor. This is a simple fact, but has complex implications because it means that to understand prosecution, we have to shift our focus back to the early stages of case processing. To date, much of the literature on sexual assault and the legal system has concentrated on the latter stages of case processing and survivors' experiences with prosecutors (e.g., Frohmann, 1998; Konradi, 2007). The results of our studies indicate that the earliest stages of case processing—victims' first experiences with police and the law enforcement investigation—are critically important in determining what will ultimately happen in a case. A reported case will not be referred to the prosecutors if it is never investigated or so incomplete and full of gaps that it is impossible to tell whether the elements of the crime have been established. It is also extremely unlikely that a case will be referred for prosecution if the survivor is not willing and able (physically and emotionally) to continue telling her account of the assault. These are also simple facts, rich in implications as they suggest that two things must come together for a case to even have a chance for prosecution: there has to be a complete investigation and the survivor has to be willing and able to participate in the system. The details of the case, once known, may preclude a report from moving forward, but a thorough investigation is necessary to uncover the information in the first place. The findings in our second series of studies (Studies 3-6) indicate that the significant increase in criminal justice case progression post-SANE was because the focal SANE program provides vital resources to address both of these components—the investigation by law enforcement and the survivors' well-being and participation in the system.

The forensic nurses work very effectively with both law enforcement and survivors. This is important in intangible ways—it builds hope, confidence, and trust. We have ample evidence of these

intangibles in the interviews with both police and survivors. But hope, confidence, and trust do not, by themselves, get a case referred, warranted, prosecuted, or convicted at trial. That is an important distinction. Prior research on SANEs and legal case outcomes has emphasized how key stakeholders work together, suggesting that increased prosecution is due to improved collaboration and communication among key stakeholders. One of the nurses we interviewed in this project made a pivotal comment that laid bare the incompleteness of this explanation: "It's not about getting along better. We do, but that doesn't do or mean anything in court. What wins is a good case."

Our data also indicate that the SANE program was instrumental in building more collaborative partnerships in their community, but ultimately, the quality of the case is paramount. Through their work with both sexual assault survivors and law enforcement, SANEs provide resources that can contribute to the development of more complete, fully investigated, fully corroborated cases. The increase in case progression post-SANE occurs because, as an interdependent systemic unit, SANEs, police, and survivors provide information and resources to each other to create stronger cases. As a result, what is put forward to prosecutors reflects collective efforts and expertise, and not surprisingly, the cases *are* stronger. Consequently, prosecutors are more inclined to move forward with charging cases, and over time, the prosecution rates did increase.

a) SANEs' work with law enforcement. One of the most important resources that SANEs provide to law enforcement is high-quality medical forensic evidence collection—from both the victim and the suspect. Law enforcement in this county strongly emphasized that the quality and quantity of evidence they receive from the SANEs far exceeds what was previously provided by non-SANE hospital emergency department personnel. In addition, medical forensic evidence from suspects was an entirely new resource SANEs introduced into the system. The evidence collected from victims and suspects, and all accompanying documentation, was made immediately and easily accessible to law enforcement so that it could be *used* to inform their investigation. The detectives in this community highlighted how the SANE program saves them

time, and time is such a scarce resource. Because they value and trust the information collected by the SANEs, law enforcement could use their time to pursue leads, collect other evidence, and conduct their own independent interviews of the victim and suspect. In other words, the SANE program provides law enforcement with solid, trustworthy base information—a complete victim statement and a thorough medical forensic examination—upon which an investigation could build, develop, and evolve.

Indeed, our quantitative modeling of what factors predict police referral (Study 4) substantiates these qualitative findings. The sample of police files coded in this study included all reported sexual assaults during the defined time frame; some of these cases had SANE involvement and others did not. SANE involvement in a case was associated with increased law enforcement investigational effort, which in turn predicted case referral to prosecutors. Specifically, in cases in which the victim had a medical forensic exam, police collected more kinds of *other* evidence to support the case, which was associated with increased likelihood of case referral. In addition, in cases where SANE conducted a suspect exam, police were also more likely to collect other evidence to support the case, and more likely to interview the suspect, both of which were associated with increased likelihood of case referral. In other words, evidence begets more evidence: the medical forensic evidence collected by SANEs may suggest specific leads that law enforcement can follow-up on to obtain more evidence, and/or the efficiency of the SANE program frees up law enforcement time to obtain other evidence. The additive effect of evidence from the SANEs plus the evidence collected by law enforcement is what creates more complete documentation of the crime.

Medical forensic evidence is not the only important resource that SANEs provide to law enforcement. Our findings also show that on-going education, training, and case consultation are critical pieces in the development of more complete, fully investigated cases. This SANE program offers a yearly, free training program for their local legal community on sexual assault. This training spends substantial instructional time on female anatomy and physiology in order to debunk the myth that all “real” sexual assaults will result in anogenital injury. Many survivors are not injured, but that does not mean they were

not raped. This information is reinforced and reiterated in on-going, day-to-day interactions between the forensic nurses and police/detectives in this community. The forensic nurses make themselves accessible to police after they have conducted the exam to answer questions and explain their findings in more detail. Thus, another way in which SANE involvement contributes to increased investigational effort is through this ongoing education, training, and consulting—throughout these interactions, the SANE program staff consistently encourage law enforcement to conduct thorough investigations, irrespective of the medical forensic findings. Medical forensic evidence is only one kind of many kinds of evidence that can substantiate a reported assault.

Over time, the forensic nurses and law enforcement have developed strong working relationships, and both have seen the benefits of their collective efforts. In our interviews, detectives noted that they have learned they can count on the forensic nurses in their community to be fair, accurate, and objective. They know that if they invest effort in a case, the nurses really will be available to them for further consultation and can be counted on to provide expert testimony should the case proceed through prosecution. The nurses noted that their patients have much more positive experiences with police who have participated in the trainings and have made an effort to learn more about sexual assault. This becomes a reinforcing dynamic: law enforcement benefit from the resources provided to them by the SANEs; the forensic nurses have more opportunity to interact with law enforcement and provide information. As a result, cases that previously would not have been referred are getting more attention, and are moving further through the system, which is exactly what our quantitative data in Study 1 indicate.

b) SANEs' work with victims/survivors. Successful case prosecution also requires the continued involvement of survivors, and SANEs play an important *indirect* role in supporting that link as well. This SANE program maintains a philosophy that patient care—not supporting law enforcement or building legal cases—is their primary goal. We conducted a separate process evaluation of the focal program to verify that independently, and indeed those data were unequivocal that survivors treated in the SANE program

noticed and appreciated that their emotional and physical well-being was clearly the primary concern of their nurses (see Campbell, Patterson, Adams, Diegel, & Coats, 2008). This SANE program does not pressure their patients to report to law enforcement. Instead, they emphasize that it is the survivors' choice and either way, the forensic nurses will be there to care for them. Therefore, it is entirely consistent with this SANE program's practice that we did not find a direct link between SANE involvement and victim participation—there should not be. The forensic nurses' role is to provide care to their patients, and as it turns out, this can have an *indirect* benefit on victim participation in the criminal justice system.

The vast majority of survivors we interviewed characterized their experiences at the SANE program as positive, empowering, and healing. Many stated that this was the first time since they had been raped that they felt safe and human again. The nurses and advocates worked together as a team to help survivors begin the process of reinstating control over their bodies and their lives. As one survivor aptly noted, "it doesn't matter whether you prosecute or not. You still have to heal." Victims often come into the SANE program feeling guilty and ashamed, and program staff help survivors work through those emotions, reiterating that rape is never the victims' fault. The program tries to link survivors to advocacy and support services at the rape crisis center (with which this SANE is organizationally linked) so that they have the resources they need to focus on their own well-being and recovery. This attention to helping survivors heal indirectly affects their willingness to participate in legal prosecution. When survivors are not as traumatized, when they feel they have been heard and treated with dignity and respect, and when they have support and resources to help them, they are not just more willing, but also more capable of participating in the prosecution process. Our interviews with both survivors and police revealed that victims can give more detailed statements to law enforcement, remember more information, and can otherwise engage more fully with the investigation when they are not so traumatized and have adequate support (Patterson, 2008). These contributions are vital resources that survivors provide to the development of stronger cases.

Survivors often have questions about the medical forensic exam and the process of criminal prosecution, and the SANE program nurses and advocates provide patients with information on these issues. In so doing, they open up another pathway by which the SANE program indirectly supports increased victim participation in the criminal justice system. Survivors found it helpful when the nurses and advocates explained the general process of criminal prosecution. De-mystifying the legal system makes it less scary and intimidating, and it is difficult to go through something this complicated in an information vacuum. In addition, many survivors specifically wanted to know what the nurses were finding during their exams: was there evidence of injury, DNA, or other findings that could help substantiate their account? This information was instrumental in giving them hope and confidence in their case, and for some, helped them withstand the lengthy investigation process because they knew there was “hard evidence” to back them up. But, as previously noted, many survivors are not injured, and so the forensic nurses would often have to educate their patients about this issue. Providing this information normalized survivors’ experiences and helped them understand that it is still possible for a case to be prosecuted without evidence of injury, thereby keeping their interest and hope alive. When survivors did not get feedback from their nurses about the exam findings, it was difficult for them to evaluate whether it was worth it to pursue prosecution. When survivors have more information available to them about their case, they can make a more informed decision about their participation in the criminal justice system process.

