Summary of Research Questions Identified Through the Sexual Assault Medical Forensic Examination Research Forum

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This forum, sponsored by the Office for Victims of Crime (OVC) and the National Institute of Justice (NIJ), explored gaps in the existing research related to the technical aspects of sexual assault medical forensic examination (SAMFE). The goal was to identify what research is needed to bring a stronger evidence base to the SAMFE. The forum focused on the following topics:

- Types of evidence gathered;
- Examination technology;
- Standardizing the evidence kit;
- Evolving DNA technology; and
- Potential use and logistics of telemedicine during the examination.

Forum discussion was limited to adult/adolescent examinations, not pediatric, and the research issues applicable at the national level. The forum builds upon a congressional requirement pursuant to the Violence Against Women Act of 2000 (VAWA) that mandated the Attorney General to develop national standards related to the SAMFE. This mandate led the U.S. Department of Justice (DOJ) to develop the *National Protocol for Sexual Assault Medical Forensic Examinations (Adults/Adolescents)* and the *National Training Standards for Sexual Assault Medical Forensic Examiners*, and to offer technical assistance resources to encourage jurisdictions to implement a standardized approach to the SAMFE process. It has since become evident that evidence-based SAMFE practices are essential to support standardization across jurisdictions and ultimately to increase the effectiveness of the examination process in facilitating victim healing and case investigation and prosecution. Due to a number of factors—such as variations in circumstances of individual sexual assault cases, the multifaceted nature of the SAMFE process and potential involvement of practitioners from multiple disciplines and jurisdictions, and differences in SAMFE protocol implementation across jurisdictions—there has been great debate regarding the merits, problems, and gaps associated with each detail of the process. OVC and NIJ sought feedback during this forum on what specific research is critical to inform debate regarding best practices for the above topics.

Forum participants included sexual assault forensic examiners (SAFE), victim advocates, law enforcement officers, prosecutors, forensic laboratory personnel, researchers, federal agency personnel, and one identified sexual assault survivor.[1] Participants were asked to identify SAMFE technical practice concerns and challenges, research gaps and unique issues, and, subsequently, relevant research questions. Practitioners and survivors were asked to use their experiences to give context to issues. Researchers were asked to share information from applicable studies and help translate identified knowledge gaps into research questions. Several participants were asked in advance to make a brief presentation on one or more of the above

[1] One participant, who was a victim advocate by profession, was identified by meeting planners as a survivor and asked specifically to speak from that perspective during the forum. Other participants also spoke from the victim/victim advocate perspective during the meeting.

topics—what are the current practices, what research is guiding those practice decisions, and what else we need to know about the practices—to lead the group into focused discussions.

This diverse group of participants was highly supportive of the translational criminology approach to research. Translational criminology is a strategy for transforming criminal justice through research. By bringing evidence to bear on crime policies and practices, researchers can form a bridge between the work of research and the real-life challenges of fighting crime and enhancing justice. Transformation through research is a cyclical process. Continually, NIJ draws on the needs of practitioners to inform its research agenda; the cycle of transformation continues as research findings are conveyed and translated by researchers in ways that reshape practice and policy.

FRAMING THE RESEARCH NEEDS

Collect baseline data. Participants were in consensus that SAMFE technical practices vary a great deal across jurisdictions, with the extent and nature of the variations widely unknown.[2] There is a critical need for baseline data to learn more about the variations. For example—

- *What evidence is being collected and how during the SAMFE?* For which practices is there standardization? Where are there variations? What are the reasons for the variations?
- *What is guiding the evidence collection*—are protocols lab-based or driven by the medical community?
- *What is the decisionmaking process regarding what evidence is collected, what collection techniques and technology are used, and how the evidence is preserved and stored?* To what extent is research driving practice? What other factors are influencing choice of practices?

Only with a solid foundation of basic information can researchers, in conjunction with practitioners and survivors, consider the priorities among the many research questions identified during the forum. Also, researchers need to have standardized, discipline-specific, and coordinated practices to evaluate in order to make a determination of a practice's effectiveness. For example, researchers cannot use samples from different localities to evaluate the effectiveness of clothing evidence if examiners in those localities are following different protocols for collecting, preserving, or testing that evidence.

There was some discussion on the logistics of baseline data collection, data systems that may offer such information, whom to survey, and the logistics of surveying. The best source of information will depend on the specific questions being asked and who is best positioned to provide the answers—practitioners from individual disciplines, multiple disciplines, and/or across disciplines, as well as from survivors.

- **Consider what infrastructures are needed to collect and organize data on sexual assault cases across disciplines.** Failure to manage data on a case within and across systems can

[2] Another question: Why is there variation in a practice if there is existing national-level guidance? In some instances, national-level recommendations related to a practice exist, but are not universally implemented (e.g., guidance on evidence preservation offered by the Society of Forensic Toxicologists [SOFT]). In other instances, recommendations may not be as detailed as needed or may present numerous options for carrying out a particular practice, because there is a lack of consensus or evidence regarding best practice or the options are equally effective.

mean losing the case (e.g., the FBI not knowing what the CIA is doing). We need to figure out what data can be shared, how to share it, and "connect the dots" provided by the data. What data systems already exist that can be tapped into?[3] **What data are most critical to track?** Is there one infrastructure that is best or are different infrastructures better for different types of data? It was noted that identifiers to link the information are needed—for example, using one number to track a case across systems (now a case usually has different numbers in each system).[4]

- **Poll practitioners across disciplines and jurisdictions** (tribal, local, state, and federal). Broad-based surveys and analyses of survey findings might help in identifying what research is most critical. Among other things, it may highlight practice usefulness as well as gaps (e.g., examiners are pulling pubic hair, but it is typically not analyzed by the lab or used by prosecution). There was discussion around surveying national-level member organizations. For example, the National District Attorneys Association (NDAA) and the Native American Issues Subcommittee of the Attorney General's Advisory Committee (composed of U.S. Attorneys with Indian Country responsibility) might be willing to poll their members regarding what evidence they are using in prosecution of sexual assault cases, what kinds of evidence are most useful to prosecution, and what evidence collected they tend not to use. National law enforcement associations might be able to poll law investigators as to what is important to them as evidence in these cases and assess whether it is the same as what is important to prosecutors.

- **Consider victim and criminal justice impact.** A common theme throughout the meeting was the awareness that the SAMFE impacts the victim and may have implications for case processing and legal outcomes. Some research has been conducted to better understand how SAMFE affects victim health and well-being, and studies have begun to examine the link between SAMFE and prosecutorial outcomes; however, these issues require much more study. For example—

    - *What is the impact of the variations on victim health and well-being?*
    - *What is the impact of the variations on legal outcomes?*
    - *What is the impact of the SAMFE on prosecution and conviction rates*?

- **Encourage systems analysis.** Forum participants talked about the need for program evaluation to describe best practices and for process evaluation to standardize care and exchange of information across disciplines and jurisdictions. These evaluations can look at

[3] In review of an early draft of this report, a participant suggested looking at www.hrsa.gov/publichealth/guidelines/designqualityimprove.ppt from the Bureau of Primary Health Care, U.S. Health Resource and Services Administration, to create a template for a quality improvement (QI) process for the SAMFE/SART. Such a QI plan could potentially be a foundation for a national SAMFE/SART Center for Research, with a consortium of multidisciplinary, multijurisdictional teams of national experts to continue to define problems and research solutions.

