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Assessment of Staff Comfort with Sexual Assault Examination after Implementation of TeleSANE Program

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BY

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This Doctor of Nursing Practice (DNP) Project is approved as a credible and independent investigation by a candidate for the DNP degree and is acceptable for meeting the project requirements for this degree. Acceptance of this DNP Project does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

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Abstract

Introduction: Utilization of telehealth to provide a trained sexual assault nurse examiner (SANE) to rural facilities during sexual assault examinations (SAEs) has shown documented success increasing healthcare access and cost savings. SANE consult results in better evidence collection, injury identification, and better medical and legal outcomes for patients presenting with complaints of sexual assault (SA).

Methods: Literature searches were conducted in CINAHL, EBSCOhost, and IAFN journal to find evidence supporting telehealth interventions and staff or patient comfort. Twenty articles supported the clinical question. Seven of the articles met high-quality criteria; 11 of the articles were considered good quality with reasonably consistent results. Two articles were graded lower quality due to small sample size.

Gaps: There is a need for more concrete and objective exploration of the implications of a TeleSANE program on staff comfort. There are no consistent approaches or validated tools to address staff comfort with SAEs.

Recommendation for practice: SANEs are necessary to obtain the best outcomes for the vulnerable populations affected by SA. Telehealth is pioneering efforts to provide specialized nursing care to patients affected by SA. SANE consults may reduce revictimization, sequelae of trauma in survivors of sexual violence, and improve comfort for all.

Assessment of Staff Comfort with Sexual Assault Examination after Implementation of TeleSANE Program

Introduction

Individuals reporting sexual assault (SA) often seek care within an emergency department (ED) (Muldoon, Drumm, Leach, Heimerl, & Sampsel, 2018). Inefficient treatment of individuals presenting for a sexual assault exam (SAE) prompted the development of sexual assault nurse examiner (SANE) programs in the United States [U.S.] in 1970 (Maier, 2011). SANEs provide objective and comprehensive care to patients while collecting forensic evidence. SANEs are trained to provide emotional support to patients and testify in court. Specialized training helps SANEs use specialty equipment for detailed and complete exams as well as thorough medical history collection and documentation (Delgadillo, 2017; International Association of Forensic Nurses [IAFN], 2015; Maier, 2011; World Health Organization [WHO], 2003). This quality care should be provided to all patients presenting with complaints of SA. Research supports that SAEs completed by SANEs increase the diagnosis of injuries and reporting of crimes leading to better medical and legal outcomes (Annan, 2014; Delgadillo, 2017; IAFN, 2015; Marks, Kaiser, & McCleery, 2017; WHO, 2003).

Significance. ED nurses and providers are not required by some facilities to undergo training to understand trauma-informed care, complete a sexual assault kit (SAK), or understand proper collection, storage, or handling of evidence. Staff discomfort, unfamiliarity with the SAK, and infrequency of SA exams can affect patient outcomes (Annan, 2014; Delgadillo, 2017; Gonnering, 2015). Completing a SAK without experience can result in poor legal outcomes. Completing a SAE without experience can

also retraumatize patients and potentially miss injuries (Annan, 2014; Gonnering, 2015). EDs must have the tools to care for this patient population (Delgadillo, 2017; Fitzpatrick et al., 2010; Miyamoto et al., 2014; Speyer et al., 2018; WHO, 2003). Having a SANE team available for a consult is a practice that may help support patients and reduce the fear of the SAE process while improving outcomes for this vulnerable population (IAFN, 2015; Muldoon et al., 2018).

The evidence reviewed revealed SAEs completed by SANEs resulted in higher prosecution rates and improved medical outcomes (Marks et al., 2017; IAFN, 2015; WHO, 2003). Despite most facilities understanding the benefits of SANE teams, the inability to sustain programs in rural areas is extensively documented (Alexander & Farst, 2009; Annan, 2014; Delgadillo, 2017; Fitzpatrick et al., 2010; Gonnering, 2015; Gray et al., 2015; Littel, 2008; Marks et al., 2017; MacLeod et al., 2009; Meunier-Sham, Preiss, Re, Petricone, & Gillen, 2019; Miyamoto et al., 2014; Muldoon et al., 2018; Nguyen, 2010; Speyer et al., 2018; Walsh, Meunier-Sham, & Re, 2019; WHO, 2003). Further evidence indicates when practitioners and nurses infrequently complete exams or deal with the kits and storage, handling or chain of custody, discomfort during the exam results (Petricone, 2019).

The IAFN (2015) stated if financial constraints prevent the sustenance of SANE programs, access should be provided at a minimum by an on-call basis. Services delivered by telehealth, such as counseling, expert guidance, explanation of examination techniques, or help with diagnosis, can be as impactful as services delivered in person, which is encouraging given the benefits of telehealth in outreach to rural and remote areas. Telehealth is a promising solution to limited healthcare access, time, and staffing

concerns (Alexander & Farst, 2009; Grey et al., 2015; Hassija & Gray, 2011; MacLeod et al., 2009; Miyamoto et al., 2014; Nguyen, 2010; Speyer et al., 2018). Telehealth decreased the cost for the hospitals involved in telemedicine programs compared to sustaining a 24/7 SANE program (Marks et al., 2017; MacLeod et al., 2009; Meunier-Sham et al., 2019; Miyamoto et al., 2014; Muldoon et al., 2018; Nguyen, 2010; Walsh et al., 2019). Telehealth has helped rural nurses and practitioners involved in SAEs feel comfortable in providing care to patients presenting after SA (MacLeod, Boyle, Miyamoto, Marcin, & Rogers, 2007; Meunier-Sham et al., 2019; Miyamoto et al., 2014).

Clinical question. Improving patient care through the implementation of evidence-based practice (EBP) requires clinicians to seek appropriate evidence that relates to a clinical question (Dang & Dearholt, 2018). The PICOT question guiding this DNP Project evidence search is as follows: Among rural practitioners and nurses utilizing telehealth in the ED (P), does the utilization of telehealth to consult an experienced SANE from an urban hospital (I) compared to the previous practice of no consult (C) increase rural staff comfort with SAE (O), during a five-month observation period (T)?

Search Criteria

Literature searches in EBSCOhost, CINAHL, PubMed, and the IAFN databases were conducted to find evidence supporting this intervention. Inclusion criteria consisted of current peer-reviewed articles, in the English language, and within the last 11 years. Seven articles were greater than five years old, but most articles reviewed were less than five years old. Though these articles may be considered dated, the information in the articles included relevant observations on telehealth outreach to rural facilities. Articles chosen focused on telehealth outreach to rural areas, telehealth outreach with SA experts,

telehealth outreach for SAE, the impact of sexual assault examiners, and ED protocols with SA patients. The articles included were written in English and 19 of 20 articles were based in the US. No exclusions were made regarding the race or age of sexually assaulted individuals. Articles were excluded if they did not focus on modalities of outreach to victims of SA in rural areas. The key search terms utilized to conduct the literature review were *sexual assault nurse examiner or SANE nurse or telesane, telehealth or telemedicine outreach, rural sexual assault examination, emergency department, sexual assault exam or sexual assault kit*. After thorough review and analysis, 20 research articles supported the PICOT question.

Levels of evidence and quality of evidence. The depth and quality of information collected was variable across studies. Grading tools utilized were the Appraisal of Guidelines for Research & Evaluation (Agree II) tool and the Johns Hopkins Nursing Evidence-Based Practice Grading tool. Evidence appraisal found one article with level I evidence, two articles with level II evidence, eight articles with level III evidence, two with level IV evidence, and six level V (Johns Hopkins University, 2017). Seven of the articles met high-quality criteria, and 11 of the articles were considered good quality with reasonably consistent results. Only two of the included articles were graded lower quality due to the small sample size. The Agree II tool was utilized to grade practice recommendations. Guideline grades from the Agree II tool were 66 percent, 77 percent, and 100 percent (AGREE Next Steps Consortium, 2017). A summary of the evidence can be found in the Evidence Table seen in Appendix A. A description of the evidence grading tables and explanations of grading can be found in Appendices B, C, D, and E. Permissions to use the grading tools can be found in appendix F.