B. Project Strengths, Limitations, and Implications for Future Research

One of our primary goals in this project was to advance the methodological rigor and analytic sophistication of SANE research. Determining causal effects is always difficult in field research, particularly when experimental designs are not ethical or practical, as was the case here. Therefore, we used several strategies in combination in order to test the hypothesis that the implementation of a SANE program may lead to increased prosecution. In our quantitative components, we used longitudinal quasi experimental designs (5 years pre-SANE and 7 years post-SANE), with rigorous sampling, and supplemental data

collection to rule out other threats to internal validity. To this quantitative foundation, we added in-depth qualitative data from key stakeholders in this community: law enforcement, prosecutors, forensic nurses, and victims/survivors. Prior research by Crandall and Helitzer (2003) included exploratory qualitative interviews with medical, advocacy, and legal system stakeholders, and we extended their work with more focused data collection on the mechanisms of systems change. We also successfully recruited and interviewed 20 survivors who received services in the focal SANE program (and an additional N=52 participated in a separate, independent process evaluation of the program), thereby bringing the perspectives of the survivors themselves directly into the research.

Despite these important strengths, there are several limitations of this project that merit examination. First, we were unable to obtain victim, assault, and medical forensic evidence information about the pre-SANE cases despite extensive efforts to track down these data. HIPAA restrictions did not permit us to obtain medical forensic records directly from the hospital, and the police files did not consistently have copies either. Our key informant interviews highlighted that the accessibility and quality of hospital records was problematic, which was why law enforcement also had spotty documentation. Therefore, communities/settings in which these records are available would be ideal sites for future research projects. Second, our quantitative studies had sufficient statistical power to detect the hypothesized main effects, but we were unable to test interactions between variables of interest (e.g., post-SANE and positive DNA findings). Similarly, our sample size precluded a more nuanced examination of how specific types of injuries may be influential in legal case processing. It is resource intensive to collect and code the amount of data processed in this project, but larger-scale studies would be preferable in order to examine these effects. Third, our qualitative data from survivors and the forensic nurses emphasized the significant role that victim advocates have in post-assault care, but we did not interview advocates as a distinct stakeholder group. The focal SANE program has a strong relationship to the advocacy community as its parent organization is not a local hospital, but rather the county's sexual assault-domestic violence

advocacy organization. The rape crisis program is responsible for the training and supervision of the advocates who work in the SANE program, and the SANE program director and advocacy director work closely to coordinate a team approach to survivor care. Consequently, our findings reflect the contributions of advocates, but we do not have data that speak to the advocates' perceptions on system change.

Future research on SANE programs and criminal justice system case processing can improve upon our project by addressing these limitations, but perhaps a more pressing problem is that there are over 400 SANE programs in existence (and more emerging rapidly), but only a handful have been studied in any depth (e.g., Crandall & Helitzer, 2003; Ledray, 1992; Nugent-Borakove et al., 2006; Sievers et al., 2003). As a result, it is difficult to draw definitive conclusions about the effectiveness of these interventions with respect to criminal justice system prosecution. The programs that have been evaluated had demonstrated success (in varying degrees, and with varying degrees of methodological confidence in the findings), but it seems unlikely that such results would be obtained across the board. Furthermore, previous research suggests there is substantial variability among SANE interventions with respect to program operation and philosophy (Patterson, Campbell, & Townsend, 2006) as well as organizational relationships with rape crisis centers (Cole & Logan, 2007; Payne, 2007) and SARTs (Campbell, 2008b). It seems probable that some service models may be more or less effective with respect to patient care outcomes and legal outcomes. As such, formative research is needed to explicate the heterogeneity of intervention models in existence, which can then inform multi-site trials to examine the effectiveness of different kinds/types of SANE and SANE-SART programs. Rigorous quasi-experimental designs would be necessary in such work to account for within and across-site sources of variability.

In addition, more research is sorely needed on the underlying mechanisms that lead to increased prosecution (when that occurs) and what happened in interventions that did not create positive change. Our findings highlight the need for more studies with victims/survivors on their experiences with SANE programs (particularly in SANE programs with different intervention philosophies) and if and how those

experiences affected their participation in the criminal justice system. This work needs to distinguish clearly the factors that contribute to victim engagement at the stage of law enforcement investigation vs. later prosecutorial processing (see Konradi, 2007 for an excellent qualitative study on this issue). In addition, the psychological trauma of sexual assault and difficulties victims encounter in their initial disclosures and help-seeking may have a profound effect on their level of engagement and merits explicit examination. The ways in which rape victim advocates buffer victims' interactions with law enforcement and affect victim participation in the criminal justice system also requires study. At the other end, it is important to explore how law enforcement and prosecutors define "lack of victim participation" as it seems possible that their perceptions of victim engagement may not be consistent with survivors' accounts (see Frohmann, 1998; Kerstetter, 1990). Our results indicate that SANEs had positive effect on law enforcement, and these findings need to be replicated in other sites and under different intervention models. The impact of the cross-agency trainings facilitated by SANE and SART programs merit in-depth evaluation to understand how they affect inter-organizational collaboration, victim engagement, and legal case outcomes.

C. Implications for Policy and Practice

As noted throughout this report, SANE program have quickly become "the" model of post-assault care for sexual assault survivors, and these interventions are developing and evolving more quickly than evaluation data are being generated to guide programmatic efforts. This is not an uncommon situation in social programming (Patton, 2008; Rossi et al., 2004), but evaluation scholars have emphasized that when empirical data are available, and those data can speak to important issues of intervention processes and outcomes, the practice community and the evaluation community share joint responsibility for making good use of that work (Patton, 1988a,b, 2008; Weiss, 1988a,b; 1998; Weiss, Murphy-Graham, Petrosino, & Gandhi, 2008). How research and evaluation findings can and should be used to inform policy and practice has been the subject of substantial study and debate (see Henry, 2000; Smith & Chircop, 1989), but at a minimum, three critical ingredients are necessary (but not always sufficient because policy decision making

reflects complex social and political processes [Weiss, 1973]) for evaluation findings to be useful to and used by practitioners: 1) those key stakeholders had to be involved throughout the process of generating those data; 2) the findings need to be summarized clearly, with explicit links drawn between results and practice implications; and 3) this information needs to be widely disseminated to practitioners and policy makers (Patton, 2008).

Consistent with these principles, our project was a collaborative effort with the focal SANE program and key stakeholders throughout the community. We conducted key informant interviews prior to and throughout data collection to assess local opinion and make sure that the information we were collecting would address the community's information needs. Moreover, key stakeholder groups were also *participants* in this study, whereby their perspectives were systematically collected, analyzed, and compared within a multi-method research framework. To address the second issue, we constructed a summary table (rather than extended text) that presents a condensed list of the major findings from each study, with the specific implications for policy and practice that stem directly from each empirical finding (see Table 9, next pages). Our hope is that this table can be a practical reference and guide to be used in conjunction with this report or as a stand-alone document. For the third key ingredient for successful use, we have already shared findings from this project with multiple practitioner audiences (see Appendix B for dissemination efforts already implemented), and will continue to do so in addition to the formal dissemination of this report by the National Institute of Justice.

TABLE 9

Implications of Project Findings for Policy and Practice

STUDY 1 FINDINGS	IMPLICATIONS FOR POLICY AND PRACTICE
OVERALL: Significant increase in criminal justice system case progression pre- to post-SANE	<p>Provides empirical support that SANE programs can have a beneficial impact on criminal justice system case processing. Concerns that SANEs could interfere with the investigation and prosecution of adult sexual assault cases are not supported.</p> <p>These findings highlight the importance of and potential utility of forensic nursing to the legal community; however, it cannot be concluded that all SANE programs contribute to increased prosecution. The findings also suggest there are important benefits of a multidisciplinary team model for sexual assault cases, namely increased time for law enforcement to pursue the investigation and increased support and mental health resources for survivors.</p>
Significant differences across law enforcement agencies in case progression outcomes	<p>Cases cannot be prosecuted if not referred by police to prosecutors, so a multidisciplinary team approach is useful for establishing strong relationships between each law enforcement agency in a community, and trying to coordinate a systemic approach to investigation in order to minimize such inter-agency differences.</p> <p>Overall “prosecution rates” may mask problems within specific law enforcement agencies. Institutional advocacy with individual law enforcement agencies may be beneficial.</p>
Significant decrease in case progression for cases handled in December	<p>Increased individual, victim-specific advocacy may be necessary for cases that are processed during times of lower organizational resources (e.g., holiday vacations). In addition, institutional advocacy by rape crisis centers with law enforcement agencies may be necessary to draw attention to this problem and develop proactive strategies to prevent these decreases.</p>
Decrease in case progression for cases handled during prosecution re-election year (trend)	<p>Increased advocacy may be necessary for cases that are processed during times of lower organizational resources and times when political pressures may decrease the likelihood that “riskier” cases would be prosecuted.</p>
Significant increase in case progression with positive DNA	<p>DNA evidence cannot be useful to the investigation and prosecution of a case if it is never analyzed; therefore, it is imperative that law enforcement submit the evidence kits to the crime lab for analysis.</p> <p>This finding highlights the importance of having highly trained medical professionals, such as SANEs, collect, store, and maintain the chain of forensic evidence to ensure that DNA samples can be obtained and are usable once they reach the crime lab.</p> <p>Adequate resources for crime labs are essential as DNA evidence appears to be instrumental in case processing outcomes.</p>

STUDY 2 FINDINGS

IMPLICATIONS FOR POLICY AND PRACTICE

OVERALL: Medical forensic evidence is a significant predictor of case progression outcomes above and beyond victim and assault characteristics

The availability of medical forensic exams for sexual assault survivors is vital because the evidence collected in these exams appears to be influential in law enforcement investigations and prosecution outcomes. The new VAWA provisions for forensic exams (i.e., no cost to victims) are an important new policy development consistent with these research findings. Sexual assault survivors need to have information about the availability of these services. A multidisciplinary approach whereby legal and mental health professions refer survivors for a medical forensic exam is key.