[4] Thoughts from participants on where to start to explore these questions: Look at military data systems that track these cases across military agencies. Look at crime labs in West Virginia, Minnesota, and Massachusetts for possible best practices around tracking data on timing of assault, when exam was done, what was collected and analyzed, findings, and what is used in court. Consider how to utilize chain of custody information from the criminal justice system. Consider if the exam process within a state works better when there is a state VAWA coordinator. Are there more examiners, more training, and clearer communications between crime labs and examiners?

what is being collected, how it is being used, outcomes, who is "driving the train" in each community related to evidence decisions, and if the outcomes are different because of the driver. It is important that the data are analyzed from a sexual assault response team (SART) perspective, in addition to discipline-specific perspectives. For example—

- *What is the stream of specific research questions related to the critical elements of the exam process?* Role analysis (victim advocacy, forensic examiner, crime lab, law enforcement, prosecution, SART, etc.) that pinpoints the complexities of the process might be useful, as would different contextual factors, varying victim reactions and comfort levels, time factors, paths of evidence, etc. Similarly, *what are the data points we need to know related to this process that inform victim decisions and influence responder actions?*
- *What feedback loops exist among SART members to inform and strengthen their coordination and capacity to improve response*? What is the nature of the communication? What additional communication is needed?
- *When crime lab personnel are on a SART and active in the feedback loop with examiners, how does it affect data collection?* Forensic scientists in California are involved in the state-level SART, and their presence is critical to facilitating feedback between examiners and labs. *Any suggestions for how to promote lab involvement in SARTs?* A way to involve forensic scientists is in examiner training, which is a common practice.
- *Is it enough to have consensus across disciplines to end a practice (collection of pubic hair, evaluation for motile sperm, etc.)?* Participants seemed to concur that research is needed to learn more about the practice first. For each debatable practice, which disciplines need to come to consensus about its usefulness? If the field is suggesting a change, is there consensus an alternative practice would be useful? What evidence supports that practice?

Incorporate issues of victim-centered care. Participants repeatedly indicated that understanding the factors associated with victim access to a SAMFE, as well as victim readiness to participate in a SAMFE, should help frame research on evidence collected and techniques used to collect and analyze evidence. Several questions were raised regarding victim access:

- *Are sexual assault victims made aware of their legal rights as victims of crime? What have they been told about a SAMFE/how to access one? Who provides this information to victims?*
- *What is the impact of victims' background (if they were drinking before the assault, have a prior arrest record, worked in the sex trade, are drug users, etc.) on whether they have a SAMFE offered and conducted and on case progression in the criminal justice system?*
- *What is the impact of victims' race, ethnicity, sexual preferences, etc., on their access to a SAMFE and case outcomes?* What role might community or institutional bias play? Does/how can training for responders help minimize this type of bias?
- *Does where the exam takes place (e.g., in a hospital versus community agency versus another setting) impact victim access to a SAMFE? What about victim care and criminal justice outcomes?*

The following is a key question addressing victim readiness to participate: *What are the processes and interactions between the patient and the examiner that make a SAMFE effective?*[5]

[5] The term "patient" is often used in this document when referring to the victim interacting with examiners and other medical providers during the SAMFE.

This question is based on a belief that patients, not evidence collection kits, should drive the exam process. Related questions included—

- *How can examiners help patients be comfortable, and tolerate the exam, so they feel they can share their history, receive relevant health care, and allow evidence collection?* How does getting such help impact patients—do they feel less traumatized from the exam, report more often? Are they more involved in the criminal justice process?
- *What is the impact of language used and styles of approaching patients?* How does receiving culturally and linguistically appropriate care by race/ethnicity, gender, age, health literacy, etc., impact patient satisfaction with the exam process?
- *How do examiners approach informed consent with patients? Who delivers/how is it delivered in culturally diverse settings, and what is the impact of whom/how it is delivered? What do patients need to be asked and told by examiners to be given full choice in making decisions during the SAMFE?* If examiners had information about the outcomes of medical care and evidence collection (e.g., what samples are producing evidence), then patients could likely make more informed decisions. Participants noted that when seeking informed consent during the exam, examiners are challenged to collect only what is relevant to a case (as it determines what the lab will analyze), but are aware that in most cases, there is only one opportunity to collect forensic evidence.
- *How does the examiner best explain the scope of confidentiality of communications between patients and examiners?* Participants recognized that confidentiality and privacy can be difficult to maintain in rural and close knit communities.

Consider use of proxy victim populations for clinical research, to the extent possible, to get at some of the critical research questions related to victim-centered care, techniques for evidence collection, etc. This refers to the use of non-victim populations to test some of the specific medical and forensic methods used in the exam. For example, one current NIJ- funded study is collecting swabs after consensual intercourse to look at post-coital DNA recovery using a proxy population.

Study the cost effectiveness of practices. Participants pointed out that cost feasibility is a factor that should be weighed with other factors when evaluating practices. Whether a practice is cost effective given jurisdictional resources and practice outcomes is important to consider. A SART perspective can give the fuller picture of costs and benefits of a practice.

Continue to assess what research already exists on best practices in medicine and forensic science related to the SAMFE and whether information on those practices is being disseminated to the field and utilized.[6] Some of that research was discussed during the forum as well as in the literature reviews prepared for the forum. Participants thought it might be useful to poll practitioners to find out more specifics on why a best practice might not be implemented and to get suggestions on moving forward with implementation. One of the challenges might be that while medical sciences are using advanced technology and forensic sciences, the criminal justice system is not necessarily able to keep up with advances in the medical field. National-

[6] In her review of an early draft of this report, Patricia Speck suggested that this task could represent a second tier of information gathering and research, after collection of more basic data.

level member organizations may be willing to help promote implementation of best practices in their respective fields.

Encourage standardization of terms used in research. Participants stressed that standardized terminology is critical so that those who conduct and use the research have a shared and accurate understanding of what was studied and relevant issues, findings, and implications.

TOPIC 1: TYPES OF EVIDENCE GATHERED

The broad research questions posed to forum participants relative to this topic were: *What is the impact of having specific types of evidence gathered on victims, the investigation, and likelihood of prosecution and conviction? How are exam findings used during the criminal justice process?*

Norm Gahn, with the Milwaukee District Attorney's Office, first presented a prosecutorial perspective on this topic. He and the participants raised the following questions (several of which are addressed again later in this report):

- *For examiners, what factors go into making decisions about collecting evidence?* What samples are routinely collected? What is collected based on what victims tell or don't tell examiners during the oral medical forensic history? What impact does the evidence collection kit have on what is collected?
- *What guidelines can help ensure examiner consistency in taking the oral history from patients as the first step in determining what evidence to gather?* Guidelines are important, both generally and also in cases of alcohol- or drug-facilitated sexual assault, when the victim is incapacitated and may not be able to consent to the exam or evidence collection, or if the oral history is fragmented. How should examiners proceed when they do not have an oral history from the patient to guide the evidence collection process?
- *What is the extent of feedback between examiners and crime labs on evidence collected and what to collect and how to collect it?* How could increased communication contribute to increased quality of evidence collection and its usefulness in a case?
- *What is a crime lab's protocol for testing evidence in sexual assault cases? Why?* For example, a lab may go straight to DNA testing rather than focus on identifying the biological substance.
- *What is the relationship between prosecutors and crime labs?* A suggestion was made to track the history of interactions on cases between the lab and prosecution.
- *How often does the prosecutor ask the crime lab for additional testing? And why?*
- *What is the linkage between DNA and the assault?*[7] How much of an impact do DNA and other forensic evidence have on the prosecution in cases of nonstranger sexual assault? How often does DNA evidence help establish an element of the crime? For example, does it establish a sequence of events, corroborate statements of the victim, and/or verify or impeach a statement?