Synthesis of evidence

The literature review has been divided into four sections including the explanation of a SA exam, rural shortage and the status quo, the effectiveness of telemedicine and rural outreach, and the impact of SANE consults on staff and patient comfort.

SANE exam. When a patient presents to the ED with complaints of SA, nurses must be familiar with the necessary interventions to provide comprehensive care (Delgadillo, 2017). Comprehensive care provided by SANEs includes a forensic interview, collection of clothing, and swabbing of body parts for DNA collection. Furthermore, a thorough head-to-toe examination, including oral and genital inspection, is completed for observation of internal and external injuries under different light sources and with substances such as toluidine blue to enhance even minor wounds. Injuries are documented with forensic photography and on forms provided by the SAK (Delgadillo, 2017).

The SANE nurse helps initiate a safety plan and collaborates with police, SA advocates, and ED staff. A SANE nurse is educated on the maintenance of the chain of custody with evidence and can provide some guidance on the next steps in the legal process. After the exam is complete, the SANE nurse can provide appropriate community resources and collaborate with the ED practitioner for the administration of medications for human immunodeficiency virus (HIV), sexually transmitted infections (STI), and pregnancy prophylaxis (Delgadillo, 2017; Fitzpatrick et al., 2010; Gonnering, 2015; Maier, 2011; Marks et al., 2017; Meunier-Sham et al., 2019; Miyamoto et al., 2014; Muldoon et al., 2018).

SANEs undergo a minimum of 40 hours of coursework for adult and adolescent exams and are expected to do an additional 40 hours for pediatric cases. This is followed by chaperoned pelvic examinations with a medical doctor to acquire skills in genital exams and several assisted SAEs before performing a SAE independently (Meunier-Sham et al., 2019). It can take up to 12 months for a SANE nurse's education to be completed (J. Canton, personal communication, October 1st, 2019). Education to SANEs also encompasses trauma-informed care, which can impact the perceived trauma and psychological sequelae patients may suffer after an assault (Delgadillo et al., 2017; Muldoon et al, 2018).

Medicolegal guidelines published by WHO (2003) discussed competencies that are designed to provide the adult/adolescent SANEs with the necessary skills to accurately, objectively, and concisely obtain medicolegal information associated with an adult or adolescent SA. Skilled SA examiners are necessary to obtain the best outcomes for vulnerable populations affected by SA (Delgadillo, 2017; Fitzpatrick, et al., 2010; IAFN, 2015; MacLeod, Boyle, Miyamoto, Marcin, & Rogers, 2007; MacLeod et al., 2009; Marks et al., 2017; Meunier-Shaw et al., 2019; Miyamoto et al., 2014; Walsh et al., 2019; WHO, 2003).

Current ED Protocols and the SANE shortage. With 5,273 EDs in the US and only 902 SANE programs, access to SANE care is not uniformly available (Meunier-Sham et al., 2019). Access to SANE care is scarce in rural areas (Meunier-Sham, Preiss, & Petricone, 2019). Budget imitations and small staff populations result in a lack of SANE programs in rural health care facilities (Delgadillo, 2017). This shortage in examiners causes long waits for patients to be examined and obtain treatment from the

untrained staff, along with poorer outcomes for patients (Gonnering, 2015). Current ED protocols expect untrained staff to complete SAKs. ED staff have no, or limited, formal training on what is included in the SAK or how to document. There are several downfalls to inexperienced staff members completing the exam, as patients may not get a full range of services to address their concerns, such as safety plans or prophylactic treatment against pregnancy and STI.

Medical practitioners are not expected to have formal training on completing a SAE. Practitioners and nurses, who have not been formally trained, may not understand approaches to interviewing after trauma and may be reluctant to collect evidence in fear of being subpoenaed to testify in court (Littel, 2008). The infrequency of exams and unfamiliarity with kits, storage, handling, and chain of custody can leave a staff nurse or practitioner uncomfortable during the exam (Petricone, 2019). Current practice in rural areas without SANE coverage delegates the responsibility of SAK completion to the nurses and practitioners in the ED who car for the patient following SA. The staff typically have minimal forensic training (Marks et al., 2017).

The ED is a common entry point for persons with complaints of SA and services must be strengthened to reduce disparities along the continuum of health and ensure justice (Muldoon et al., 2018). Emergency medicine is practiced in geographic areas with low population densities and limitations on resources. Rural EDs provide critical services among communities to help with patient stabilization, initiation, and coordination of care or transfer to a tertiary care facility for further care (American College of Emergency Physicians [ACEP], 2018). Transfer to a tertiary care center after SA can lead to worse outcomes for patients and loss of evidence. With this in consideration, it becomes

inherently important to examine patients when they initially present to a rural ED. Practitioners in rural communities typically do not treat a high volume of SA patients to attain or retain proficient skills. As a result, individuals presenting after SA are less likely to receive a comprehensive forensic exam. Patients presenting due to SA in rural areas are also more likely to require transport to centers with qualified examiners. This can cause stress to the patient, loss of evidence, and significant costs to the healthcare system (Miyamoto et al., 2014).

A qualitative study from Gonnering (2015) stated where SANE programs exist, ED waiting times are shorter, evidence collection is improved, and revictimization of patients from untrained staff is reduced. Studies have shown that when SANEs have participated in a post-assault response, not only are patients more likely to report the assault to law enforcement, police collect more evidence and conduct more suspect interviews, and the case is more likely to progress through the criminal justice process (Delgadillo, 2017; Fitzpatrick, et al., 2010; Marks et al., 2017; Meunier-Sham et al., 2019; Walsh et al., 2019).

Telehealth in rural outreach. Telemedicine availability in the ED 24 hours of the day is an advantage to the practitioners, staff and the patients served (Gray et al., 2015; Miyamoto et al., 2014; Speyer et al., 2018). Telehealth has been used for the provision of expert medical advice during presentations of both child and adult cases of SA. Telemedicine has been used for practitioner or nurse consults, instruction on evidence collection, guidance in examination technique, instruction on navigating contents for the SAK, and patient therapy post-assault. TeleSANEs can engage in SAEs remotely, guiding practitioners through history taking, forensic examination, techniques

to collect evidence, identification and documentation of injuries, all while transforming clinical practice and creating better outcomes (Alexander & Farst, 2009; MacLeod et al., 2007; MacLeod et al., 2009; Marks et al., 2017; Meunier-Shaw et al., 2019; Miyamoto et al., 2014; Walsh et al., 2019)

Rural hospitals using telemedicine for pediatric SAE consultations provided higher-quality evaluations, more complete examinations, and more accurate diagnoses than similar hospitals conducting examinations without SANE support via telemedicine (Alexander & Farst, 2009; MacLeod et al., 2007; MacLeod et al., 2009; Miyamoto et al., 2014; Meunier-Sham et al., 2019; Walsh et al., 2019). This model of care resulted in increased quality of care and appropriate forensic evidence collection. More benefits cited included better use of limited resources, improved accessibility to quality medical services, and faster evaluations of conditions (Alexander & Farst, 2009; MacLeod et al., 2009; Miyamoto et al., 2014; Nguyen, 2010). Telehealth creates a positive change not only in the patient's experience but also in the community, improving the response of hospitals, agencies, and communities in supporting and caring for SA patients (Meunier-Shaw, Preiss & Petricone, 2019).

Staff and patient comfort. Nearly all of the articles discussed that telemedicine technology was found to be effective in the extension of medical expertise to medical professionals evaluating and caring for patients presenting with concerns of SA (Alexander & Farst, 2009; MacLeod et al., 2009; Miyamoto, et al., 2014; Meunier-Sham et al., 2019; Nguyen, 2010; Walsh et al., 2019). The evidence has shown increased comfort in exams when a SANE is available (Delgadillo, 2017; Gonnering, 2015; Marks et al., 2017; Miyamoto et al., 2014; Walsh et al., 2019). MacLeod et al. (2009) discuss the

increased quality of care and appropriate forensic evidence collection with telemedicine consults to rural facilities.