Younger victims → more likely to have cases progress further through the system

This finding was somewhat unexpected and needs further replication, but suggests that legal system personnel may have stereotypes and biases about older victims' credibility.

Victim alcohol use → less likely to have cases progress further through the system

Alcohol use by victim continues to be a significant barrier to legal case prosecution, so intensive advocacy in alcohol-related assaults is needed.

Education and training for law enforcement and prosecutors that focuses on successful strategies for effective investigation and prosecution of alcohol-related cases is needed. In addition, a review of state statutes and protocols to support education and training on this issue is also recommended.

Penetration sexual assault offenses → more likely to progress further through the system

Intensive advocacy may be necessary in non-penetration (i.e., fondling) sexual assaults. In addition, education and training for all multidisciplinary team members is necessary to develop strategies for successful prosecution and to share empirical research findings about the detrimental impact of these crimes on survivors' well-being.

Intimate partner/family perpetrators → more likely to progress further through the system

This finding was somewhat unexpected and needs further replication, but suggests there have been significant improvements in the prosecution of intimate partner sexual assault (IPSA). However, the results from Study 5 indicate that the law enforcement treatment of IPSA still needs improvement.

Increased delay between assault and exam → less like to have cases progress further through the system

Readily available and accessible medical forensic exams for sexual assault survivors are vital because increased delay may have a negative effect on legal case outcomes. The new VAWA provisions for forensic exams (i.e., no cost to victims) are an important new policy development consistent with these findings.

Community needs assessments may be useful for identifying and resolving barriers to victims seeking and obtaining medical forensic evidence exams.

Positive DNA evidence → more likely to progress further through the system

DNA evidence cannot be useful to the investigation and prosecution of a case if it is never analyzed; therefore, it is imperative that law enforcement submit the evidence kits to the crime lab for analysis.

Adequate resources for crime labs are essential as DNA evidence appears to be instrumental in case processing outcomes.

Documented physical or anogenital redness → more likely to progress further through the system

This finding was somewhat unexpected and needs further replication because it is unclear why this particular medical forensic finding was influential to case outcomes (but others were not). Education and training for law enforcement and prosecutors on rates of injury, other medical forensic evidence findings, and their utility to investigation and prosecution is needed.

STUDY 3 FINDINGS

IMPLICATIONS FOR POLICY AND PRACTICE

OVERALL: SANEs provide useful resources to law enforcement in the development of more complete, fully corroborated investigations

SANEs can be a useful resource to police and the development of more thoroughly investigated reported sexual assaults. Police rarely have adequate resources to investigate all cases thoroughly, and the work of SANEs address some of those resource gaps, particularly by freeing up law enforcement time to collect other evidence.

The development and maintenance of strong working relationships between SANE and law enforcement are good programmatic investments as they can contribute to increased understanding of sexual assault and investigational effort in sexual assault cases.

Concerns that SANE involvement may interfere with law enforcement investigations are not supported.

SANEs provide better quality and quantity of medical forensic evidence than do non-SANE hospital personnel

Resistance to the development and implementation of SANE programs based on concerns that the quality of the medical forensic evidence would be of lower quality is not supported.

The immediate release (with patient consent) of SANE exam findings and documentation to law enforcement saves valuable time that can be used to devote more time to other aspects of the investigation

SANE programs should review their protocols and practices to find ways to increase the speed with which the medical forensic exam findings and documentation can be made available to police. This may need to be done in conjunction with the advocacy community so that the values to patients/victims are appropriately represented, and survivors' choices are respected.

SANE programs that do not include an option for patients to sign a release allowing the nurses to provide the exam findings and documentation directly to police should consider doing so.

SANE-hosted multidisciplinary training for law enforcement and prosecutors provided useful information about sexual assault in general and injuries in particular, which was associated with increased investigational effort

SANE programs and other multidisciplinary partners should invest resources in the development and implementation of cross-unit trainings. Instructional time on female anatomy, physiology, and injuries seems particularly useful to law enforcement in order to establish realistic expectations regarding the probability of injury findings.

On-going case consultation provides useful opportunities for law enforcement to seek clarification about the medical forensic exam findings and discuss possible investigational leads that may be consistent with the medical forensic exam findings

SANE program staff need to remain accessible to law enforcement as they may have useful insights to share with police during the investigation of the case.

Concerns that on-going case consultation may compromise forensic nurses' perceived objectivity in the eyes of law enforcement personnel was not supported. Multidisciplinary teams need to develop role delineation guidelines that discuss these types of on-going consultations.

STUDY 4 FINDINGS

IMPLICATIONS FOR POLICY AND PRACTICE

OVERALL: SANE involvement in a case is significantly associated with increased investigation effort by law enforcement and increased case referral rates to prosecutors.

Cases cannot be prosecuted if they are not referred by police to prosecutors; cases will not be referred if they have not been found to meet the elements of the crime. Therefore, increasing investigational effort is a key component of increasing referral rates.

SANEs can be a useful resource to police and the development of more thoroughly investigated reported sexual assaults. Police rarely have adequate resources to investigate all cases thoroughly, and the work of SANEs address some of those resource gaps.

Concerns that SANE involvement may interfere with investigations are not supported.

Cases in which the victim had a medical forensic exam → police collected more kinds of other evidence to support the case, which was associated with increased likelihood of case referral.

Medical forensic evidence is one of many kinds of evidence that can help substantiate a reported assault. Exam findings may suggest specific investigational leads that police can follow to obtain other evidence; and/or exam procedures save police time to collect other evidence.

The availability of medical forensic exams for sexual assault survivors is vital because the evidence collected in these exams appears to be influential in law enforcement investigations.

Community needs assessments may be useful for identifying and resolving barriers to victims seeking and obtaining medical forensic evidence exams.

Cases where SANE conducted a suspect exam → police more likely to collect other evidence, interview suspect, and work to resolve inconsistencies between victim and offender relationships.

Suspect exams may be a particularly influential resource that SANEs provide to law enforcement. A suspect exam is associated with significant increased investigational effort.

Although these findings highlight compelling benefits of suspect exams, SANE programs need to evaluate their own internal resource capacity before expanding program services to include suspect exams. Critical issues to evaluate include: how suspect exams may or may not conflict with program philosophy re: patient care, how suspect exams could limit resources available for victim patient care, and how and where suspect exams should be conducted in order to maintain victim patient safety.

Cases where SANE conducted a suspect exam were somewhat less likely to withdraw participation, which had a modest positive effect on case referral.

This finding was somewhat unexpected and needs further replication. It is possible that suspect exams may provide supporting evidence for the victim's account of the assault, which may give survivors more hope and confidence in that their case will be prosecuted; hence, they are less likely to withdraw from participation.

How SANE programs negotiate providing care for victim patients and conducting suspect exams merits more examination within the forensic nursing community.

STUDY 5 FINDINGS

IMPLICATIONS FOR POLICY AND PRACTICE

OVERALL: The vast majority of survivors had very positive experiences with the SANE program and felt that their needs and concerns were attended to by program staff.

Positive SANE involvement does not necessarily lead to positive legal experience; many survivors still had negative/mixed experiences with law enforcement

Emphasis on patient care as a foremost priority is noticed and appreciated by survivors. The SANE program was a safe, respectful environment for survivors so they could begin the work of healing and recovering from rape. SANE programs should examine the ways in which program operation can contribute to and strengthen a mission of supporting patient well-being.

SANEs programs provide useful resources to law enforcement, but this does not guarantee that survivors will have positive experiences with police personnel. Education and training for law enforcement on successful strategies for working effectively with survivors is needed.

SANE programs need to present balanced messages to their patients so that survivors will not have unrealistic hopes regarding their law enforcement experiences. Simultaneously, these data highlight the importance of having victim advocates provide case-specific advocacy in the legal system.

Survivors perceived that the forensic nurses and advocates work well together as a team, but appreciated the unique role of victim advocates.

Victim advocates are a vital resource to survivors and SANE programs need to establish strong institutional linkages with advocacy organizations in order for survivors have access to advocates.

Advocates provide complementary, but different resources than SANEs; therefore SANEs cannot provide all-inclusive care to their patients. Concerns that advocates may interfere with the work of forensic nurses were not supported.

Survivors perceived a distinct separation between the SANE program and law enforcement, and did not feel pressured to report or participate in criminal prosecution.

SANE did not have a direct effect on victim participation in the legal system, which is consistent with a philosophy of emphasizing patient care. Concerns that not encouraging prosecution may make it less likely that survivors will participate in prosecution was not supported. Instead, supporting survivor choice appears to have a positive indirect effect on victim participation.

Survivors wanted to know the results of their medical forensic exams, and when this information was provided by the nurses, it increased hope and confidence in their cases. When nurses did not provide this information, survivors' engagement in the system was somewhat lessened.

SANEs need to explain the exam *and* the exam findings to their patients. Certain results (e.g., DNA) would not be available yet, but SANEs can discuss injuries and other findings. Patient education about injuries is likely to be necessary so that victims have accurate information about the presence, and more importantly, the commonness of absence of injuries.