[7] Norm Gahn stressed that prosecutors need to first believe the victim's account and then seek scientific evidence to back up that account. He stressed that DNA and other forensic evidence, where available, can be useful to build a case, in part because juries expect it (see next bullet).

- *How do juries receive and react to forensic evidence?* What is compelling? What is not? What is confusing? What might cloud the victim narrative and what supports it? How much does chain of custody of evidence/scientific evidence matter to jurors in consent cases?
- *Are injuries the most compelling evidence for law enforcement, for prosecution, for juries, and for victim?* Several participants noted that injuries are compelling; however, there is not a hierarchy of what is the most important evidence in every case. In particular, prosecutors need further research and case law to establish the relevance of ano-genital micro-trauma/injuries in consent cases.

SPECIFIC TYPES OF EVIDENCE

Linda Ledray and Patricia Speck presented on this topic, looking at cervico-vaginal swabs and vulvar swabs; oral, anal, and skin swabs; debris; pubic hair; and toxicological samples in alcohol- and drug-facilitated sexual assault cases. With all types of evidence gathered during the SAMFE, there is a need for summative and formative program and process evaluation. Several participants indicated that examiner practices related to evidence collection were driven primarily by state crime labs via the sexual assault evidence collection kit. There were general questions that appeared to be applicable for each type of evidence:

- *What specific evidence is requested by the crime labs?*
- *What is specifically recommended for inclusion in the evidence collection kit?*
- *How long post-assault can the sample be collected and positive results be obtained when analyzed by the crime lab*?
- *What is the decisionmaking process behind determining if a sample should be routinely collected or collected only if indicated (e.g., by the patient's oral history and/or presence of injuries)?*
- *What do examiners need to ask/tell patients to seek informed consent to collect a sample?*
- *Where specifically are samples taken from, how are they collected, and how much of a sample/how many samples are collected? Why?*
- *Which evidence collection techniques are the most patient-centered?*
- *What collection methods help avoid contamination?*
- *What can the attending medical providers and examiners do to preserve the evidence when life-saving actions for acute injuries must be taken?*
- *What collection sites and methods produce probative evidence? The most? The least?*
- Is *there a type of swab that is most effective in collecting samples (e.g., foam or cotton, plastic caps or boxes, paper or plastic tips)? Do samples have to be dried?*
- *What is the most effective storage practice?*
- *When and why is the sample sent to the lab for testing? How is the sample analyzed?*
- *What is the impact of collection of the sample and method of collection on legal outcomes?*

Some questions related to specific types of evidence:

- **Oral samples**. *Can chewing gum better collect oral specimens than swabs?*

- **Anal samples**. Several participants indicated that patients are often reluctant to talk about anal sexual activity, so there was a question of whether it should be collected routinely, or just as dictated by the oral history, or if there is injury in the ano-rectal area. It was noted that if the claim is anal intercourse, then an anal swab is needed as it would be probative evidence and corroborative. If the patient can't recall what happened at all or the details of an assault (e.g., due to it being alcohol- or drug-facilitated), there might be reason to collect anal samples. *Should anal samples be collected both from the anus and rectum?*
- **Skin samples.** *Is a double swab technique (one moistened swab to loosen the cells, followed by a dry swab to collect the loosened cells) most effective for DNA analysis of a skin sample/touch evidence?* Compared to using multiple swabs to the area? Compared to a stubbing method (tape-lifting)? What are crime labs requesting? What are examiners collecting? Are these samples analyzed differently?
- **Debris.** Participants appeared to agree that the oral history should guide debris collection (as well as all other aspects of the exam). *What constitutes debris?* What materials will yield debris? *What do examiners and law enforcement know about identifying/preserving debris evidence? If there are different methods for collecting different specimens, which produce probative evidence* (fingernail swabbing, scraping, clipping, and/or cutting; hair taping, pulling, combing, cutting, and/or tweezing; grab marks, etc.)? *What are the most victim-centered approaches? What is the impact of these different collection methods on prosecution outcomes and on victims?*
- **Pubic Hair**. Questions focused on determining whether the collection of pubic hair, particularly pulled versus cut samples, has value in producing probative evidence and on investigative/prosecutorial outcomes. Some state crime labs no longer require pulled pubic hair. *How often is pubic hair analyzed by crime labs and then used in case investigation or prosecution?* Are the outcomes to the case of pulling and/or cutting pubic hair worth the pain/discomfort it may cause victims? *Even if research would indicate that pubic hair samples generally do not impact legal outcomes, are there circumstances in which it would be appropriate to collect pulled and/or cut pubic hair?* Does it depend completely on the patient's oral history? If not, what are other factors to consider?

Toxicological Evidence in Alcohol-/Drug-Facilitated Sexual Assault (A/DFSA). Participants estimated that alcohol and/or drugs are factors in at least 50 percent of sexual assault cases. *What are the criteria for medical forensic care in these cases? Do jurisdictions have A/DFSA guidelines for evidence collection and documentation?* What do they encompass? In addition to the above general questions applicable to all types of evidence, some questions relate specifically to toxicology evidence:

- *Are responding law enforcement officers being trained to collect the first available urine if the victim cannot wait to go to the bathroom until arrival at the exam site?* A suggestion was made to look at lab and prosecutorial outcomes in communities where it is law enforcement procedure to collect versus those whose procedure is to wait until the victim gets to the exam site.
- *What is the timeframe after an A/DFSA that jurisdictions are collecting urine samples?* The Society of Forensic Toxicologist (SOFT) currently recommends that urine be collected up to 120 hours after an A/DFSA. Given the SOFT time frame for collection of urine, there were two related questions: *What drug/alcohol evidence is being lost in states that are not doing*

evidence collection beyond 72 and 96 hours after an incident? What is the impact of delayed reporting on A/DFSA cases?