MacLeod et al. (2009) go further to state that feelings of satisfaction and assessment of telemedicine play an essential role in the long-term success of the program. In three of the studies reviewed there was unanimous agreement among the consulting practitioners that access to live telemedicine consults was important in all the SA cases (MacLeod et al., 2009; Meunier-Sham et al., 2019; Walsh et al., 2019). Real-time advice and support from SANE examiners allowed rural site staff to feel confident in the provision of the highest level of care to the patients (MacLeod et al., 2007; MacLeod, et al, 2009; Meunier-Sham et al., 2019). Meunier-Sham et al. (2019) stated utilization of trauma-informed interviewing techniques by SANEs to avoid re-traumatization of patients was an important addition to the exam. Interaction with the patient and family while the rural site practitioners and nurses collect evidence helped the patient feel at ease while also increasing the quality of evidence collected.

Gaps in the Literature

After the pilot. Telemedicine is still not a part of mainstream clinical services. An overwhelming amount of evidence discusses there is a greater need for more research on telemedicine post-pilot projects. A systematic review of telemedicine services across the US by Aldossary, Martin-Khan, Bradford, & Smith (2017) showed that most of the evidence contained evaluations of pilot or project programs but did not follow the programs past their pilot.

Adult populations. Many studies involve pediatric populations; though results are encouraging, more large studies are needed involving outreach to adolescent and

adult populations. Many pertinent articles, though valuable, were dated. Research highly encourages the use of telemedicine in theory, but there are not many studies on the direct application of telemedicine during an adult SAE.

Staff satisfaction. There were no consistent approaches to address satisfaction. Multiple studies have assessed comfort during telemedicine exams, but no studies in the review of literature focus specifically on practitioner comfort with SAEs. Staff comfort is influential in the acclimatization of this process. To help encourage continued development and best possible outcomes for patients, staff comfort must be investigated. It has been proven that telemedicine is an effective way to reach out to rural areas, but more data is needed to explore clinician satisfaction with telemedicine during these exams.

Recommendations for Practice

Evidence encourages facilities without an expert trained in SA examinations to be connected with one through telehealth (Alexander & Farst, 2009; MacLeod et al., 2009; Marks et al., 2017; Meunier-Shaw et al., 2019; Miyamoto et al., 2014; Walsh et al., 2019). Telehealth works to provide a highly trained nurse for a low volume but high acuity patient population presenting to EDs in rural areas when budgetary constraints or staffing concerns would otherwise prevent the patient and staff from obtaining this resource. SANEs, with the help of telemedicine, are working to transform clinical practice, to help guide rural practitioners in history taking and forensic collection of evidence and to identify and correctly document injuries in the SAK (Meunier-Sham, et al., 2019; Walsh et al., 2019). TeleSANEs are changing current practice for the better and ensuring optimal outcomes for a very vulnerable and underserved population of patients

presenting with concerns of SA (Alexander & Farst, 2009; MacLeod et al., 2009; Marks et al., 2017; Meunier-Sham et al., 2019; Miyamoto et al., 2014; Walsh et al., 2019). Healthcare providers using telehealth are pioneering efforts to provide specialized nursing care to adult and adolescent patients of SA.

Conclusion

Taking steps to improve the continuum of care for such an underserved population in rural and remote areas can be a complex process. Telehealth is one viable option to achieve just outcomes. It is of critical importance that more research is done on the comfort of staff with telehealth guidance. Evidence from this quality improvement project may help to support advocacy, increase resources, and inform best practices while increasing the comfort of staff. TeleSANE consults may reduce revictimization, sequelae of trauma in survivors of sexual violence while improving comfort for all.

References

AGREE Next Steps Consortium. (2017). The AGREE II Instrument [Electronic version]. Retrieved from http://www.agreetrust.org.

Aldossary, S., Martin-Khan, M., Bradford, N., & Smith, A. (2017). A systematic review of the methodologies used to evaluate telemedicine service initiatives in hospital facilities. *International Journal of Medical Informatics, 97*(1): 171-194.

Alexander, R., & Farst, K. (2009). Telemedicine and child abuse examinations. *Pediatric Annals, 38*(10): 574-578.

American College of Emergency Physicians [ACEP]. (2018). Definition of rural emergency medicine. Retrieved from https://www.acep.org/globalassets/new-pdfs/policy-statements/definition-of-rural-emergency-medicine.pdf

Annan, S. (2014). 'We desperately need some help here': The experience of legal experts with sexual assault and evidence collection in rural communities. *Rural and Remote Health, 14*(4), 2659.

Dang, D., & Dearholt, S. (2018). The Johns Hopkins nursing evidence-based practice model and process overview. In S. Dearholt & S. Allan (Eds.), *Johns Hopkins evidence-based practice model and guidelines* (3rd ed., 35-59). Indianapolis, IN: Sigma Theta Tau International.

Delgadillo, C. (2017). When there is no sexual assault nurse examiner: Emergency nursing care for female adult sexual assault patients. *Journal of Emergency Nursing, 43*(4), 308-315. doi:10.1016/j.jen.2016.11.006

Fitzpatrick, M., Ta, A., Lenchus, J., Arheart, K., Rosen, L., & Birnbach, D. (2010). Sexual assault forensic examiners' training and assessment using simulation

technology. *Journal of Emergency Nursing*, *38*(1), 85-86. doi:10.1016/j.jen.2010.10.002

Gonnering, R. (2015). A compromise to help the community: Rural sexual assault nurse examiner experiences. (Master's dissertation, Minnesota State University, Mankato, United States.) ProQuest Dissertations Publishing. Retrieved from https://sdstate-primo.hosted.exlibrisgroup.com/permalink/f/r5hs7o/TN_proquest1682499887

Gray, M., Hassija, C., Jaconis, M., Barrett, C., Zheng, P., Steinmetz, S., . . . Roberts, M. (2015). Provision of evidence-based therapies to rural survivors of domestic violence and sexual assault via telehealth: Treatment outcomes and clinical training benefits. *Training and Education in Professional Psychology*, *9*(3), 235-241. Retrieved from: http://dx.doi.org/10.1037/tep0000083

Hassija, C., & Gray, M. (2011). The effectiveness and feasibility of videoconferencing technology to provide evidence-based treatment to rural domestic violence and sexual assault populations. *Telemedicine Journal of Emergency Health*, *17*(4), 309-315.

International Association of Forensic Nurses [IAFN]. (2015). Sexual assault nurse examiner education guidelines. Retrieved from http://c.ymcdn.com/sites/www.forensicnurses.org/resource/resmgr/2015_SANE_ED_GUIDELINES.pdf

Littel, K. (2008). Implementing SANE programs in rural communities the West Virginia regional mobile SANE project. Retrieved from https://www.ovc.gov/publications/infores/WVA_Mobile_SANE_guide/pfv.html

MacLeod, K., Boyle, C., Miyamoto, S., Marcin, J., & Rogers, K. (2007). Telemedicine in pediatric sexual assault. *Journal of Investigative Medicine, 55*(1), S135-S135.

MacLeod, K., Marcin, J., Boyle, C., Miyamoto, S., Dimand, R., & Rogers, K. (2009). Using telemedicine to improve the care delivered to sexually abused children in rural, underserved hospitals. *Journal of Pediatrics 123*(1), 223-228.

Maier, S. L. (2011). The emotional challenges faced by sexual assault nurse examiners: ER nursing is stressful on a good day without rape victims. *Journal of Forensic Nursing, 7*(4), 161-172.

Marks, S., Kaiser, L., & McCleery, M. (2017). A novel approach to sexual assault nurse examiner training: A pilot program. *Clinical Simulation in Nursing, 13*(12), 595-600. Retrieved from https://doi.org/10.1016/j.ecns.2017.07.002.

Meunier-Sham, J., Preiss, R., Petricone, R., Re, C., & Gillen, L. (2019). Laying the foundation for the national telenursing center: Integration of the quality-caring model into telesane practice. *Journal of Forensic Nursing, 15*(3), 143-151.