In cases in which SANE and law enforcement had concerns regarding lethality, survivors felt more pressured or "dragged" through the criminal justice system.

Respecting survivor choice was a paramount concern for this SANE program, but reconciling that philosophy with serious concerns about lethality proved difficult. Conducting community lethality reviews may provide useful information to inform the development of protocols (for SANE programs and law enforcement) in situations with heightened lethality risk. Training and education on sexual assault and lethality assessment is urgently needed.

STUDY 6 FINDINGS

IMPLICATIONS FOR POLICY AND PRACTICE

OVERALL: The focal SANE program maintains a practice philosophy that patient care—not supporting law enforcement or building legal cases—is their primary goal.

Emphasizing patient care has important benefits for survivors and their well-being, and can also have indirect benefits on legal prosecution. However, a key reason why this SANE program was instrumental in creating change within their legal system was due to their simultaneous efforts educating, training, and collaborating with law enforcement. The balance between working with survivors and law enforcement may not be easily achieved. SANE programs need to evaluate their own internal resource capacity before expanding program efforts to include more intensive work with the law enforcement community. Partnerships with the advocacy community may be useful to support joint education and training needs.

Additional research is needed to understand differences in SANE program philosophy and practice and whether particular models are more or less likely to support successful prosecution. The results of this study do not speak to whether alternative program philosophies can also be effective in creating legal system change.

SANE program staff do not pressure victims to report and pursue prosecution. The program focuses on attending to victims' emotional and healthcare needs, linking them to advocacy and counseling, and providing information about the criminal justice system.

Survivors' may be more willing and able to participate in the criminal justice system if their emotional and physical health needs have been addressed and if they have adequate support and advocacy. SANE program staff must be well-trained to recognize and address victims' immediate post-assault crisis intervention emotional needs. SANE programs need to establish strong organizational linkages with advocacy organizations or other resources that can provide longer-term support for survivors.

Concerns that a strong patient care philosophy would have an adverse effect on legal case outcomes were not supported.

SANEs provide on-going education and consultation to law enforcement about medical forensic evidence in general, and injuries in particular. SANEs encourage law enforcement to conduct thorough investigations regardless of the findings from the medical forensic evidence exam.

SANEs have a distinct role from law enforcement, but they can support the work of police by providing information about medical issues. SANEs' objectivity is critical to maintaining the professional trust of police, but encouraging law enforcement to conduct a thorough investigation does not appear to undermine that relationship. Rather, it strengthens the relationship and contributes to the collection of more information about the reported assault.

D. Conclusions

In conclusion, this twelve year analysis of criminal justice system case outcomes revealed that more cases were moving through the system to higher levels of disposition (i.e., guilty pleas or guilty convictions) after the implementation of a SANE program. The quasi-experimental design and supplemental data collection used in this project allow us to conclude that these effects are reasonably attributable to the efforts of the SANE program and not due to other changes over time in this community. The SANE programs' work with law enforcement and their patients, though separate and philosophically distinct, is mutually reinforcing and provides instrumental resources for successful case prosecution.

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APPENDIX A: PROJECT STAFF

Project staff for NIJ 2005-WG-BX-0003 (in alphabetical order):

Meredith Blackman, B.A., Study 4 Data Coder/Analyst

Deborah Bybee, Ph.D., Co-Investigator/Principal Statistician

Giannina Cabral, M.A., Study 5 Interviewer/Analyst

Rebecca Campbell, Ph.D., Principal Investigator

Emily Dworkin, B.A., Study 4 Data Coder/Analyst

Jamie Ferrell, BSN, RN, DABFN, CA/CP SANE, SANE-A, CMI-III, CFN, Consultant

J. Kevin Ford, Ph.D., Co-Investigator

Megan Greeson, B.A., Study 5 Interviewer/Analyst, Primary Author Practitioner Toolkit

Kathleen Kelley, M.A., Study 4 Coordinator

Shannon Kobes, M.A., Study 4 Coordinator, Co-Author Practitioner Toolkit

Debra Patterson, Ph.D., Co-Investigator/Project Director

APPENDIX B: DISSEMINATION

(As of January 23, 2009)

Completed Student Theses/Dissertations:

Kelley, K.D. (2008). *Police handling of sexual assault cases: The first formal decision*. Master's Thesis, School of Criminal Justice, Michigan State University, East Lansing, Mi.

Patterson, D.A. (2008). *Constructing justice: How the interactions between victims and detectives affect the quality of rape investigations*. Doctoral Dissertation, Department of Psychology, Michigan State University, East Lansing, MI.

Pending Student Theses/Dissertations:

Greeson, M. (in progress). *Rape survivors' agency within the legal and medical systems*. Master's Thesis, Department of Psychology, Michigan State University, East Lansing, MI.

Kobes, S. (in progress). *The role of victim characteristics in law enforcement referral decisions for adult sexual assault cases*. Doctoral Dissertation, Department of Psychology, Michigan State University, East Lansing, MI.

Conference Presentations and Invited Talks:

Campbell, R. (2006, September). Invited Talk: Current research on sexual assault nurse examiner programs. Department of Justice/Office of Violence Against Women, National Technical Assistance Providers Meeting, Washington, DC.

Campbell, R. (2007, May). Invited Talk: Building knowledge to advance practice for SANE-SARTs. National Sexual Assault Response Team Training Conference, Tampa, FL.

Campbell, R. (2008, July). Invited Talk: The impact of sexual assault nurse examiner (SANE) programs on the legal prosecution of adult sexual assault cases. National Institute of Justice Research Conference, Washington, DC.

Campbell, R., Patterson, D., Bybee, D., & Diegel, R. (2007, October). Prosecution rates for adult sexual assault cases: A ten year analysis before and after the implementation of a SANE program. Paper presented at the International Forensic Nursing Scientific Assembly, Salt Lake City, UT.

Campbell, R., Patterson, D., Diegel, R., & Coats, S. (2007, March). Sexual assault and intimate partner violence among female patients treated in a sexual assault nurse examiner (SANE) program. Paper presented at the National Conference on Health and Domestic Violence, Family Violence Prevention Fund, San Francisco, CA.

Campbell, R., Patterson, D., Kelley, K., Bybee, D., & Diegel, R. (2007, November). Prosecution rates for adult sexual assault cases: A quasi-experimental study of rate change before and after the implementation of a Sexual Assault Nurse Examiner (SANE) program. Paper presented at the American Society of Criminology Meeting, Atlanta, GA.

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Patterson, D., Campbell, R., & Bybee, D. (2007, October). Factors that predict prosecution of adult SANE cases. Paper presented at the International Forensic Nursing Scientific Assembly, Salt Lake City, UT.

Patterson, D., Campbell, R., & Cabral, G. (2007, October). The humanizing effect: How SANE programs are helpful to victims throughout the stages of the legal system. Paper presented at the International Forensic Nursing Scientific Assembly, Salt Lake City, UT.

Patterson, D., Kobes, S., Kelley, K., & Campbell, R. (2007, June). Community interventions to change police officers' investigational practices. In R. Campbell (Chair), *Institutional responses to sexual violence against women and children*. Symposia presented at the Society for Community Research and Action Conference, Pasadena, CA.

Publications:

Campbell, R., Patterson, D., & Bybee, D. (under review). Prosecution of adult sexual assault cases: A longitudinal analysis of the impact of a sexual assault nurse examiner (SANE) program. Submitted to *Violence Against Women*.

Campbell, R., Patterson, D., & Bybee, D. (under review). Predicting sexual assault prosecution outcomes: The role of medical forensic evidence collected by sexual assault nurse examiners (SANEs). Submitted to *Criminal Justice & Behavior*.

APPENDIX C: DATA COLLECTION INSTRUMENTS

APPENDIX C-1 AND C-2: Study 1 and 2 Case Outcome and Medical Forensic Evidence Coding Sheets

APPENDIX C-3: Study 3 Police and Prosecutors Interview Protocols

APPENDIX C-4: Study 4 Police Report Coding Sheet

APPENDIX C-5: Study 5 Survivor Interview Protocol

APPENDIX C-6: Study 6 Forensic Nurse Interview Protocol

APPENDIX C-1 and C-2: STUDIES 1 & 2 CODE SHEETS

ID Number _____

Data Collector _____

Data Source _____

Victim Characteristics

	Variable	Circle/ Enter Code	Comments
1	Age (<i>Actual age in years</i>)	999= Missing	Birthdate:
2	Gender	0= Female 1= Male 999= Missing	
3	Race/ethnicity	1= White/Caucasian 2= African American 3= Latino/a 4= Native American 5= Bi-/ Multi-racial 6= Other 999= Missing	
4-5	Zip code	999= Missing	Income:

Case Characteristics

	Variable	Circle Code/ Enter Data	Comments
6	Time between assault and medical exam (<i>in hours</i>)		Incident Date & Time (SANE): Exam Date & Time (SANE): Interview Date & Time (Hosp.): Treatment Date & Time (Hosp.):
		888= Unknown 999= Missing	
7-8	Days between assault and medical exam	0= Same day as assault 1= One day after assault 2= Second day after assault 3= Third day after assault 4= Fourth day after assault 5= Other (<i>write number of days in comments</i>)	
		888= Unknown 999= Missing	
9	Weapon use in the assault	0= Weapon not used 1= Weapon used	
		888= Unknown 999= Missing	
10	Victim consumed alcohol before or during the sexual assault	0= No 1= Yes	
		999= Missing	
11	Victim consumed drugs before or during the sexual assault	0= No 1= Yes	
		999= Missing	
12	Victim relationship to offender	1= Stranger 2= Acquaintance	