- *Are toxicology samples routinely collected in cases where alcohol was involved in the assault?* Is a gray top toxicology blood specimen routinely collected? Why? Why not?
- *Should examiners encourage victims to submit to toxicology evidence collection always and put it in the chain of evidence to analyze later if needed?*
- *What are best practices in cases where the patient is incapacitated or unconscious due to alcohol and/or drugs and not able to provide informed consent to evidence collection?* What is the appropriate level for informed consent needed to collect evidence in these cases (e.g., is waiting until all drugs/alcohol wear off required)? Participants noted that if a patient does not have a surrogate, evidence typically cannot be collected until there is a court order or a surrogate who can give permission. Some states have statutes that guide evidence collection in some of these situations (e.g., in the case of an unconscious patient).
- *What are hospital screening levels for toxicology, and when should examiners go beyond that screening with patients?* For example, when alcohol and/or drugs are involved, medical providers may routinely take blood samples from patients to test blood/alcohol content and to determine if patients are capable of giving informed consent to an exam. If there is indication that drugs were ingested within 24 hours of the exam, they also may take a urine specimen as it may show more specifically when the drug was ingested and the effect of the drug on the individual.
- *Do examiners take toxicology samples for medical purposes separate from ones they take for forensic purposes?* For example, in California, they do take separate samples when collecting for medical and forensic reasons.
- *What percentage of forensic results used during an investigation and/or prosecution are obtained from hospital labs versus crime labs?* How often are forensic decisions based on hospital data?
- *Are there specific storage issues related to toxicology samples?* SOFT suggests refrigeration of toxicology samples (within a reasonable amount of time, which means as soon as possible).[8]
- *How many jurisdictional crime labs have the capacity to do toxicology analysis?* If they have a capacity, to what extent? For example, can they test for some drugs but not others?
- *What do examiners/law enforcement officers do in jurisdictions where the crime labs do not have this capacity?* Or only test for certain drugs? How many are using commercial labs and how does this logistically work?
- *How extensive is the impact of alcohol and/or drugs on case outcomes?* What are the specific problems with the evidence in those cases that are prejudiced by this evidence?
- *How many A/DFSA cases do not proceed in the criminal justice system because the victim has a drug problem or withdraws once she/he sees what she/he is up against?* What about victim populations who do not come forward at all? Participants indicated that studies were needed to examine vulnerable populations, the impact of voluntary versus involuntary use of alcohol/drugs in these cases, and the impact of the criminal justice response on victims' lives.

[8] There was a question regarding why SOFT guidelines are not always included as crime and/or commercial lab procedures, despite the fact that the United Nations is mirroring SOFT's guidelines. *What needs to happen for jurisdictional and commercial labs to implement practices recommended by SOFT?*

TOPIC 2: EXAM TECHNOLOGY

During this discussion, several broad questions were explored: *What is the effect of the application of specific technology and techniques to collect evidence and detect injuries on case investigation and prosecution? What is the impact on the level of discomfort and side effects that victims experience from a specific technology/technique?* Michael Weaver, of St. Luke's Hospital, and Kim Day, of the International Association of Forensic Nurses, presented on this topic, focusing on wet mount evaluation for motile sperm, use of an alternative light source, anoscopy, use of Toluidine Blue dye, magnification/photography of injuries, and the use of the Foley catheter.

SPECIALTY TECHNIQUES/TECHNOLOGY

Wet Mount Evaluation for Motile Sperm

- *What are the medical and forensic reasons for doing wet mount evaluation for motile sperm?*
- *Which medical professionals receive training on this technique?* Several participants indicated that physicians and advanced nurse practitioners may be trained; this is not a component of basic SANE training for registered nurses. *Which professionals are conducting these evaluations?*
- *In what percentage of SAMFEs are these evaluations conducted?*
- *Who decides whether or not this evaluation is needed (e.g., is it a directive from the crime lab via the kit versus the individual decision of the examiner)?*[9]
- *If conducted for forensic reasons, what are the criminal justice outcomes of this evaluation?* Are the results used in court; are they impactful? It might be helpful to query prosecutors to gain consensus on whether it is used and useful. Some questions to ask: Have you ever used motile sperm in sexual assault cases? If you do that preliminary test, how often does that go to the lab? If the evaluation is positive, then do you collect a kit? And then, how often does the kit go to the crime lab? Does the crime lab also test for sperm to move it forward? How do results of this test affect the victim? How does it affect prosecution? If you find injury or semen, what difference does it make?
- *If conducted for medical reasons, what is the impact on the victim's emotional health?* Several participants concurred that if there was a quick test for presence of seminal content, it might make a difference to victims who are uncertain of what happened to them but have concerns (e.g., pregnancy or sexually transmitted disease—STI). Would the test results help them decide whether to have the exam, seek prophylactic treatment, and/or report?

Alternative Light Source (ALS)

- *What can be identified using ALS (e.g., semen stains and early bruising)?* In the case of an injury, how soon after the incident/presence of the injury can it be identified as such, and what are the health outcomes for the victim? Is there a need for multiple and matching images along the way—routinely or on a case-by-case basis?

[9] There was a trial program used in Arizona that taught SANEs to do a presumptive test for sperm and fast track the most probative pieces of evidence to the crime lab to get results more quickly (initially to link serial cases right away with DNA). It would be useful to get more specifics on this study.

- *More generally, how are examiners and other responders asking victims about injury?* Do examiners always ask SAMFE patients about strangulation? Several participants noted that response to strangulation is evolving in medicine and hospital emergency department management as to when and what to evaluate, which patients are at greatest risk, etc. Forensic documentation on strangulation should be informed by medical advances.

Anoscopy

- *Are examiners trained to use the anoscope? What training do they receive?*
- *To what extent is the use of anoscopy necessary in a case?* What is the impact of sample collection and injury identification/documentation using the anoscope on the patient and investigative/prosecutorial outcomes? *What are the benefits/costs of collecting an anal sample using a swab versus gaining an anal sample via the anoscopy?*
- *What are the issues around contamination of anal samples? Will the examiner be able to get a "pure" sample when using the anoscope, as opposed to when using an anal swab?* Several participants noted this was a training issue.
- *Why subject patients to anoscopy for evidence collection if it is over 120 hours post-assault?* Several participants noted that evidence in this area is typically not available after this time.
- *What techniques are used for injury identification in the ano-rectal area? If examiners see injury in the ano-rectal area, how should they proceed without causing further injuries?* Do examiners receive training to use the anoscope when injuries are involved and not harm patients more by stretching the tissue? Several participants mentioned that if examiners were not qualified to use the anoscope, they would call in either a gastroenterologist or emergency department physician who is trained.

Toluidine Dye (TB Dye)[10]

- *With which patients should examiners use TB dye?* Why and where should it be applied? Why would an examiner decide not to use it? Not all examiner programs use it. Several participants noted that there is disparity in identifying injury with TB dye in lighter versus darker skin toned patients. It may not accurately interpret injuries across skin types due to lack of contrast.
- *What techniques are employed to apply TB dye to identify ano-genital injury?* Are examiners being trained to properly use TB dye? It was noted there were standards to follow, although there may be variations by program. Apply dye with a cotton tip applicator and, after drying

[10] Concerned that TB dye had a carcinogenic effect, Michael Sheppo, of NIJ, provided participants with a material safety data sheet (MSDS) on Toluidine Blue O. In review of an early draft of this report, a participant commented that the published carcinogenic effect related to the laboratory stain was based on large quantities injected intravenously into mice. The TB dye used by examiners is Toluidine Blue O—1 percent, containing 1percent Toluidine Blue O in 99 percent aqueous solution. The reviewer could find no data sheet identifying this 1 percent solution used by health care providers as a carcinogen; in fact, this dye is used to diagnose oral and genital cancers, is washed off within a minute, and on any other MSDS and under several laws that require reporting the carcinogenic effects, there is no reported carcinogenic effect. The worst potential side effect is mild burning or irritation with vulvar use. The reviewer stated that the key is to be patient focused, tell them the risks, and let them decide on whether they will allow its use.

for a few seconds, wipe gently with cotton swab moistened with lubricating jelly. Diffuse uptake would be considered negative; to be positive it had to be linear with specific margins.