Miyamoto, S., Dharmar, M., Boyle, C., Yang, N., Macleod, K., Rogers, K., … Marcin, J. (2014). Impact of telemedicine on the quality of forensic sexual abuse examinations in rural communities. *Child Abuse & Neglect, 38*(9), 1533-1539. doi:10.1016/j.chiabu.2014.04.015

Muldoon, K. A., Drumm, A., Leach, T., Heimerl, M., & Sampsel, K. (2018). Achieving just outcomes: Forensic evidence collection in emergency department sexual assault cases. *Emergency Medicine Journal*, *35*(12), 746-752. doi:10.1136/emermed-2018-207485

Nguyen, V. (2010). Using telemedicine technology to increase child sexual abuse expertise among medical professionals: A grant proposal. (Master's thesis, California State University, Long Beach, United States. ProQuest Dissertations Publishing. Retrieved from https://search.proquest.com/docview/757011691/?pq-origsite=primo

Petricone, R. (2019). Sexual assault nurse exams through the national telenursing center. Retrieved from https://www.ruralhealthinfo.org/project-examples/889

Speyer, R., Denman, D., Wilkes-Gillan, S., Chen, Y., Bogaardt, H., Kim, J., . . . Cordier, R. (2018). Effects of telehealth by allied health professionals and nurses in rural and remote areas: A systematic review and meta-analysis. *Journal of Rehabilitation Medicine, 50*(3), 225-235. doi:10.2340/16501977-2297

Walsh, W., Meunier-Sham, J., & Re, C. (2019). Using telehealth for sexual assault forensic examinations: A process evaluation of a national pilot project. *Journal of Forensic Nursing, 15*(3), 152-162.

World Health Organization [WHO]. (2003). Guidelines for medico-legal care for victims of sexual violence. Retrieved from http://apps.who.int.excelsior.sdstate.edu/iris/bitstream/10665/42788/1/924154628X.pdf

Appendix A

Evidence Table

Author(s) & Date	Study Design	Participants, Sample Size & Setting	Intervention	Results	Comments (Strengths/Weaknesses)	Gaps	Recommendations for Practice	Grading
Delgadillo, 2017	Journal article Guidelines	Emergency department, ED personnel caring for SA presenting to ED	n/a	Nurses must be familiar with the necessary interventions to provide comprehensive care for patients presenting to ed who have been sexually assaulted .	Discussion of sane role, how sane exams are completed. No relation to sanes with telemedicine	Discusses SA population of adults presenting to ED. Comments a majority on women presenting with SA complaint. Does not talk about pediatric cases Does not talk about sexual assault kits in any other area of the hospital	Because of budgetary constraints, scheduling, or a lack of a contracted SANE program in the area, a SANE is not always available to care for patients who have been sexually assaulted. It is vital that ED nurses have the tools to care for this population.	Agree II score=66% V A
Fitzpatrick, et al., 2010	Case control study	17 ED personnel trained for SA that reside in a county of more than 2 million people, work in an academic tertiary-care medical center that evaluates	Pre-tests and post-tests were administered, and a checklist was used to assess competence in performing examinations independently.	Results validated the use of simulation technology and in-house resources for cross-training staff in a SANE program.	CASP score-valid, generalizable, (pre-test mean score [±SE] of 69.1 ± 1.7 vs. post-test mean score of 84.4 ± 2.6, P < .001).	Small population studied Encourages technology for training but not necessarily technology for completing real time sexual assaults	Benefits of having a sexual assault forensic examination program in ED are standardized and timely care for	VA

		more than 700 SA victims each year.					victims, as well as better evidence collection, increased reporting which leads to increased prosecution of crimes	
International Association of Forensic Nurses (2015).	Guidelines	Personnel caring for SA victims		Developing expert SANE practice is essential for providing quality care to patients following sexual assault.	AgreeII score-77%	Discusses guidelines specific to care for sexual assaults, does not specifically give guidelines for caring for a patient via telehealth.	It is recognized that very few places will be in a position to provide and enjoy the perfect facility, however it would be ideal to have a sane from an emergency department of a teaching hospital"	IV A AgreeII score-77%
Marks, Kaiser, McCleery, 2017	Cross sectional	Emergency department, ed personnel caring for SA presenting to ED	Simulation-based training model designed to streamline the educational process and preserve the quality of education. Trained 19 nurses	in less than one year, this program trained enough registered nurses to provide 24-hour coverage for our institution's five facilities.	small sample size	Simulation based training to educate and effectively train SANEs but not technology to actually help bridge the gap in rural areas for provision of sexual assault nurse examiners.	Simulation-based training that incorporates simulated sexual assault victims is an effective model that meets the goals of staffing specially trained sexual	III C

							assault nurse examiners. Studies show that sexual assault examinations completed by SANEs may result in better medical outcomes and higher prosecution rates due to better evidence collection	
Muldoon, Drumm, & Leach, 2018	retrospecti ve study	406 patients were seen by the SAPACP and 202 (77.1%) were eligible for a SAEK.	sexual Assault and Partner Abuse Care Programme (SAPACP) case registry (1 January to 31 December, 2015)	even with access to specialized forensic evidence collection, many sexual assault survivors do not complete a SAEK, and even fewer release the evidence to police for investigation.	Focused on whether sexual assault kits were completed.	only facility offering SAEK collection in Ottawa not in united states does not address staff comfort.	The ED is a common entry point in healthcare system, and this study has highlighted the need to strengthen services and reduce attrition along the health-justice continuum.	III B
Gonnering, 2015	Dissertatio n, qualitative	One midwest rural community, 6 SANEs interviewed	interview	Rural nurses face challenges in keeping skills, knowing more of the community. SANEs are not widely available, particularly in rural areas. This lack of trained examiners employed at local hospitals creates a gap in access to	Small study Only 6 interviews Good suggestions provided	Does talk about staff comfort but this is directed to rural SANEs not rural ed staff receiving consults from SANEs.	rural SANE programs face additional challenges keeping SANEs proficient in their skills because of the low rates of	VB

				proper care, often resulting in long waits as hospitals try to locate an examiner, treatment from untrained staff, or a referral to another hospital.			sexual assault survivors seeking SANE services in rural areas	
(World Health Organization, 2003).	guidelines	personnel caring for SA	Medico-legal guidelines for personnel to follow while caring for patients presenting with sexual assaults.	Among women, prevalence rates for sexual and/or physical violence involving an intimate partner across the lifespan range from 15% to 71% of women. competencies are designed to provide the adult/adolescent SANE with the necessary skills to accurately, objectively, and concisely obtain medicolegal information associated with an adult or adolescent sexual assault.	According to Roy's model, the individual is a "bio-psycho-social being in constant interaction with a changing environment"	Discusses guidelines specific to care for sexual assaults, does not specifically give guidelines for caring for a patient via telehealth.	Identify a standardized, evidence-based body of scientific knowledge necessary for the comprehensive medical-forensic evaluation of the patient who has experienced sexual assault/ abuse	IV A Agree II Score-100%
(Gray, et al., 2015)	Empirical Study; Quantitative Study	21 Participants female reported being either single (n = 7, 33.3%) or married (n = 12, 57.1%). The mean number of videoconferencing sessions received was 12.33 (SD = 11.91)	Victims of sexual assault and domestic violence in rural areas were visited weekly via telemedicine for therapy services. Wyoming Telehealth Trauma Clinic Client Satisfaction Scale, PTSD Checklist, Center for Epidemiological Studies	These findings provide very encouraging, preliminary support for the utility of videoconferencing-based therapy to effectively meet the needs of rural survivors of sexual assault and domestic violence. Treatment effect sizes were very large for both PTSD and depression symptoms. In fact, magnitude of symptom improvement is comparable with previously documented effect sizes emerging in the context of face-to-face therapy clinical trials for	Small sample size demographic data were purposely not gathered for advocates and therapists. lack of a control group five did not receive a full course of treatment	Does not discuss telehealth and care for patients during sexual assault exams. Findings limited to therapy provided after sexual assault or domestic violence as a means of preventing depression and PTSD.	findings provide very encouraging, preliminary support for the utility of videoconferencing-based therapy to effectively meet the needs of rural survivors of sexual assault and domestic violence	IVC