		3= Intimate/familial 888= Unknown 999= Missing	
13	Type of sexual assault: Vaginal Penetration	0= No 1= Yes 777= Not Applicable (Male victim) 888= Unknown 999= Missing	
14	Type of sexual assault: Oral Penetration	0= No 1= Yes 888= Unknown 999= Missing	
15	Type of sexual assault: Anal Penetration	0= No 1= Yes 888= Unknown 999= Missing	
16	Law Enforcement Agency	1= department 1 2= department 2 3= department 3 4= department 4 5= department 5 6= department 6 888= Unknown 999= Missing	

Medical Forensic Evidence

Physical Injury

	Variable	Circle Code	Number of injuries	Comments
17-18	Redness (erythema)	0= No 1= Yes 999= Missing		
19-20	Tear/laceration	0= No 1= Yes 999= Missing		
21-22	Bruising/hematoma	0= No 1= Yes 999= Missing		
23-24	Abrasions	0= No 1= Yes 999= Missing		
25-26	Other injury (<i>write type of injury in comment box</i>)	0= No 1= Yes 999= Missing		
27-28	TOTAL Physical injury	0= No 1= Yes 999= Missing		
29-30	Bleeding	0= No 1= Yes 999= Missing		
31-32	Oozing injury	0= No 1= Yes 999= Missing		

Anogenital Injury				
	Variable	Circle Code	Number of injuries	Comments
33-34	Redness (erythema)	0= No 1= Yes 999= Missing		
35-36	Tear/laceration	0= No 1= Yes 999= Missing		
37-38	Bruising/hematoma	0= No 1= Yes 999= Missing		
39-40	Abrasions	0= No 1= Yes 999= Missing		
41-42	Other injury (<i>write type of injury in comment box</i>)	0= No 1= Yes 999= Missing		
43-44	TOTAL Anogenital injury	0= No 1= Yes 999= Missing		
45-46	Bleeding	0= No 1= Yes 999= Missing		
47-48	Oozing injury	0= No 1= Yes 999= Missing		

Medical Forensic Evidence (Cont'd)

	Variable	Circle Code/ Enter Data	Comments
49-50	Foreign matter	0= No 1= Yes 999= Missing	Type of foreign matter:

Post-assault action

	Variable	Circle Code/ Enter Data	Comments
51	Shower/bathed	0= No 1= Yes 888= Unknown 999= Missing	
52	Douched	0= No 1= Yes 777= N/A (Male victim) 888= Unknown 999= Missing	
53	Urinated	0= No 1= Yes 888= Unknown 999= Missing	
54	Defecated	0= No 1= Yes 888= Unknown 999= Missing	
55	Brushed teeth	0= No 1= Yes 888= Unknown 999= Missing	
56	Oral gargle/swish	0= No 1= Yes 888= Unknown 999= Missing	
57	Genital wipe/wash	0= No 1= Yes 888= Unknown 999= Missing	
58	Remove/insert tampon	0= No 1= Yes 777= N/A (Male victim) 888= Unknown 999= Missing	
59	Ate/drank	0= No 1= Yes 888= Unknown 999= Missing	

APPENDIX C-3: STUDY 3 INTERVIEW PROTOCOL

Qualitative Police Supervisor Interview Protocol

Participant ID Number _____

Interviewer ID Number _____

Date Interview Conducted _____

Length of Interview _____

INTRODUCTION AND OVERVIEW

As we talked about before, this interview will take approximately 1-2 hours to complete. I am doing these interviews to gain a better understanding of law enforcement experiences with and perceptions of sexual assault nurse examiner programs. I really appreciate your willingness to talk with me today and share your expertise regarding this topic. The information you provide will be extremely helpful.

I would like to tape record this interview for my own use in coding the interview later on—it's going to be hard for me to get everything down on paper, so the tape can help me later on filling in anything I might have missed. The only other people who might listen to this tape will be the project supervisors. When we have completed coding the interview, the tape will be destroyed.

Everything we discuss today is private—your name will not be connected to anything you say. Your name is not on this interview or the tape.

As we're going through the interview, if you need to take a break or stop, just let me know. If there are any questions that you don't want to answer, just say so, and I will move on to the next section. You do not have to answer all of the questions in this interview.

Before we get started I need to go through the procedures to obtain your consent to be interviewed (go through procedures to obtain informed consent).

Do you have any questions before we start?

In this first section of the interview, I would like to ask questions to gain some **background information** about your current position and your experience with Adult Sexual Assault investigations.

- 1) How **long** have you worked in **law enforcement**?
- 2) What is the **title** of your **current position**?
- 3) What are the **primary responsibilities** of this position?
- 4) How **long** have you been in this **position**?
- 5) What **other positions** have you held within **this department**?
- 6) What **other positions** have you held in **other police departments**?
- 7) **How many adult** sexual assault cases have you **investigated**?

In this next section I would like to ask you some questions specifically about **Sexual Assault Nurse Examiner programs**. I am interested in your experiences with and opinions of these programs specifically in relation to the investigation of ASA cases.

- 8) How has **investigating** adult sexual assault been **different** since the SANE program was initiated?
- 9) How does the SANE program make the **detectives' work different**? (and what is different)
 - a. Impacted **policy** regarding ASA cases?
 - b. Impacted **practice** regarding ASA cases?
 - c. Impacted **resources** in your department?

- 10) Since the implementation of SANE, what **difference** have you noticed in ...
 - a. **communication** among law enforcement, prosecutor and medical personnel?

 - b. **collaboration** among law enforcement, prosecutor and medical personnel?

 - c. **How** has this change **impacted investigational practices** (e.g., referring cases)?

 - d. **How** did these **changes** in communication/collaboration **come about**?

- 11) What about the SANE program is **useful** for ASA cases?

- 12) What is **not useful** about the SANE program for ASA cases?

- 13) Do the detectives **consult** the SANE nurse when **determining whether to refer** an ASA case?
 - a) How **beneficial**?
 - b) How **not beneficial**?

- 14) Since the implementation of the SANE program, what **differences** have you noticed in the **state of medical evidence** (e.g., documentation)?

- 15) What **role** do you think **advocates play** in the **successful prosecution** of cases?

In the next portion of the interview, I am interested in your opinion of the **training sponsored by the SANE** program.

- 16) Have **you attended** the training?
 - a. **useful** for LE?
 - b. **not useful** for LE?

- 17) How do you **determine which detectives/officers to send** to the SANE training?

- 18) **Why do you send** detectives/officers to the SANE training?

- 19) How does this training **compare to other trainings** your staff has attended on sexual assault?

- 20) In thinking about **detectives** that attended the training, what **differences** have you noticed in their work **since attending the training**?
 - a. **Quality of reports**?
 - b. **Quality of investigations**?
 - c. **Approach with victims**?
 - d. **Decisions on referring cases**?

Finally, I would like to ask you questions about yourself to get a more accurate picture of the people being interviewed. If any of the questions seem too personal, feel free to tell me you would prefer to move on to the next question.

- 21) What is your **gender**?
- 22) What is your **ethnicity**?
- 23) How **old** are you?
- 24) What is the **highest level of education** you have completed?

Qualitative Prosecutor Interview Protocol

Participant ID Number _____

Interviewer ID Number _____

Date Interview Conducted _____

Length of Interview _____

INTRODUCTION AND OVERVIEW

As we talked about before, this interview will take approximately 1-2 hours to complete. I am doing these interviews to gain a better understanding of how prosecutors make charging decisions in sexual assault cases and what factors play a significant role in those decisions. I really appreciate your willingness to talk with me today and share your expertise regarding this topic. The information you provide will be extremely helpful.

I would like to tape record this interview for my own use in coding the interview later on—it's going to be hard for me to get everything down on paper, so the tape can help me later on filling in anything I might have missed. The only other people who might listen to this tape will be the project supervisors. When we have completed coding the interview, the tape will be destroyed.

Everything we discuss today is private—your name will not be connected to anything you say. Your name is not on this interview or the tape.

As we're going through the interview, if you need to take a break or stop, just let me know. If there are any questions that you don't want to answer, just say so, and I will move on to the next section. You do not have to answer all of the questions in this interview.

Before we get started I need to go through the procedures to obtain your consent to be interviewed (go through procedures to obtain informed consent).

Do you have any questions before we start?

In this first section of the interview, I would like to ask questions to gain some **background information** about your current position in the prosecutors' office and your experience as an Adult Sexual Assault prosecutor.

- 25) How **long** have you been **practicing law**?
- 26) How **long** have you been a **prosecutor**?
- 27) What is the **title** of your **current position** in the prosecutors' office?
- 28) What are the **primary responsibilities** of this position?
- 29) How **long** have you been **in this position**?
- 30) What **other positions** have you held within **this office**?
- 31) **How many adult** sexual assault cases have you **prosecuted**?
- 32) Approximately **how many** went to **trial**?

In the next section of the interview, I would like to ask you some questions about your **process for deciding to authorize a case**. I am interested in understanding what factors play a role in your decision making. This will help me understand the full spectrum of factors that impact your work as a prosecutor.

- 33) What do you look for to warrant an adult sexual assault case?

Now I would like to ask more **specific questions about different factors** that may or may not play a role in **your decision to authorize a case**.

34) What role does **medical evidence** play in the decision to prosecute an ASA case?