- *Are there times examiners should use colposcope or digital cameras instead of, or in addition to, TB dye to identify, document, or measure various facets of images?* For example, several participants noted that cameras with reverse images may help detection with darker skins.
- *Is TB dye helpful in cases where the issue is consent?* Is it the consensus that the presence of micro-trauma is not helpful in determining if force was used because micro-trauma is also found after consensual intercourse? Can digital images and written documentation using TB dye help inform whether the injury is more likely associated with consent or lack of consent? How would such information be used by the prosecutor? The defense? Do images using TB dye make a difference in court? It was noted that there is some research suggesting that micro-trauma should not be discounted: Marilyn Sommers, of the University of Pennsylvania's School of Nursing, conducted research comparing 600 women with consensual intercourse with 600 rape victims. Many had micro-trauma after intercourse, but there was a difference in the type of injury that might be associated with lack of consent.
- Using TB dye with children and adolescents appears to improve identification and documentation of injury/trauma, but what about with adults? *Are there different criteria in assessing injury with TB dye at different ages? Also, how does injury look different using TB dye at different stages of recovery, and what do examiners actually document?*

Magnification/Photography. Broad questions included: *What equipment is being used to take photographs of injuries, what techniques are used, who is taking the photographs,*[11] *what is their level of applicable training, and how are photographs stored and protected? How is photo-documentation of bodily and ano-genital injuries being used from the victim's health and criminal justice standpoints?* Participants cited the potential usefulness of photographs to the investigation and prosecution, medical care, and examiner quality assurance, peer review, and education. Surveying the field for basis data and doing cost-benefit analyses were suggested:

- *What are the benefits and costs of the various photo technologies used to detect bodily and ano-genital injuries in different populations (children, adolescents, and adults)?* What does each piece of equipment allow examiners to do that other equipment doesn't (does it provide better magnification, allow a more thorough exam, require less training, etc.)? Several participants noted how examiner programs that treat adults and adolescents are moving toward using digital cameras, whereas if they see a combination of children and adults/adolescents, they often use a colposcope. With examiner programs for children, the colposcope appears to be used. Also noted was the use of video capacity with the colposcope.[12] Several participants noted their concern regarding anecdotal reports of use of personal devices such as smartphones to photo-document.

[11] It was noted that examiners should be doing forensic photo documentation of patients in these cases, not law enforcement officers.

[12] A question posed to examiners during the forum: When you have practice in looking through the colposcope and seeing fine injuries, does the time come when you can see these injuries without it? One participant noted that research data are suggesting no statistical differences between what examiners can see with the colposcope versus a visual exam. It was also noted that SANEs in Canada have made convincing arguments against this technology.

- *Is the practice of photo documentation worth the technological investment?* What are the initial costs of equipment, maintenance costs, impact of multiple users, and ongoing adjustments needed to customize use for each patient/user? When equipment wears out, do examiner programs repair/update it or move on to other equipment?
- *Are patients adequately informed regarding all potential uses of photo documentation and its possible impact on them?*
- *How often are ano-genital images used in prosecution (as in most cases there are no injuries)?* Are they only used if they show injury? Are the actual images used or are diagrams more effective? Are they shown to the jury? If there are images shown in court, are they explained by the examiner? How does displaying these images in court impact the emotional health of victims? Does use of photo documentation make a difference to criminal justice outcomes? Does the quality of the photographs make a difference?
- *Are the benefits to victims and case outcomes worth the cost of potentially retraumatizing patients when taking these photographs, if/when these photographs are displayed in court, or if/when these photographs are used for other purposes?*
- *What could examiners do to make taking photographs more tolerable for the patient if it is part of the examination?* What equipment, techniques, and procedures are most acceptable?
- *What is the comfort level and level of skill among examiners in using the various types of technology to photo document?* What is the impact on the victim's health and criminal justice outcomes of an experienced versus inexperienced photographer?
- *Who has custody and control of these photographs (are they in medical storage, law enforcement storage, or lab storage)?* Who should control the photographs from a victim-centered perspective? What potential confidentiality breaches are associated with different photo documentation equipment? What storage and security procedures are in place for each technology to address those potential breaches? (More discussion is needed on this topic to speak to the multitude of problems associated with using personal technology.) Several participants noted anecdotal reports of exam reports and photographs not being secured. Ultimately, the field needs standardized procedures for the storage, security, and confidentiality of forensic photographs.[13]

Foley Catheter. Several participants noted that examiners sometimes use the Foley catheter to get better images of hymen margins and detect micro-trauma in adolescent girls.

- *What is the best technique for using the Foley catheter?* What are the related costs and benefits?[14]
- *What is the forensic value of the details of potential micro-trauma gained through use of the Foley catheter to criminal justice outcomes?* Are images and documentation gained using the Foley catheter used in prosecution? What are case outcomes? Do the findings help examiners decide what additional evidence to collect from a patient?

[13] This conversation raised general questions related to how involved agencies within jurisdictions deal with storage, security, and confidentiality of medical and forensic records in these cases. Where are records stored, how are they protected, who has access to them, and how do they gain access (e.g., through a password available only to them)?
[14] It was noted that "fox" 8-inch swabs with glove rayon tips can be used to collect samples in adolescent girls.

- *What is the medical value of the images and information gained through use of the Foley catheter?* What is the impact on patients in terms of level of discomfort or retraumatization? It is not an uncomfortable procedure.

TOPIC 3: FEASIBILITY OF A NATIONAL STANDARDIZED KIT

Linda Ledray presented on this topic. While several participants indicated that a national standardized sexual assault evidence collection kit would be ideal, they stressed that logistically, it would be extremely difficult to develop and implement. Many states, via their crime labs, currently have standardized kits for sexual assault forensic evidence collection, but there is great variation among them as far as instructions, what is collected, and how it is collected, preserved, and stored. Participants stressed that before the field can begin to consider the feasibility of a national kit, there needs to be a broad-based epidemiological survey to identify what is currently consistent and what varies across kits. Elements to compare include (1) specific types of evidence to be collected, (2) time frame to collect specific types of evidence post-assault, (3) sequence of specimens collected, (4) techniques used to collect specific types of evidence, and (5) paperwork required. These practices also need to be examined in light of whether they are supported by research or if more research is needed to identify best practices. Some additional questions that participants identified for an initial query included:

- *Why are there disparities in kit requirements among crime labs?* To what extent do examiners follow kit directives? Under what circumstances do they deviate from the directives, and why? How are labs updating kits to keep up with medical and forensic technology? If they are not updating it, why? What is the cost-benefit analysis of updating the kit to make use of new technology versus waiting (e.g., until those technologies are accepted in local courts)?
- *What is the probative value of the evidence? Does the collection method impact its value?*
- *What is the impact of patients declining collection of a specific type of evidence on case investigation and prosecution?* Does the kit instruct seeking the patient's informed consent to the entire exam and/or to each piece of evidence to be collected? How could the defense potentially use patient declination to the entire exam and/or a particular piece of evidence?
- *What training do judges, prosecutors, law enforcement, examiners, and advocates receive related to the kit?* Does the crime lab provide the training?
- *Are jurisdictional exam protocols in sync with their respective evidence collection kits?*