			Depression Scale	best practice PTSD treatments				
Miyamoto, Dharmar, Boyle, Yang, Macleod, Rogers, . . . Marcin. (2014).	retrospecti ve review	183 patients included in the study, 101 (55.2%) children were evaluated at telemedicine hospitals and 82 (44.8%) were evaluated at comparison hospitals. 5 rural hospitals 3 comparison hospitals	Evaluation of state mandatory sexual abuse examination reporting forms of children less than 18 years of age referred for sexual abuse forensic examinations were reviewed at five rural hospitals with access to telemedicine consultations and three comparison hospitals with existing sexual abuse programs without telemedicine. January 1, 2004-December 31, 2009	hospitals with telemedicine had significantly higher quality scores in several domains including the general exam, the genital exam, documentation of examination findings, the overall assessment, and the summed total quality score ($p < 0.05$ for each). Evaluation of the photos/videos and medical records documenting the completeness and accuracy of the examinations demonstrated that hospitals with telemedicine also had significantly higher scores in several domains including photo/video quality, completeness of the examination, and the summed total completeness and accuracy score ($p < 0.05$ for each)	Children not adults	Solely pediatrics, not adult	Rural hospitals using telemedicine for pediatric sexual abuse forensic examination consultations provided significantly higher quality evaluations, more complete examinations, and more accurate diagnoses than similar hospitals conducting examinations without telemedicine support.	IIIB
(Speyer, et al., 2018).	Systematic review and meta-analysis	43 Studies examining telehealth interventions for rural and remote populations were included	this systematic review was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses	Given that people in rural and remote areas have limited or no access to face-to-face interventions, these results support telehealth as an important alternative treatment modality for allied health	Discuss risk of bias Not at applicable to pediatrics vs adult population	Few gaps	Telehealth services may be as effective as face-to-face interventions, which is encouraging given the potential	II B

			(PRISMA) statement and checklist.	and nursing services in rural and remote areas	A majority of studies had strong methodological quality		benefits of telehealth in rural and remote areas with regards to healthcare access and time and cost savings.	
Walsh, W., Meunier-Sham, J., Re, C. (2019)	Case report Pilot study	129 patients and site clinicians received services via telehealth and an additional 86 site clinicians received consultation advice via telehealth	Case reviews of patients who received telehealth consultation for SANE exam	telehealth offers a mechanism for mentoring and training of less experienced forensic examiners as well as providing peer review of SA cases, and support and debriefing These additional support and expertise result in an improved quality of examinations, a sense of teamwork, and a decreased sense of isolation for clinicians	Directly applicable Discusses gaps Discusses impact on site clinicians and comfort	Small population	Affected clinician confidence in providing an effective examination, their ability to provide their patient with the best care, and their sense of feeling supported.	IIIA
Meunier-Sham, J., Preiss, R., Petricone, R. (2019).	Exploratory mixed methods study	215 SA cases reviewed 178 telephone and online surveys with clinicians in 6 rural areas who received telehealth services in 3 years time.	We reviewed information for sexual assault patients who presented at emergency departments and clinicians who received consultation via telehealth	The NTC Professional Practice Model provides a quality-based teleSANE model that may be translatable to other areas of telenursing practice.	Good sample size US based study Specifically addresses sexual assault consultations via telehealth	No gaps.	With 5,273 emergency departments in the United States, but only 902 SANE programs nationwide, access to SANE care is not uniformly available	IIIA

MacLeod, K. J., et al. (2009).	Case control study	Data from 42 live telemedicine consultations were analyzed.	Child abuse experts from a university children's hospital provided 24/7 live telemedicine consultations to clinicians at 2 rural, underserved hospitals.				use of telemedicine to assist in the examination of sexually assaulted children presenting to underserved, rural communities results in significant changes in the methods of examination and evidence collection. It is possible that this model of care results in increased quality of care and appropriate forensic evidence collection.	
Aldossary, S., et al. (2017).	Systamatic review	164 papers were identified, representing 137 telemedicine services. The majority of reported telemedicine services were based in the United States of America	Literature review to evaluate implemented telemedicine services	telemedicine service implementation is still not a part of mainstream clinical services,		The depth and the quality of information were variable across studies, reducing the generalizability	a large number of pilot or project publications and fewer 'service' publications. Of the reviewed studies, almost half (n=81, 49.3%) assessed their services from three different evaluation	IB

							perspectives: clinical outcomes, economics and satisfaction.	
Alexander, R. and K. Farst (2009)	Exploratory mixed methods study	Evaluated 5 statewide and 1 national abuse telehealth outreach program	Study to examine staff fears about implementation of telehealth examinations for pediatric victims of SA	Staff concerns included the need to establish user-friendly technology and foster acceptance of technology fear of technology and concern for effective assistance underuse of telemedicine equipment staff anxiety over physical features of equipment and concern for quality of communication Programs need to have legislative support. Lack of support has caused otherwise promising programs to cease. Grant support may help initiate programs or buy equipment, but telemedicine programs have significant ongoing costs, which require long-term financial assistance	Discusses barriers to telemedicine during sexual assault exams conducted via telemedicine. All US based Telemed programs Focuses on both physical and SA consults in several states		Benefits cited were faster evaluations of the children's condition and better use of limited resources with improved accessibility to medical services Telemedicine is a proven and useful tool in extending child abuse expertise to more remote, often rural, areas.	IIIB
Annan, S. (2014)	Qualitative study	Data were gathered from 29 expert practitioners and included prosecutors, law enforcement, social workers, victim-witness associates and crisis center advocates.		for many practitioners, most of their experience was with children rather than adults rural areas need more help most studies are focused on urban cases of SA			The medico-legal response to a report of sexual assault may leave a significant impact on the victim	IIIB

Hassija, C. and M. J. Gray (2011)	Uncontrolled trial study	Fifteen female victims of assaultive violence	sessions of trauma-focused treatment via videoconferencing-based technology at rural rape and domestic violence crisis centers	Results provide evidence in support of videoconferencing as an effective means to provide psychological services to rural domestic violence and sexual assault populations Suggest barriers to utilizing telehealth and discuss staff comfort with intervention as well.	Discusses videoconferencing to aid in support after sexual assault. Not during sexual assault. Does also focus on rural staff and utilization of telehealth equipment and comfort.	Female only Focuses on victim comfort and outcomes	Results provide evidence in support of videoconferencing as an effective means to provide psychological services to rural domestic violence and sexual assault populations	
Littel, K. (2008)	Retrospective study	From fall 2002 through spring 2005, FRIS (foundation for rape intervention services) studied the feasibility of creating a regional mobile SANE system for its state.	Financial review and feasibility of creating a regional mobile SANE system for its state.	This strategy improved the quality of medical care and forensic examination of sexual assault victims by increasing the number of SANEs available to fill schedules and the opportunities available for them to further build their skills and experience, while decreasing the likelihood of SANE burnout and the cost for the hospitals involved. Where they exist, SANE programs have raised the standard of care for patients presenting as victims of sexual assault and improved the collection of forensic evidence The Regional Mobile SANE Project of West Virginia offers a viable model for developing SANE programs in rural areas where funding is limited and a minimal number of nurses are available	Great highlights of how sane care can impact care and feasibility of programs to help support rural areas.	Focuses on sane and impact they have on victims, does not really discuss staff comfort Mobile sane program is not a telesane program	Participating hospitals face significantly lower costs compared with hospitals that support a stand-alone, 24/7 SANE program. The region's rape crisis centers are better able to provide advocacy to sexual assault victims in hospital emergency departments because of the project's training and coordinating of volunteers. Most important, sexual assault victims in the region receive more	IIA

							competent and timely health care that includes forensic evidence collection.	
Maier, S. (2011)	Qualitive research	40 SANEs interviewed from 4 different states.	45minute phone interviews	explores SANEs' experiences of vicarious trauma and burnout as a result of treating rape victims	Explains SANE, purpose, beginning and helpfulness.	Discusses sane role clearly but does not talk about staff comfort. Does not talk about telehealth.	Due to the negative and inefficient treatment of rape victims by emergency room personnel, the first Sexual Assault Nurse Examiner (SANE) programs began in the late 1970s.	VB
Nguyen, V. (2010).	Improvement project/ thesis Grant proposal and financial evaluation	N/A	N/A	possible benefits of current telemedicine and its pediatric applications in their technical report. Telemedicine offers access to patients with limited geographical access to medical services. The authors pointed out the high cost of transporting individuals to healthcare facilities and how telemedicine could alleviate those costs	Discusses setting up telemedicine outreach for child abuse services.	Does not talk about staff comfort. Child population only no adults. Does not mention SANEs	Telemedicine technology was found to be effective in extending CAST's medical expertise to victims of child sexual abuse (CSA) living in rural areas and medical professionals needing specialized training in CSA evaluations	VB