- a. **Why** is it important?
- b. How is it perceived **compared to other factors** in a case?

35) What role does a **cooperative or non-cooperative victim** play in the decision to prosecute an ASA case?

36) What role does the **ability of the victim to testify** play in the decision to prosecute an ASA case?

Now I would like to ask you some **questions** specifically about the **role of medical evidence**.

37) What role does medical evidence play in **plea bargaining** in ASA cases?

38) What role does the **presence** of medical evidence play in **jury's deliberations** in ASA cases?

39) What role does the **absence** of medical evidence play in jury's deliberations ASA cases?

In this next section I would like to ask you some questions specifically about **Sexual Assault Nurse Examiner programs**. I am interested in your **experiences with and opinions** of these programs specifically in relation to the prosecution of ASA cases.

40) How has **prosecuting adult** sexual assault been **different** since the SANE program was initiated?

- 41) How does the SANE program **make your job different?** (and what is different)
- a. impacted **policy** regarding ASA cases?
 - b. impacted **practice** regarding ASA cases?
- 42) Since the implementation of SANE, what **difference** have you noticed in ..
- a. **communication among** law enforcement, prosecutor and medical personnel?
 - b. **collaboration among** law enforcement, prosecutor and medical personnel?
 - c. how has this change **impacted your job** (e.g., charging decisions, trying cases)?
 - d. How **changes come about?**
- 43) Since the SANE program began providing **LE training**, what **difference** have you noticed in the **quality of police reports?**
- 44) What about the **SANE** program is **useful** for ASA cases?
- 45) What is **not useful** about the **SANE** program for ASA cases?
- 46) Do you **consult** the SANE nurse when determining whether to warrant an ASA case?
- 1) **beneficial?**
 - 2) **Not beneficial?**

47) Since the implementation of the SANE program, what differences have you noticed in the **state of medical evidence** (e.g., documentation)?

48) How does the **expert witness testimony** of SANE nurses affect ASA cases?

- a. When **medical evidence** is present – **explaining injury**?
- b. **Explaining lack of medical evidence**?

49) When do you **decide to have SANE nurse testify** as an expert witness in an ASA case?

- a. When **medical evidence present**?
- b. When **medical evidence is absent**?

50) How do you think the **judge/jury perceives nurses** as expert witnesses in ASA cases?

51) What **role** do you think **advocates** play in the **successful prosecution** of cases?

In the next portion of the interview, I am interested in your opinion of the **training sponsored by the SANE** program.

52) Have **you attended** the training?

- a. **Useful?**
- b. **not useful?**

53) IF ATTENDED SANE TRAINING: How did the SANE training **compare to other trainings** that you have attended on sexual assault?

54) **Of all the trainings** that you attended, what was **most useful** to you in your role as a prosecutor?

- a. What was **least useful**?

Finally, I would like to ask you questions **about yourself** to get a more accurate picture of the people being interviewed. If any of the questions seem too personal, feel free to tell me you would prefer to move on to the next question.

55) What is your **gender**?

56) What is your **ethnicity**?

57) How **old** are you?

58) What is the **highest level of education** you have completed?

APPENDIX C-4: STUDY 4 INTERVIEW PROTOCOL

Police Report Coding Sheet

ID Number _____

Data Collector _____

Data Sources _____

	Report Characteristics	Circle/ Enter Code	Comments
	Date of Report:		
	Days between report and assault:	0= Same day as assault 1= One day after assault 2= Second day after assault 3= Third day after assault 4= Fourth day after assault 5= Other <i>(write number of days in comments)</i> 888= Unknown 999= Missing	
	Number of pages in the detectives report		

	Victim Characteristics	Circle/ Enter Code	Comments
	Age <i>(Actual age in years)</i>		999= Missing
	Gender	0= Female 1= Male 999= Missing	
	Race/ethnicity	1= White/Caucasian 2= African American 3= Latino/a 4= Native American 5= Asian 6= Bi-/ Multi-racial 7= Other 8= Unknown 999= Missing	

	Did the Detective Ask the Victim	Circle/ Enter Code	Comments
	If she consumed alcohol before or during the sexual assault	1= Presence Documented 2= Absence Documented 999= Missing	
	If she consumed drugs before or during the sexual assault	1= Presence Documented 2= Absence Documented 999= Missing	
	The victim's relationship to the suspect?	1= Stranger 2= Acquaintance 3= Intimate/familial 888= Unknown 999= Missing	
	How the suspect entered/exited the crime scene?	1= Presence Documented 2= Absence Documented 999= Missing	
	If the suspect made verbal threats?	1= Presence Documented 2= Absence Documented 999= Missing	
	If the suspect made physical threats?	1= Presence Documented 2= Absence Documented 999= Missing	
	If the suspect used a weapon?	1= Presence Documented 2= Absence Documented 999= Missing	
	If the suspect used a condom?	1= Presence Documented 2= Absence Documented 999= Missing	
	If the suspect ejaculated?	1= Presence Documented 2= Absence Documented 999= Missing	
	If things were taken from the victim or crime scene?	1= Presence Documented 2= Absence Documented 999= Missing	
	If the suspect touched anything that would leave fingerprints?	1= Presence Documented 2= Absence Documented 999= Missing	
	If the suspect attempted to damage the crime scene or destroy evidence?	1= Presence Documented 2= Absence Documented 999= Missing	
	If there was inconsistencies in the victim's statement, did the detective document any clarifications?	1= Presence Documented 2= Absence Documented 999= Missing	

	Victim Interview	Circle/ Enter Code	Comments
	The victim's emotional response during the interview with the detective?	1= Presence Documented 2= Absence Documented 999= Missing	
	The victim's behavior during the interview with the detective?	1= Presence Documented 2= Absence Documented 999= Missing	

	Assault Characteristics	Circle/ Enter Code	Comments
	The circumstances that made the victim feel threatened?	1= Presence Documented 2= Absence Documented 999= Missing	
	The victim's emotional response during the assault?	1= Presence Documented 2= Absence Documented 999= Missing	
	The victim's physical response during the assault?	1= Saying no 2 = Physical Resistance 3= Both 4= Other (<i>write in comments box</i>) 999= Missing	
	If the victim did not resist, does the report include why she did not resist?	1= Presence Documented 2= Absence Documented 999= Missing	
	Type of sexual assault:	1= vaginal/penile penetration 2= oral/penile penetration 3= anal/penile penetration 4= vaginal & oral/ penile penetration 5= vaginal & anal/ penile penetration 6= oral & anal/ penile penetration 7= all three 8= penile exposure 9= other 888= Unknown 999= Missing	
	The size and strength of the suspect?	1= Presence Documented 2= Absence Documented 999= Missing	
	The physical positioning during the sexual assault?	1= Presence Documented 2= Absence Documented 999= Missing	

	Psychical Injury During Assault	Circle/ Enter Code	Comments
	Redness (erythema)	1= Yes 0= No 999= Missing	
	Bruising/hematoma	1= Yes 0= No 999= Missing	
	Bleeding	1= Yes 0= No 999= Missing	
	Other injury <i>(write type of injury in comment box)</i>	1= Yes 0= No 999= Missing	

	Anogenital Injury During Assault	Circle/ Enter Code	Comments
	Redness (erythema)	1= Yes 0= No 999= Missing	
	Tear/laceration	1= Yes 0= No 999= Missing	
	Bleeding	1= Yes 0= No 999= Missing	
	Other injury <i>(write type of injury in comment box)</i>	1= Yes 0= No 999= Missing	

	Post Assault Action	Circle/ Enter Code	Comments
	Did the victim shower/bathe?	1= Presence Documented 2= Absence Documented 999= Missing	
	The victim's emotional response after the assault?	1= Presence Documented 2= Absence Documented 999= Missing	
	The victim's physical response after the assault?	1= Presence Documented 2= Absence Documented 999= Missing	

SUSPECT ONE INFORMATION

	Suspect ONE Characteristics	Circle/ Enter Code	Comments
	Age <i>(Actual age in years)</i>		
		999= Missing	
	Gender	0= Female 1= Male	
		999= Missing	
	Race/ethnicity	1= White/Caucasian 2= African American 3= Latino/a 4= Native American 5= Asian 6= Bi-/ Multi-racial 7= Other 8= Unknown	
		999= Missing	

	Did the Detective Ask Suspect ONE	Circle/ Enter Code	Comments
	If the victim consumed alcohol before or during the sexual assault	1= Presence Documented 2= Absence Documented	
		999= Missing	
	If the victim consumed drugs before or during the sexual assault	1= Presence Documented 2= Absence Documented	
		999= Missing	
	The suspect's relationship to the victim?	1= Stranger 2= Acquaintance 3= Intimate/familial	
		888= Unknown 999= Missing	
	How the suspect entered/exited the crime scene?	1= Presence Documented 2= Absence Documented	
		999= Missing	
	If the suspect made verbal threats?	1= Presence Documented 2= Absence Documented	
		999= Missing	
	If the suspect made physical threats?	1= Presence Documented 2= Absence Documented	
		999= Missing	
	If the suspect used a weapon?	1= Presence Documented 2= Absence Documented	
		999= Missing	

	If the suspect used a condom?	1= Presence Documented 2= Absence Documented 999= Missing	
	If the suspect ejaculated?	1= Presence Documented 2= Absence Documented 999= Missing	
	If things were taken from the victim or crime scene?	1= Presence Documented 2= Absence Documented 999= Missing	
	If the suspect touched anything that would leave fingerprints?	1= Presence Documented 2= Absence Documented 999= Missing	
	If the suspect attempted to damage the crime scene or destroy evidence?	1= Presence Documented 2= Absence Documented 999= Missing	
	If there was inconsistencies in the victim's statement, did the detective document any clarifications?	1= Presence Documented 2= Absence Documented 999= Missing	