TOPIC 4: EVOLVING DNA TECHNOLOGY

COLLECTION

Patricia Speck presented on this topic. Questions raised included—

- *What is the impact of the medical forensic history on gathering DNA evidence?* Several participants mentioned that it can improve documentation of offender characteristics and provide direction for evidence collection.
- *What training do examiners receive to guide their decision on whether to collect DNA evidence?*

- *What training do examiners receive regarding methods of DNA collection?* From the lab perspective, how should examiners collect blood samples for DNA testing specifically? *Is there evidence to create a consistent method for DNA collection given a type of assault?*
- *What training and information is disseminated to law enforcement and examiners about the scope and limitations of DNA evidence insofar as what it tells us (about infertile or vasectomized males, about identity but not consent, etc.)?*
- *Where and under what circumstances should touch DNA be collected?* Who collects touch DNA samples will likely vary. For example, one participant noted that if an offender may have touched a pen at the crime scene, law enforcement will likely collect it. If it is potentially on the victim's skin, examiners should swab the areas touched. What training do examiners, law enforcement, and prosecution receive around touch DNA? (One participant noted that his local crime lab has done studies showing some low-level profiles and a few single ID profiles from specimens collected as touch DNA, but the chance of getting a profile is remote and sometimes works against a case if the profile is so low that the contribution of the defendant can not be determined.)
- *What is the future of DNA collection in terms of specimens (saliva, urine, blood, etc.), methods, and timeframes for collection?* What could the impact be on victims, lab processes and findings, case outcomes, and costs? What is the economic impact of extending time for DNA collection? A cost-benefit analysis might be useful.

Body Fluid vs. DNA

- *How do labs decide what samples to test first?* Does the medical forensic history affect this decision?
- *How important is identification of bodily fluid for prosecution purposes?* Does screening for bodily fluid have to be done? *What are the costs, time, and workforce implications for the crime lab of going straight to DNA analysis (e.g., Y-STRs)?* Several participants noted it would save both money and staff time. Even though serology is less costly, going straight to DNA analysis saves 30 to 60 days of waiting for serology testing results. What is the benefit/cost of going straight to DNA analysis and not doing serology testing on the court outcomes? It was noted that NIJ-funded research is being done in Detroit and Houston on this question. It may be possible to get DNA first and then go back later to do a bodily fluid analysis if needed.
- *What are labs asking for in their kits regarding DNA and bodily fluids?* Why are some labs better at finding forensic results?

A further question is: *How often is the lack of kit findings that speak to these weak links in a case a crutch for investigators and prosecutors not to take a case?* To get feedback on this question, it may be useful to survey law enforcement and prosecutors using vignettes and ask them how they would proceed given case circumstances and kit findings. *How can training for prosecutors, law enforcement, examiners, and advocates make a difference in whether cases with these perceived weaknesses go forward? What additional evidence can be collected through the SAMFE to corroborate a victim's account in cases where consent is contested or there was drug-facilitated or incapacitated sexual assault?*

Kit Backlogs

- *Why are kits left untested? Are some kits left untested because they are cases the criminal justice system doesn't want to pursue (when victims have used alcohol or drugs, work in the sex trade, or gave consent is the question)?* To what extent does kit evidence matter in non-stranger cases? Offenders often follow a serial pattern, assaulting both strangers and acquaintances, thereby potentially linking evidence to both a stranger case and an acquaintance case.
- *What are reasons for collecting DNA samples in consent cases?* For example, if the defense is consent, the prosecutor wants the kit analyzed by a lab in order to suggest how careful everyone was with the evidence, from the examiner to crime lab. It may not add anything initially, but it is important in cases where there are consent issues to be able to say all the evidence affirms the victim and lends credibility to the case.
- *What is the real impact of DNA on cases?* What is the real importance of creating a database on offender DNA? Researchers need to better understand the concept of forensic hits and usefulness of DNA in consent-only cases. Participants noted an Arizona State University study that looked at prosecution and the decisionmaking process in Los Angeles County, California. Findings indicated that the lack of good evidence predicted whether the district attorney took or dropped a case. On the other hand, the perceived risk-taking behavior of victims was associated with the likelihood of the case being dropped. It would be helpful to gather similar information about case outcomes in other parts of the country.

DNA Preservation Questions

Cecilia Doyle presented on this topic. It appears that there were answers to some of the questions raised at the forum related to DNA preservation—for example, what samples need refrigeration and how quickly refrigeration is required—but there is a gap in consistently getting accurate information to examiners and law enforcement. *What are crime labs across jurisdictions instructing examiners and law enforcement to do with regard to preserving evidence? Why are labs giving different information? What are the resources in the lab to preserve evidence?* A broad-based survey of crime labs might be useful to gather baseline data.

- *As new devices/techniques are available to collect DNA (e.g., nylon swabs), are they more resistant to harsh conditions?* What if DNA samples are collected in areas where it may take longer to get samples to refrigeration or they are subjected to higher levels of moisture and heat?
- *How quickly is refrigeration of urine or blood samples necessary?* For example, are 6 hours in a locked file at room temperature okay or would these samples need refrigeration sooner?
- *Is there research that can help providers who have to make decisions about how to best preserve liquid samples?* Several participants indicated the answer is yes. For example, numerous studies of GHB in urine samples indicate the drug breaks down at a fast rate, so it is important to refrigerate it as soon as possible. Studies of body fluids and DNA have been done that show heat and moisture will break down the samples. If they can be cooled, that is the best option, but if drying a sample, put it in a cool environment to dry and then send it to the lab. One participant noted that limited research suggests that adding a certain type of preservative to blood samples might be helpful in preservation.

- *Are dried samples still best for DNA evidence and on what type of swab?*
- *Is active or passive drying best practice?* Active drying should not be done using heat. Passive drying is best depending on how wet the item is and how fast it can be moved to the next step. Do not introduce a breeze across it for drying. Protect evidence from contamination. Air should go through a filter.
- *What if patient has vomited on her/his shirt?* Do not air dry in open space; instead, air dry under paper, under air movement, to protect from people talking, walking by. Put it in a room no one is going to be around to protect it from extraneous DNA. Is there a drying closet designated for large items?