Raunick, B. C., et al. (2015).	descriptive, correlational study	Four hundred eighty-two people consented to participate in the study. The final sample included 144 (42%) SANEs and 196 (58%) women's health nurses	VT was assessed through an anonymous online survey using the nurses' total scores on the Trauma and Attachment Belief Scale	Working as a SANE is associated with significant changes in cognition related to VT. VT has been associated with significant negative outcomes including depression, anxiety, substance abuse, and burnout.	the use of a convenience sample limits the generalizability of the study. In addition, the proportion of organizational membership response was low. However, the large sample size and the use of a power analysis add strength to the research	Trauma related to SANEs, not discussing comfort in SANE outreach via telemedicine.	working as a SANE appears to be associated with cognitive disruptions as significant as those experienced when one is personally traumatized. Organizations must be aware of this and take measures to prevent vicarious trauma affecting work.	IIIB
Alexander, R. (2017)	Opinion from nationally recognized expert on Prevention of Child Abuse and Neglect, Violence and Abuse.	N/A	n/a	SA cases have been helped greatly by standardization, guidelines developed by national organizations, and lab studies and advancements in technology.	Good summary of how medicine has evolved and current vs old practices Although it does mention that telemedicine helps to document abuse it does not elaborate	Not directly applicable to telemedicine and sexual assault consultations. Solely pediatric, not involving adolescents or adults.	New technologies such as high definition digital photography and telemedicine help to document abuse in a much improved way than existed several decades ago.	VB

Appendix B

Evidence Level and Quality Guide

Evidence Levels	Quality Ratings
Level I Experimental study, randomized controlled trial (RCT) Explanatory mixed method design that includes only a level I quaNtitative study Systematic review of RCTs, with or without meta-analysis	**QuaNtitative Studies** **A High quality**: Consistent, generalizable results; sufficient sample size for the study design; adequate control; definitive conclusions; consistent recommendations based on comprehensive literature review that includes thorough reference to scientific evidence. **B Good quality**: Reasonably consistent results; sufficient sample size for the study design; some control, fairly definitive conclusions; reasonably consistent recommendations based on fairly comprehensive literature review that includes some reference to scientific evidence. **C Low quality or major flaws**: Little evidence with inconsistent results; insufficient sample size for the study design; conclusions cannot be drawn.
Level II Quasi-experimental study Explanatory mixed method design that includes only a level II quaNtitative study Systematic review of a combination of RCTs and quasi-experimental studies, or quasi-experimental studies only, with or without meta-analysis	**QuaLitative Studies** No commonly agreed-on principles exist for judging the quality of quaLitative studies. It is a subjective process based on the extent to which study data contributes to synthesis and how much information is known about the researchers' efforts to meet the appraisal criteria. *For meta-synthesis, there is preliminary agreement that quality assessments of individual studies should be made before synthesis to screen out poor-quality studies*[1]. **A/B High/Good quality** is used for single studies and meta-syntheses[2]. The report discusses efforts to enhance or evaluate the quality of the data and the overall inquiry in sufficient detail; and it describes the specific techniques used to enhance the quality of the inquiry. Evidence of some or all of the following is found in the report: • Transparency: Describes how information was documented to justify decisions, how data were reviewed by others, and how themes and categories were formulated. • Diligence: Reads and rereads data to check interpretations; seeks opportunity to find multiple sources to corroborate evidence. • Verification: The process of checking, confirming, and ensuring methodologic coherence. • Self-reflection and scrutiny: Being continuously aware of how a researcher's experiences, background, or prejudices might shape and bias analysis and interpretations. • Participant-driven inquiry: Participants shape the scope and breadth of questions; analysis and interpretation give voice to those who participated. • Insightful interpretation: Data and knowledge are linked in meaningful ways to relevant literature. **C Low quality** studies contribute little to the overall review of findings and have few, if any, of the features listed for high/good quality.
Level III Nonexperimental study Systematic review of a combination of RCTs, quasi-experimental and nonexperimental studies, or nonexperimental studies only, with or without meta-analysis Exploratory, convergent, or multiphasic mixed methods studies Explanatory mixed method design that includes only a level III quaNtitative study QuaLitative study Meta-synthesis	
Level IV Opinion of respected authorities and/or nationally recognized expert committees or consensus panels based on scientific evidence Includes: • Clinical practice guidelines • Consensus panels/position statements	**A High quality:** Material officially sponsored by a professional, public, or private organization or a government agency; documentation of a systematic literature search strategy; consistent results with sufficient numbers of well-designed studies; criteria-based evaluation of overall scientific strength and quality of included studies and definitive conclusions; national expertise clearly evident; developed or revised within the past five years **B Good quality:** Material officially sponsored by a professional, public, or private organization or a government agency; reasonably thorough and appropriate systematic literature search strategy; reasonably consistent results, sufficient numbers of well-designed studies; evaluation of strengths and limitations of included studies with fairly definitive conclusions; national expertise clearly evident; developed or revised within the past five years **C Low quality or major flaws:** Material not sponsored by an official organization or agency; undefined, poorly defined, or limited literature search strategy; no evaluation of strengths and limitations of included studies, insufficient evidence with inconsistent results, conclusions cannot be drawn; not revised within the past five years
Level V Based on experiential and nonresearch evidence Includes: • Integrative reviews • Literature reviews • Quality improvement, program, or financial evaluation • Case reports • Opinion of nationally recognized expert(s) based on experiential evidence	**Organizational Experience (quality improvement, program or financial evaluation)** **A High quality**: Clear aims and objectives; consistent results across multiple settings; formal quality improvement, financial, or program evaluation methods used; definitive conclusions; consistent recommendations with thorough reference to scientific evidence **B Good quality**: Clear aims and objectives; consistent results in a single setting; formal quality improvement, financial, or program evaluation methods used; reasonably consistent recommendations with some reference to scientific evidence **C Low quality or major flaws**: Unclear or missing aims and objectives; inconsistent results; poorly defined quality improvement, financial, or program evaluation methods; recommendations cannot be made **Integrative Review, Literature Review, Expert Opinion, Case Report, Community Standard, Clinician Experience, Consumer Preference** **A High quality**: Expertise is clearly evident; draws definitive conclusions; provides scientific rationale; thought leader(s) in the field **B Good quality**: Expertise appears to be credible; draws fairly definitive conclusions; provides logical argument for opinions **C Low quality or major flaws**: Expertise is not discernable or is dubious; conclusions cannot be drawn

(Johns Hopkins University, 2017)

Appendix C

Evidence Grade Table

Level of Evidence	**Grade of Evidence**	**Number of Articles**
Level I	Grade A	
	Grade B	1
	Grade C	
Level II	Grade A	1
	Grade B	1
	Grade C	
Level III	Grade A	2
	Grade B	5
	Grade C	1
Level IV	Grade A	2
	Grade B	
	Grade C	1
Level V	Grade A	2
	Grade B	4

(Johns Hopkins University, 2017)

Appendix D

Evaluation of Guidelines with Agree II Tool

	AGREE II Tool Score (1 user)
World Health Organization. (2003). Guidelines for medico-legal care for victims of sexual violence	161-23=138 161-23=138 138/138=100%
Delgadillo, C. (2017). When There Is No Sexual Assault Nurse Examiner: Emergency Nursing Care for Female Adult Sexual Assault Patients	115-23=92 161-23=138 92/138=66%
International Association of Forensic Nurses (2015). Sexual assault nurse examiner (SANE) education guidelines	130-23=107 161-23=138 107/138=77%

AGREE Next Steps Consortium (2017)

Appendix E

AGREE II Instrument Explanation of Grading

II. Structure and Content of the AGREE II

The AGREE II consists of 23 key items organized within 6 domains followed by 2 global rating items ("Overall Assessment"). Each domain captures a unique dimension of guideline quality.