	Suspect ONE During the Interview	Circle/ Enter Code	Comments
	The suspect's emotional response during the interview with the detective?	1= Presence Documented 2= Absence Documented 999= Missing	
	The suspect's behavior during the interview with the detective?	1= Presence Documented 2= Absence Documented 999= Missing	
	Did the detective offer the suspect a polygraph?	1= Presence Documented 2= Absence Documented 999= Missing	
	Did the suspect agree to the polygraph?	1= Yes 0= No 777=Not Applicable 999= Missing	
	Did the suspect confess?	1=knowing her 2= prior sexual relations 3=reframed assault as consensual 4=confessed to the crime 999= missing	

(These would be repeated for each suspect)

	Witnesses	Circle Code/Enter Date	Comments
	Did the detective interview witnesses?	1=Yes 0=No 999=Missing	
	Witness One	1= Before the Assault 2= During the Assault 3= After the Assault 777=Not Applicable	
	Witness One Contact	1= Successful 0= Unsuccessful 777=Not Applicable	
	Witness Two	1= Before the Assault 2= During the Assault 3= After the Assault 777=Not Applicable	
	Witness Two Contact	1= Successful 0= Unsuccessful 777=Not Applicable	
	Witness Three	1= Before the Assault 2= During the Assault 3= After the Assault 777=Not Applicable	
	Witness Three Contact	1= Successful 0= Unsuccessful 777=Not Applicable	
	Witness Four	1= Before the Assault 2= During the Assault 3= After the Assault 777=Not Applicable	
	Witness Four Contact	1= Successful 0= Unsuccessful 777=Not Applicable	
	Witness Five	1= Before the Assault 2= During the Assault 3= After the Assault 777=Not Applicable	
	Witness Five Contact	1= Successful 0= Unsuccessful 777=Not Applicable	
	If there were contradictions made by witnesses, did the detective document any clarifications?	1= Presence Documented 2= Absence Documented 999= Missing	

	Consultations	Circle Code/Enter Date	Comments
	Did the detective consult with the responding officer?	1=Yes 0=No 999=Missing	
	Utility of consulting with responding officer	1= sexuality of victim 2= he said/she said 3= medical findings 4=prior criminal record 5= mental capacity 6= victim's character 7= other 777= Not Applicable	
	Did the detective consult with SANE?	1=Yes 0=No 999=Missing	
	Utility of consulting with SANE	1= sexuality of victim 2= he said/she said 3= medical findings 4=prior criminal record 5= mental capacity 6= victim's character 7= other 777= Not Applicable	
	Did the detective consult with other medical personnel?	1=Yes 0=No 999=Missing	
	Utility of consulting with medical personnel	1= sexuality of victim 2= he said/she said 3= medical findings 4=prior criminal record 5= mental capacity 6= victim's character 7= other 777= Not Applicable	
	Did the detective consult with other professionals? <i>(list types in comment box)</i>	1=Yes 0=No 999=Missing	
	Utility of consulting with other professionals	1= sexuality of victim 2= he said/she said 3= medical findings 4=prior criminal record 5= mental capacity 6= victim's character 777= Not Applicable	

	Other sources of information	Circle Code/Enter Date	Comments
	Are the results of the polygraph documented?	1= Presence Documented 2= Absence Documented 777= Not Applicable 999= Missing	
	Did the detective obtain a search warrant?	1= Presence Documented 2= Absence Documented 777=Not Applicable 999= Missing	
	Was there evidence of ejaculation?	1= Presence Documented 2= Absence Documented 999= Missing	
	Did the detective examine places to find evidence?	1= Presence Documented 2= Absence Documented 777= Not Applicable 999= Missing	
	Did the detective use an alternative light source to detect evidence?	1= Presence Documented 2= Absence Documented 777= Not Applicable 999= Missing	
	Did the detective send the rape evidence kit to the crime lab?	1= Presence Documented 2= Absence Documented 777= Not Applicable 999= Missing	
	DNA evidence was...	1=positive 0=negative 2=inconclusive 777=Not Applicable 999=Missing	
	Did the file contain a report from the crime lab?	1= Presence Documented 2= Absence Documented 777= Not Applicable 999= Missing	
	Did the detective request medical records?	1= Presence Documented 2= Absence Documented 777= Not Applicable 999= Missing	
	Did detective have the SANE program conduct a suspect exam?	1= Presence Documented 2= Absence Documented 777= Not Applicable 999= Missing	
	Did the detective use a pretext call?	1= Presence Documented 2= Absence Documented 777= Not Applicable 999= Missing	

	How many items of evidence were tagged?		
	Case Outcome	1=case charged, but later dropped 2=plea bargain 3=trial, conviction 4=trial, acquittal 999=Missing	

APPENDIX C-5: STUDY 5 INTERVIEW PROTOCOL

Qualitative Survivor/Victim Interview Protocol

Participant ID Number _____ Interviewer ID Number _____
Date Interview Conducted _____ Length of Interview _____

INTRODUCTION AND OVERVIEW

As we talked about before, this interview will take approximately 2 hours to complete. I am doing these interviews to gain a better understanding of your experiences with the SANE program and the criminal justice system. I really appreciate your willingness to talk with me today and share your experiences. The information you provide will be extremely helpful.

If it's ok with you, I would like to tape record this interview. It's going to be hard for me to get everything down on paper, so the tape can help me later on filling in anything I might have missed. The only other people who might listen to this tape will be the project supervisors. When the project is done, the tape will be destroyed. May I tape record our discussion?

Everything we discuss today is private—your name will not be connected to anything you say. Your name is not on this interview or the tape.

As we're going through the interview, if you need to take a break or stop, just let me know. If there are any questions that you don't want to answer, just say so, and I will move on to the next section. You do not have to answer all of the questions in this interview.

Before we get started I need to get your consent to be interviewed (go through procedures to obtain informed consent).

Do you have any questions before we start?

SECTION ONE INVOLVEMENT IN THE INTERVIEW

I'd like to start off by talking a little about how you heard about this study and how you decided to participate in the interview.

Q1. How did you hear about this study?

Q2. Why did you decide to participate?
What made you decide to contact us for an interview?

Q3. Were there specific things that made you reluctant to contact us for an interview?
a. If so, what were those concerns?
b. How can we address those concerns as we go through the interview?

SECTION TWO
BACKGROUND ON THE ASSAULT

As you know, I'm here today to talk with you about the assault and your experiences afterward with the SANE program and the criminal justice system. So if it's ok with you I would like to go ahead and begin by asking you about the assault itself.

Q4. Could you tell me about the assault? What happened?
Could you tell me your story?

Thank you for sharing your experience with me. I'd like to ask you a few specific questions about the assault so that I can understand more fully.

PROBES:

- a. How long ago did the assault happen?
- b. How old were you at the time of the assault?
- c. Type of assault
 - 1 = STRANGER RAPE
 - 2 = ACQUAINTANCE RAPE
 - 3 = DATE RAPE
 - 4 = LONG-TERM DATING PARTNER
 - 5 = MARITAL RAPE
 - 6 = GANG RAPE/ STRANGER
 - 7 = GANG RAPE/ ACQUAINTANCE
 - 8 = OTHER (Specify _____)
- d. Relationship with assailant(s) before the assault
 - 1 = NONE, WERE STRANGERS
 - 2 = KNEW EACH OTHER BY SIGHT
 - 3 = FRIENDS, CASUAL
 - 4 = FRIENDS, CLOSE
 - 5 = DATING
 - 6 = MARRIED/LIFE COMMITMENT
 - 7 = SEPARATED
 - 8 = DIVORCED
 - 9 = OTHER (_____)
 - 10 = DON'T REMEMBER
- e. Living together
 - 1 = YES
 - 2 = NO

Ask only if she was the victim of non-stranger rape

ee. Was this assault part of an isolated incident or was it part of an ongoing abusive relationship?

1 = SINGLE SEXUAL ASSAULT

(Probe: so, just to clarify, was he emotionally, physically, or sexually abusive outside of the incident you described?)

(CIRCLE ALL THAT APPLY)

2 = MULTIPLE SEXUAL ASSAULTS

3 = EMOTIONALLY ABUSIVE

4 = NON-SEXUAL PHYSICAL VIOLENCE

f. Race/ethnicity of the assailant

1 = WHITE

2 = AFRICAN-AMERICAN/BLACK

3 = LATINO/HISPANIC

4 = NATIVE AMERICAN INDIAN

5 = ASIAN AMERICAN

6 = ARABIC-AMERICAN

7 = OTHER (Specify _____)

8 = DON'T KNOW

g. In addition to the injury of rape itself, were there any other physical injuries you sustained from the assault?

1 = YES (Specify _____)

0 = NO

2 = DON'T KNOW

h. Was a weapon used in the assault?

1 = YES (Specify _____)

0 = NO

2 = DON'T KNOW

i. Was the assailant using alcohol at the time of the assault?

1 = YES

0 = NO

2 = DON'T KNOW

j. Was the assailant using drugs at the time of the assault?