Information Sharing

- *What information/findings are crime labs sharing?* Participants indicated that labs can only share with their clients, which are law enforcement agencies and prosecutors.[15]
- *What is the process for ensuring the SART, including the crime lab, is collaborative and communicating on cases? What do we need to put a feedback loop in place? Who can make that happen?* It would be useful to learn if there are jurisdictions that have such a feedback loop and how it works. One participant noted that in her system, it was the advocate who coordinated the feedback loop.
- *How can we help communities in tracking kits—where they go (what percentage sit in a closet), if they get analyzed, if they yield probative evidence, their impact on the case, etc.?*

RETENTION AND STORAGE

- *What are the practices across states?* The conversation focused broadly on the kit rather than just DNA evidence. It appears that there is much variation in practices across states, particularly in the length of time the kits are stored in reported and unreported cases and where the kits are stored. It would be useful to find out specifically what the practices are and the rationales for the variations. Two studies were discussed that begin to provide this baseline data:

    - Janine Zweig, of the Urban Institute, presented data she and her colleagues collected on kit storage practices across states as part of an NIJ-funded study of payment practices related to the SAMFE. Sexual assault coalitions and state STOP administrators were invited to be part of a survey.
        - While coalitions and STOP administrators tended to know if kits in reported cases were stored (majority were stored), they often did not know how long they were stored.
        - For those who did know, the timeframes they reported ranged from 1 month to 50 years, as well as indefinite storage time.
        - In the case of unreported cases, about a quarter of coalitions and STOP administrators did not know if the state stored the kit. For those who did know,

[15] A related question arose during a review of an early draft of this report: Why does this barrier in information sharing exist when many SAFE programs, which send the evidence to the lab, are currently receiving the results to add to the medical forensic record?

the timeframes they reported ranged from 1 month to 30 years, as well as indefinite storage time.

- Storage models for non-reporting victims included—
  - No law enforcement involvement, with medical facilities performing the exam and securely storing the evidence (43 percent);
  - Law enforcement storage only, with medical facilities performing the exam and transferring the evidence to a local, county, or state law enforcement agency (62 percent);
  - Anonymous/blind reporting, with information provided to law enforcement without identifying information about the victim or perpetrator, and if the victim has an exam, law enforcement stores any evidence that is provided (36 percent); and
  - Other (16 percent).
- There were efforts in California to gather data on what happens in the case of anonymous examinations. Questions include: How many exams are done? What percentage of those who have anonymous exams later convert to reporting? What is the time frame between the sexual assault, the exam, and conversion? How many of the converted cases are referred to the prosecutor's office? What is the criminal justice outcome? Why do cases fall out? Why do law enforcement and/or prosecutors not pursue a case? What about victims who choose never to convert? What was involved in their decision? This research could be replicated across jurisdictions, different underserved groups, refugees, correctional systems, etc.

Storage period for non-reporting/anonymous kits

- *How many rape kits are collected annually and how many are non-reporting?* How many of those non-reporting/anonymous cases "convert" to reporting and/or are prosecutable?
- *Is there research or guidance about how long non-reporting/anonymous kits should be kept? For jurisdictions with a short window for holding the anonymous kits, is there a storage issue? A resource issue?* Should there be a centralized state holding system for non-reporting kits so that the window can be widened?
- *Why do states have such different procedures for storage of anonymous kits?* Which challenges are really barriers and which can be removed? One example of storage practices comes from West Virginia. Anonymous kits are stored at a state university lab (Marshall University Forensic Science Center) for at least 18 months (but are currently being stored indefinitely). In the 4 years this procedure has been used in West Virginia, 52 non-reported case/kits have been stored and 3 converted to reporting. In two of the three cases, law enforcement did not investigate. The one that did move forward was not prosecuted for lack of evidence. *What would be the impact (cost-benefit, victim satisfaction, etc.) if all states had a tracking system like West Virginia? Is it feasible for a state crime lab to work with another lab (e.g., a university lab) to do quality assurance on samples and upload that information to a data base for analysis/case tracking?*
- Are jurisdictions processing kits from non-reporting victims? If so, are they uploading DNA profiles into the state database? (Access to CODIS is limited to situations where there is a direct link to a crime, which would require a report.) Participants warned that this was a

slippery slope—if the victim chooses not to report, then giving data to the criminal justice system is problematic. The Office on Violence Against Women advises not to process the kit if the victim is not reporting. To process a kit in such instances removes the victim from the center of care because it is taking the choices about the kit out of the hands of the victim.

TOPIC 5: USE OF TELEMEDICINE/TELEHEALTH

Patricia Speck presented on this topic. The field needs information on what SAMFE telemedicine practices exist around the country (not all do real-time exams) and the benefits, challenges, and limitations of telemedicine. Programs that are using telemedicine in conjunction with the SAMFE need to be studied regarding their practices, such as the California program that uses/will use telemedicine with adult, adolescent, and pediatric patients (previously only used with pediatric patients), and the Florida program that works with pediatric patients. There are also examiners who act as expert consultants who could be surveyed. Ultimately, standards in using telemedicine in these cases are needed.[16]

- *When and how is telemedicine being used in sexual assault cases (to guide real-time SAMFE, for training purposes, quality assurance, case review and consultation, and testimony preparation for local examiners)? Should there be a priority activity—e.g., telemedicine used for training and case review purposes versus for real-time exams?* Bill Green noted that in California, they will mostly do training, case review, quality assurance, and testimony preparation rather than real-time exams. It is more complicated to be involved in real-time exams. The plan is to set up their system first and then revisit the issue of real-time exams.
- *What are the roles and limitations of the remote expert?*
- *Who is considered the examiner in a criminal justice system when telemedicine is used in conjunction with the SAMFE?* How telemedicine is used may make a difference—this may be more of an issue in real-time exams than in cases where telemedicine is used for other purposes. Who is in danger of malpractice? What about licensure?
- *What is the remote expert's responsibility in terms of the criminal justice system? Who will be subpoenaed for testimony—e.g., the remote expert or the inexperienced examiner in the field?* Again, how telemedicine is used can make a difference. The implications in the case of real-time exams need to be considered. With the California program, if remote experts are involved in quality assurance activities, they are not subpoenaed in a case. They can review a case and help local examiners with testimony preparation. Ideally, they would have the prosecutor and local examiner onsite for this preparation so everyone is on the same page.
- *Will judges accept that remote experts are quality assurance rather than direct care providers and therefore not require the remote experts to testify?* Is that in the judges' training and practice?
- *What technology systems exist to provide adequate encryption and confidentiality (HIPAA)? Quality images for evaluation? Interface with electronic health records?*
- *What are the factors to consider in sustaining a SAMFE telemedicine system?* Do facilities in Indian Country and rural communities have the technical capability for telemedicine?

[16] Note that during this conversation, it was not always clear whether participants' comments were in reference to real-time telemedicine practices or more broadly to any telemedicine practice.

- *When telemedicine is used during a SAMFE, does there need to be a SART in place to be effective?* Several participants felt that was the case. For example, a prosecutor can help the team determine how information gained through telemedicine will be used and when/what telemedicine practices are appropriate. An advocate can help ensure that, regardless of the methods used to do the examination and who is involved, the patient has adequate onsite emotional support and information about her/his options.

There were concerns related to privacy when using telemedicine (for example, whether a videotape made by the telemedicine consultant would be discoverable material). Participants did not know of existing protocols that addressed privacy issues in using telemedicine to provide consultation, training, case review, or real-time exams. Guidelines related to privacy will have to be developed as part of best practices and differentiate for different uses. Among other issues, the guidelines will need to speak to the secure storage and chain of custody of electronic images.