Domain 1. Scope and Purpose is concerned with the overall aim of the guideline, the specific health questions, and the target population (items 1-3).

Domain 2. Stakeholder Involvement focuses on the extent to which the guideline was developed by the appropriate stakeholders and represents the views of its intended users (items 4-6).

Domain 3. Rigour of Development relates to the process used to gather and synthesize the evidence, the methods to formulate the recommendations, and to update them (items 7-14).

Domain 4. Clarity of Presentation deals with the language, structure, and format of the guideline (items 15-17).

Domain 5. Applicability pertains to the likely barriers and facilitators to implementation, strategies to improve uptake, and resource implications of applying the guideline (items 18-21).

Domain 6. Editorial Independence is concerned with the formulation of recommendations not being unduly biased with competing interests (items 22-23).

Overall assessment includes the rating of the overall quality of the guideline and whether the guideline would be recommended for use in practice.

i) Rating Scale

All AGREE II items are rated on the following 7-point scale:

1 Strongly Disagree	2	3	4	5	6	7 Strongly Agree

Score of 1 (*Strongly Disagree*). A score of 1 should be given when there is no information that is relevant to the AGREE II item, if the concept is very poorly reported, or if the authors state explicitly that criteria were not met.

Score of 7 (*Strongly Agree*). A score of 7 should be given if the quality of reporting is exceptional and where the full criteria and considerations articulated in the User's Manual have been met.

Scores between 2 and 6. A score between 2 and 6 is assigned when the reporting of the AGREE II item does not meet the full criteria or considerations. A score is assigned depending on the completeness and quality of reporting. Scores increase as more criteria are met and considerations addressed. The "How to Rate" section for each item includes details about assessment criteria and considerations specific to the item.

ii) User's Manual Description

This section defines the concept underlying the item in broad terms and provides examples.

iii) Where to Look

This section directs the appraiser to where the information in the guideline can usually be found. Included in this section are common terms used to label guideline sections or chapters. *These are suggestions only.* It is the responsibility of the appraiser to review the entire guideline and accompanying material(s) to ensure a fair evaluation.

iv) How to Rate

This section includes details about assessment criteria and considerations specific to each item.

- The *criteria* identify explicit elements that reflect the operational definition of the item. The more criteria that are met, the higher the score the guideline should receive on that item.
- The *considerations* are aimed to help inform the assessment. As in any evaluation, judgments by the appraisers are required. The more the considerations have been taken into account in the guideline, the higher the score the guideline should receive on that item.

It is important to note that guideline ratings require a level of judgment. The criteria and considerations are there to guide, not to replace, these judgments. Thus, none of the AGREE II items provide explicit expectations for each of the 7 points on the scale.

AGREE Next Steps Consortium (2017)

Appendix F

Permissions

JHNEBP MODEL AND TOOLS- PERMISSION

Johns Hopkins Nursing
Center for Evidence-Based Practice

Thank you for your submission. We are happy to give you permission to use the JHNEBP model and tools in adherence of our legal terms noted below:

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AGREE

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Oct 07, 2019

To whom it may concern,

We, the AGREE Enterprise Research Office, give permission to ***Samantha Lorraine Konechne*** to use the AGREE II in her studies, provided that she properly cite the AGREE II in all related documents.

If any clarification of the conditions is needed, please contact the AGREE office at agree@mcmaster.ca.

Sincerely,

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Assessment of Staff Comfort with Sexual Assault Examination after Implementation of TeleSANE Program

BY

Samantha Konechne

A paper submitted in partial fulfillment of the requirements for the degree

Doctor of Nursing Practice

South Dakota State University

2020

Abstract

Background/Purpose: Access to sexual assault nurse examiner (SANE) expertise is affected by budget and staffing constraints in rural areas. In the absence of a SANE, Emergency Department (ED) staff are expected to complete a sexual assault kit (SAK). Many ED practitioners and nurses lack comfort with performing exams.

Methods: Telehealth consultation was provided by a trained SANE to help with sexual assault exam (SAE) guidance to rural nurses and practitioners to increase comfort with SAE. Six sites received outreach during the quality improvement project. On-site education was also provided to rural staff by a trained SANE on SANE role, telehealth equipment, and SAE process.

Results: Data analyzed with a Mann-Whitney-U test revealed an increase in staff comfort after intervention with a *p*-value of .053. This intervention demonstrated clinical significance with anecdotal evidence collected.

Discussion: Telemedicine has proven effective in outreach to rural areas, but more data is needed to solidify the impact of telemedicine on provider comfort while navigating SAEs.

Implications: Though data is small, these results are promising. The TeleSANE program is at the forefront in changing attitudes, policies, and practices, while connecting underserved populations with experts in the field of sexual assault.

Assessment of Staff Comfort with Sexual Assault Examination after Implementation of TeleSANE Program

Many sexual assault (SA) survivors seek care in the emergency department (ED) (Delgadillo, 2017). MacLeod et al. (2009) stated that some of the highest rates of child abuse and neglect occur rurally where geographical barriers reduce access to specialty services such as trained sexual assault nurse examiners (SANEs). SANEs undergo extensive training to assess and document wounds and collect forensic evidence, in a manner that does not retraumatize patients (Meunier-Sham, Preiss, Petricone, Re, & Gillen, 2019). Data supports that sexual assault exams (SAEs) completed by SANEs result in higher prosecution rates and improved medical outcomes (International Association of Forensic Nurses [IAFN], 2015; Littel, 2008; Marks, Kaiser, & McCleery, 2017; World Health Organization [WHO], 2003). The utilization of telehealth can bring experienced SANE trained staff to rural areas where it may be hard to attain specialty services (Annan, 2014; Delgadillo, 2017; Gonnering, 2015; Gray et al., 2015; Muldoon, Drumm, Leach, Heimerl, & Sampsel, 2018).

The components of a SAE include completion of all paperwork in the sexual assault kit (SAK), evidence collection from skin, mouth, and genitals, a pelvic exam, an exam with a colposcope or anoscope, and collection of clothes for evidence. Further important components of the SAE are safety discussions, post-exposure prophylaxis for sexually transmitted infection (STI) or Human Immunodeficiency Virus (HIV) exposure, connecting with victim advocates, local resources, and therapeutic discussions with trauma-informed care. The person completing the SAK must maintain chain of custody

for legality purposes, meaning its contents must never leave their sight until checked into a locked established storage area or turned over to police custody (Delgadillo, 2017).

Significance

Current rural facility protocols state the primary registered nurse (RN) caring for the SA patient is responsible for collaborating with a practitioner to complete a SAK (Delgadillo, 2017). Staff may be inexperienced and uncomfortable with SAK due to the low volumes of SA patients presenting to rural EDs (Petricone, 2019). Unfamiliarity with the kit, evidence handling, and examination techniques can impact patient outcomes (Annan, 2014; Delgadillo, 2017; Gonnering, 2015). Medical diagnoses and injuries could be missed, and legal processing of the kit affected if completed by untrained staff. This current state of practice decreases staff comfort with the completion of SAKs.

Clinical question. To assess the comfort level of practitioners, this project aimed to address the following clinical question: Among rural practitioners and nurses utilizing telehealth in the ED (P), does the utilization of telehealth to consult an experienced SANE from an urban hospital (I) compared to the previous practice of no consult (C) increase rural staff comfort with SAE (O), during a five-month observation period (T)?