1 = YES (GO TO QUESTION jj)

0 = NO (GO TO QUESTION k)

2 = DON'T KNOW

jj. Assailant was using

MARIJUANA 1 = YES 2 = NO

TRANQUILIZERS 1 = YES 2 = NO

AMPHETAMINES 1 = YES 2 = NO

COCAINE/CRACK 1 = YES 2 = NO

HEROIN 1 = YES 2 = NO

HALLUCINOGENIC 1 = YES 2 = NO

OTHER (SPECIFY _____)

8 = DON'T REMEMBER

Next I would like to ask you about whether you were using alcohol or drugs at the time of the assault. Before you answer, please let me explain why we have included this question. What happened to you was in no way your fault. Regardless of your answer, you are in no way to blame for what you experienced. We only ask this question because sometimes people who were using alcohol or drugs when they were assaulted may be treated differently by police, medical staff, or others. Remember that if you do not wish to answer any of the questions in the interview, just let me know that you would prefer to move on.

k. Were you using alcohol at the time of the assault?

1 = YES

0 = NO

2 = DON'T KNOW

l. Were you using drugs at the time of the assault?

1 = YES (GO TO QUESTION kk)

0 = NO (GO TO QUESTION 5)

2 = DON'T KNOW

ll. You were using

MARIJUANA 1 = YES 2 = NO

TRANQUILIZERS 1 = YES 2 = NO

AMPHETAMINES 1 = YES 2 = NO

COCAINE/CRACK 1 = YES 2 = NO

HEROIN 1 = YES 2 = NO

HALLUCINOGENIC 1 = YES 2 = NO

OTHER (SPECIFY _____)

8 = DON'T REMEMBER

SECTION THREE EXPERIENCE AFTER THE ASSAULT

Now I would like to discuss with you your experiences after the assault.

Q5. What happened right after the assault?
What did you do immediately afterwards?

Jump to section on experiences with SANE (PAGE 7) or police (PAGE 8) depending on her answer.

SECTION FOUR EXPERIENCE WITH SANE

Now I would like to talk to you about your experiences with the SANE program.

Q6. How did you come into contact with the SANE program?
Who told you to contact the SANE program?

Q7. What concerns did you have about the sexual assault exam?

Q8. Could you tell me about your experience with the SANE program?

NURSE TOPIC PROBES

1. Was the nurse supportive? Was the nurse helpful? What did the nurse do that was healing?
2. What was not so good during your experience with the nurse? What did she do that you wish she wouldn't have? What did she say that you wish she wouldn't have? What do you wish had been different?
3. What did you need from the nurse that you didn't get?

ADVOCATE TOPIC PROBES

1. Was the advocate supportive? Was the advocate helpful? What did the nurse do that was healing?
2. What was not so good during your experience with the nurse? What did she do that you wish she wouldn't have? What did she say that you wish she wouldn't have? What do you wish had been different?
3. What did you need from the nurse that you didn't get?

Q9. What was it like having both the nurse and the advocate there with you?

SECTION FIVE EXPERIENCES WITH POLICE

[Ask only if relevant]

In this next section of the interview, I would like to talk about your experiences with the initial officers and detective(s) who handled your case.

Q10. How did you come into contact with the police?
How did you decide to contact the police about the assault?

Q11. What concerns did you have about contacting the police?

Q12. What was your experience with the police like?

I'd like to ask you some more specific questions about your experiences with the police if that's all right.

[Ask only if relevant]

TOPIC PROBES:

1. What happened during your work with the police? (Find out if she made a police report and if she participated in the continued investigation).
2. How did you decide to make a police report? How did you decide to continue the investigation?
3. Experience with police
 - a. What did the police do that was helpful?
 - b. What did the police do that was not so good? What do you wish had been different with the police?
 - c. What did you need from the police that you didn't get?
4. How did the SANE program affect your experience with the police? (Find out about her decisions to work with the police and to continue working with the police, and her experiences with making the police report and the continued investigation)

SECTION SIX EXPERIENCES WITH PROSECUTORS/PROSECUTION

[Ask only if relevant]

In this next section of the interview, I would like to talk about your experiences with the prosecutor and prosecution of the case.

Q13. What influenced your decision to prosecute?

Q14. What were your concerns about continuing with prosecution?

Q15. What was your experience with prosecution like?

[Ask only if relevant]

TOPIC PROBES:

1. What was your experience participating in prosecution? (Find out if she worked with the prosecutor and how she participated in prosecution)
2. How did you decide to participate in prosecution?
3. *Experience with prosecutor/prosecution*
 - a. What did the prosecutor do that was helpful?
 - b. What did the prosecutor do that was not so good? What do you wish had been different with the prosecution?
 - c. What did you need from the prosecutor that you didn't get?
4. How did the SANE program affect your experience with prosecution? (Find out about her decisions to prosecute and to continue participating in prosecution and her experiences during prosecution.)

SECTION SEVEN OUTCOME OF THE CASE

[Ask section only if relevant]

Q16. What was the outcome of your case?

Q17. How did you feel about _____(the outcome)?

IF COURT HEARINGS

COURT HEARINGS PROBES:

1. What was it like for you when the nurse testified?
2. How did you feel when pictures of your injuries were being shown at trial?
3. Was a [local rape crisis center] staff person or court advocate there to support you?
 - a. What did they do that was helpful? Were they supportive? What did they do that was healing for you?
 - b. What was not so good about them? What did you wish they didn't say? What do you wish they had done differently?
 - c. What did you need from them that you didn't get?

SECTION EIGHT ROLE OF MEDICAL/FORENSIC EVIDENCE
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[Ask only if relevant]

Now I would like to ask you about the evidence collected from you during your exam with the forensic nurse and the influence it had on your experience with prosecution.

Q17. Did you find out the evidence and findings from your exam with the nurse?

[Ask only if relevant]

PROBES:

When did you found out?

How did you find out? Who told you the results of your exam?

What were the findings of your forensic exam?

DNA

0 = Negative

1 = Positive

2 = Inconclusive

8 = Don't Know

INJURIES

0 = Negative

1= Positive

2 = Inconclusive

8 = Don't know

How did the findings of your exam (or lack thereof) influence your decision to participate in prosecution?

SECTION NINE DEMOGRAPHIC INFORMATION

Finally, I would like to ask you questions about yourself to get a more accurate picture of the people being interviewed.

Q28. What is your gender?

Q29. What is your ethnicity?

Q30. How old are you?

Q31. What is the highest level of education you have completed?

SECTION TEN CLOSING

We are nearly finished. We've talked for a long time and about many different issues related to the assault, and now I would just like to ask some final questions about your overall experience of the assault and about your experience in this interview.

Q23. What has helped you to heal?
What has been the most healing to you?

Q24. Based on your experiences, what would you say or do for another woman who has just been assaulted?

We're always in the process of revising this interview, so I'd also like to get your feedback on the interview. It would be really helpful for me if you'd be honest about what this was like for you. Don't worry—you won't hurt my feelings.

Q25. What has it been like for you to talk about the assault with me?

Q27. How can we improve the interview?

Thank you very much for your time. I appreciate you sharing your experience. Do you have any questions for me?

APPENDIX C-6: STUDY 6 INTERVIEW PROTOCOL

Qualitative Forensic Nurse Interview Protocol

Participant ID Number _____

Interviewer ID Number _____

Date Interview Conducted _____

Length of Interview _____

INTRODUCTION AND OVERVIEW

As we talked about before, this interview will take approximately 1 hour to complete. I am doing these interviews to gain a better understanding of interactions with adult patients, law enforcement, and prosecutors. I really appreciate your willingness to talk with me today and share your expertise regarding this topic. The information you provide will be extremely helpful.

I would like to tape record this interview for my own use in coding the interview later on—it's going to be hard for me to get everything down on paper, so the tape can help me later on filling in anything I might have missed. The only other people who might listen to this tape will be the project supervisors. When we have completed coding the interview, the tape will be destroyed.

Everything we discuss today is private—your name will not be connected to anything you say. Your name is not on this interview or the tape.

As we're going through the interview, if you need to take a break or stop, just let me know. If there are any questions that you don't want to answer, just say so, and I will move on to the next section. You do not have to answer all of the questions in this interview.

Before we get started I need to go through the procedures to obtain your consent to be interviewed (go through procedures to obtain informed consent).

Do you have any questions before we start?

This interview will focus specifically on adult sexual assault cases. There are three parts of this interview: 1) your practice with adult patients; 2) interactions with law enforcement and prosecutors; and 3) background information about yourself.

1. What do you tell your patients about reporting or prosecuting? Why?

DISCUSSION PROBES:

- a. What is your philosophy on victims reporting and participating in prosecution?
- b. Have there ever been situations when you encouraged or discouraged an adult victim to participate in prosecution?

2. How do you think your patient care affects your patients participating in prosecution?

DISCUSSION PROBES:

- a. Do you think your patients believe the SANE program affect their participation? Why or why not?

3. How does the SANE program help law enforcement build a case?

DISCUSSION PROBES:

- a. Role of patient care in building a case
- b. Role of suspect exams in building a case
- c. Role of consultation in building a case: what is asked by law enforcement or prosecutors; what does this information do for a case
- d. Other work with law enforcement and prosecutors
- e. Creating an efficient investigational process

Finally, I would like to ask you questions about yourself to get a more accurate picture of the people being interviewed. If any of the questions seem too personal, feel free to tell me you would prefer to move on to the next question.

- 1) How long have you worked as a forensic nurse examiner?
- 2) How many adult sexual assault patients have you examined?
- 3) What is your gender?
- 4) What is your ethnicity?
- 5) How old are you?
- 6) What is the highest level of education you have completed?