Participants spent time discussing additional real-time exam issues. They identified the need for evaluation of 24/7/365 remote access programs and processes (involving, but necessarily limited to, real-time applications of telemedicine). Some questions included—

- *What is involved in having a remote expert involved in a real-time exam?* What synchronous and asynchronous communication will be employed?[17]
- *When is it okay to use telemedicine in general? To use real-time telemedicine?* Should exams that involve use of real-time remote experts only be used when a face-to-face interaction between the patient and an experienced examiner is not possible? When real-time telemedicine is involved in a SAMFE, what basic examiner skills are needed onsite?
- *How does/can a SAMFE telemedicine program promote patient-centered care and informed consent?* What is the impact/reaction of victims to telemedicine technology and their satisfaction with services provided?
- *What related issues exist around cultural appropriateness, use of translators, and the advocate's role?* On which "side of the camera" should these issues be addressed?
- *What kind of documentation should the remote expert do?* For pediatric patients in the California program, it was unresolved whether the remote reviewer was to make notes. Several participants said no—no formal documentation should be created by the distant expert in quality assurance instances. Would the same go for real-time exams?
- *Are there other legal implications for real-time exams (in addition to what was discussed above)? What are the legal outcomes when real-time telemedicine is used in SAMFEs?* Does information/evidence gained through real-time telemedicine impact case investigations, lab analyses, and prosecutions differently than information/evidence from live exams?

Any program that offers telemedicine will need to build an infrastructure to define its priorities and limitations and how to address the variety of issues that might arise.

[17] Note that there are a variety of synchronous (real-time) and asynchronous (store and forward transmission of medical images and information) tools that can be used in telemedicine. Some examples of real-time tools: telephone, audio, Web, and video conferencing, conferencing with peripheral devices to aid in an interactive examination, chat, and instant messaging. Some examples of asynchronous tools are e-mailing, streaming audio and video, discussion boards, and blogs. See *What is Telemedicine* at www.icucare.com/PageFiles/Telemedicine.pdf.

CONCLUSION AND NEXT STEPS

Researchers, practitioners, and survivors worked collaboratively during the forum to identify a multitude of potential research questions related to the technical aspects of the SAMFE. They also discussed a number of broad-based considerations to be interwoven into evaluation of the technical practices (e.g., assessing for a victim-centered approach). Many of the questions posed could be further molded into more specific research questions. Questions could also be condensed into different categories, for example, by discipline. Ultimately, participants were clear that the field needs to ascertain: How do specific technical practices during the SAMFE impact the victim and legal outcomes? Which practices are victim-centered, produce probative evidence, and help facilitate investigation, prosecution, and conviction? It is those practices they want to recommend as best practices. Getting to those evidence-based best practices will require some discernment as to (1) which questions are the most critical to research first, (2) which need to be asked and answered before we can study other questions, and (3) which questions do we already have data for and only require secondary analyses of the data to provide answers.

As summarized in the *Framing the Research Needs* section of this report, forum participants provided initial guidance around what they saw as the necessary next steps:

- First, the focus of research efforts should be gathering basic data from across the country regarding what evidence is being collected, collection techniques and technology, evolving DNA technology, what SAMFE kits instruct, and use of telemedicine in the SAMFE. Many of those basic questions can be extracted from this report. Determination will need to be made regarding what are the most important baseline data to seek and the logistics of gathering and analyzing different data sets.
- With basic data compilation and analyses as a foundation, researchers, practitioners, and survivors will be better positioned to work together to re-evaluate the potential research questions posed in this report: In which areas are there still gaps in knowledge about best practices? Which among the remaining research questions are high priority, medium priority, and low priority respectively?

It is the hope of OVC and NIJ to share this report with forum participants and relevant governmental agencies, practitioners, and researchers for their input on adding and refining the potential research questions. OVC and NIJ envision future forums to allow the field to continue dialoging with one another and building consensus about the most urgent research needs related to the technical aspects of the SAMFE.

APPENDIX 1: PARTICIPANTS AND FORUM AGENDA

APPENDIX 1: PARTICIPANTS AND FORUM AGENDA

This report reflects the opinions, experiences, and expertise of forum participants. OVC and NIJ are grateful for their input. Participants included (**indicates a participant who also was a forum planning group member and * indicates a participant who was a meeting presenter)—

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Carolyn Aoyama, Office of Public Health Support, Indian Health Services
Bethany Backes, National Institute of Justice, Office of Justice Programs, U.S. Department of Justice **
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Theodore Cross, University of Illinois Urbana-Champaign
Kim Day, International Association of Forensic Nurses*
Cecilia Doyle, Illinois State Police Forensic Science Center at Chicago*
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William Green, California Clinical Forensic Medical Training Center
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Caroline Zervos, Federal Bureau of Investigation
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Jean Strohl, Office for Victims of Crime Training and Technical Assistance Center
Jennifer Markowitz, AEquitas: The Prosecutors' Resource on Violence Against Women
Patricia Speck: University of Tennessee Health Science Center
Fernanda Webster, Office for Victims of Crime Training and Technical Assistance Center

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SEXUAL ASSAULT MEDICAL FORENSIC EXAMINATION RESEARCH FORUM

March 28-29, 2012
Washington, DC

Day 1

8:00 a.m.	**Registration**
8:30 a.m.	**Opening Remarks**
	• Joye Frost, Acting Director, Office for Victims of Crime
	• John Laub, Director, National Institute of Justice
9:00 a.m.	**Meeting Overview**
9:10 a.m.	**Participant Introductions**
9:30 a.m.	**Presentation and Dialogue on Research Questions: Evidence Gathered**
	• Impact of specific types of evidence gathered during the examination—on the victim, case investigation, and the likelihood of prosecution and conviction
10:30 a.m.	**Break**
10:45 a.m.	**Presentation and Dialogue on Research Questions: Evidence Gathered** (continued)
12:15 p.m.	**Lunch on Your Own**
1:15 p.m.	**Presentation and Dialogue on Research Questions: Exam Technology**
	• Effect of application of specific technology used to collect evidence during the examination on case investigation and prosecution, and effect on level of victim discomfort/side effects
3:15 p.m.	**Break**
3:30 p.m.	**Presentation and Dialogue on Research Questions: Standardizing the Kit**
	• Effects/feasibility of standardizing evidence collection kits at national, state, and tribal levels
4:30 p.m.	**Closing Comments/Feedback**
4:45 p.m.	**Adjourn for Day 1**

Day 2

8:30 a.m.	**Opening Remarks**
	• Bea Hanson, Office on Violence Against Women
8:40	**Comments on Day 1**
8:50 a.m.	**Presentation and Dialogue on Research Questions: DNA Technology**
	• Effects of evolving DNA technology relevant to collection, preservation, and storage of forensic evidence prior to testing of such evidence
10:30 a.m.	**Break**
10: 45 a.m.	**Presentation and Dialogue on Research Questions: Telehealth**
	• Use of telemedicine in examination process in rural, remote, and poor communities
11:45 a.m.	**Pick up Lunch on Your Own and Return for Working Lunch**
12:15 p.m.	**Presentation and Dialogue on Research Questions: Telehealth** (continued)
1:15 p.m.	**Identification of Additional Pressing Research Issues**
1:30 p.m.	**Next Steps**
1:45 p.m.	**Adjourn for Day 2**