Review of Literature. Benefits cited in evidence review included improved use of limited resources, improved accessibility to quality medical services, more complete evaluations of conditions, and improved response times in hospitals caring for SA patients when telemedicine was utilized (Alexander & Farst, 2009; MacLeod et al., 2009; Miyamoto et al., 2014; Meunier-Sham et al., 2019; Nguyen, 2010). With SANE involvement, approaches to SAEs are enhanced and optimal outcomes can be reached for this vulnerable population of patients (Alexander & Farst, 2009; MacLeod et al., 2009;

Marks et al., 2017; Meunier-Sham et al., 2019; Miyamoto et al., 2014; Walsh, Meunier-Sham, & Re, 2019). Staff comfort in kit completion is vital to achieving the best outcomes and can be enhanced with video guidance from an experienced SANE (Meunier-Sham et al., 2019; Walsh et al., 2019).

Gaps. Many studies collected focus on pediatric SAE in rural areas. More evidence is needed on the application of telehealth guidance in adult or adolescent populations presenting with SA concerns. Though of good quality, some research reviewed is older than three years and could be considered dated due to the growth of technology and research. Few studies addressed staff comfort. Further research is needed to understand rural site practitioner and nurse perceptions of comfort with conducting exams.

Recommendations for practice. It is recommended that a trained SANE complete the SAK. Telehealth works to provide a specialized nurse when rural sites are unable to sufficiently staff SANEs. Expert consultation for SA exams can affect the quality of care, collection of evidence, and injury documentation. Consultation via telehealth can provide optimal outcomes for a very vulnerable and underserved population (Alexander & Farst, 2009; MacLeod et al., 2009; Marks et al., 2017; Meunier-Sham et al., 2019; Miyamoto et al., 2014; Walsh et al., 2019).

Methods

Theory and models. Kurt Lewin's Change Theory (Lewin, 1938), Peplau's Theory of Interpersonal Relations (Peplau, 1952) and the Johns Hopkins Nursing Evidence-Based Model (Dang & Dearholt, 2018) served as a framework during this DNP Project.

Sample. The EDs involved in outreach staff a combination of licensed practicing nurses (LPNs), RNs, advanced practice providers (APPs) and medical doctors (MDs), or doctors of osteopathic medicine (DOs) with coverage dependent on the time of day (L. Lindgren, personal communication, September 27th, 2019). Many EDs staff an APP and have an MD or DO on call. Most EDs have two nurses on during the day and night hours and may staff one more RN or LPN during times of high volume (J. Canton, personal communication, October 1st, 2019). The DNP Project utilized a purposive sample of ED staff including RNs and all practitioners serving in the outreach facilities that had the potential to complete a SAE.

Setting. Facilities involved were a mix of rural and critical access hospitals (CAHs). CAHs improve access to healthcare by keeping essential services in rural areas. To meet Medicare criteria the hospitals must have less than 25 inpatient beds, be further than 35 miles away from other hospitals, and provide emergency care 24 hours of the day (Health Resources and Services Administration [HRSA], 2019). Some rural and CAH facilities had ED RNs that were SANE trained, but none had organized SANE programs with coverage 24 hours of the day. Facility policies expected primary RNs to collaborate with practitioners to complete a genital exam and evidence collection for SAK. Upon completion, the kit was stored in a designated and secure place at the facility or turned over to law enforcement to begin legal proceedings.

Staff comfort measurement tool. During the review of literature, there were no clinically validated measurement tools found to help collect qualitative measurements of staff comfort. The DNP Project coordinator developed a questionnaire to focus on staff comfort with SAEs. The questionnaire was reviewed by 14 qualified healthcare

professionals that provided backgrounds rich in emergency medicine, forensic science, psychology, current SANE practice, and experience in staff education. The questions were built with a four-point Likert scale and focused on staff comfort in SAEs, with SAKs, discussing safety plans, medications, and community resources. One yes/no question regarding the previous completion of a SAK, and one additional question measuring years of service in ED was included. The questionnaire was sent through a secure email to all rural practitioners and nurses that had the potential to participate in the intervention. The questionnaire was sent before education and intervention at each site. The questionnaire can be referenced in Appendix E. Stakeholder sign off can be viewed in Appendix F.

Project procedure. The DNP Project Coordinator is a SANE trained nurse with five years of experience at the urban facility responsible for TeleSANE outreach to rural EDs. The DNP Project Coordinator sought out stakeholders and key staff to help with continued sustenance of the DNP Project. Each stakeholder was chosen to help increase driving factors that changed the status quo with guidance from Lewin's Change Theory.

A proposal was provided at the facility monthly nursing research council to gain facility support before the DNP Project proposal. After the DNP Project proposal, submission of the proposal to the South Dakota State University (SDSU) Institutional Review Board (IRB) was completed, an exemption was granted as the project was not human subject research. Approvals from SDSU and the facility can be viewed in Appendices A, B and C. After facility IRB approval, pre-intervention questionnaires were sent to six facilities that had contracted for TeleSANE outreach. The intervention was then provided, and post-intervention questionnaires collected after a given time frame.

Education tools. The urban facility SANE Coordinator and/or the DNP Project Coordinator provided on-site training at each rural ED. Education was provided to a total of six sites. All pilot sites received approximately a two-hour training in the SANE consult role, trauma-informed care, basics of forensic evidence collection, and equipment used during TeleSANE consults. The education took place before the facilities go-live date. Most education to outlying facilities came from existing SANE program protocols. Educational tools can be viewed in Appendix G. Additional monthly meetings contained e-services staff, a SANE, the SANE Coordinator, the DNP Project Coordinator, and rural staff at the outlying facility of interest. During these meetings methods, barriers, roles, and site needs were discussed at length.

There were approximately 71 staff members that attended the go-live educations at the six rural sites. A total of 36 participants completed the pre-questionnaire. Twenty individuals completed the post-survey. Twenty-two participants (61%) in the pre-questionnaire group had previously completed a SAK compared to 15 people (76%) in the post-questionnaire group. Fifteen participants (41%) of the nurses and practitioners had served (0-5) years in the ED compared to eight (40%) in the post questionnaire group. Two individuals (5%) reported working in the ED for (5-10) years in the pre-group versus 6 individuals or (30%) in the post-questionnaire group. A total of 12 individuals (36%) of staff had longer than ten years in the ED in the pre-group compared to a similar average of 30% percent in the post-group amongst six individuals. Demographics regarding staff gender and race were not collected. The number of providers versus nurses responding to questionnaires was not discerned to help maintain anonymity in responses and ease for distribution of questionnaires.

Intervention. Telehealth outreach was utilized for synchronous TeleSANE outreach to six rural or CAH EDs lacking a SANE program. The service was available 24-hours a day, seven days a week for practitioners and nurses conducting SA forensic medical examinations. When a patient presented at one of the locations, a site staff member called the telehealth service; this prompted a page to the on-call SANE from the urban hospital. Before telehealth consultation, phone outreach was completed to establish rapport, understand the nature of the call, assess practitioner or nurse experience with SAEs and SAKs, and assess perceived expectations from the SANE.

The on-call SANE connected through two-way live feeds on audiovisual equipment to provide consultations. The live consult provided real-time guidance from a trained examiner as the rural practitioner and nurses conducted the SAE. The SANE served as consult only. Charting of exams or findings was left to rural ED staff. Prophylaxis for pregnancy and STIs or HIV were discussed along with the provision of psychosocial support and resources to victims. Video and audio connections were secured and encrypted for confidentiality (L. Lindgren, personal communication, August 26th, 2019). A follow-up phone call by the SANE immediately after TeleSANE support allowed staff to debrief after the encounter. Post-intervention questionnaires were provided four months after initiation to the initial four sites, and one month after initiation in the last two sites due to time constraints and barriers discussed below. The goals were to compare questions item-by-item and the overall result of the survey.

Ethical considerations. With telecommunications, there are legitimate concerns regarding privacy. Patients do not know who will be responding and who will be sharing very personal information. The information on multiple devices may increase the risk of a

breach of security. It is always important to consider private and protected health information and how a SANE can be present on camera without compromising patient respect, dignity, or information. SANEs conducted consults in a private suite. This maintained confidentiality and helped respect privacy. Communication was also able to be carried out via phone for ease of nurse to nurse report without making the victim feel uncomfortable (J. Canton, personal communication, June 9, 2019).

Results

At the end of allotted data collection time for the DNP Project, telehealth outreach had been extended to six communities. A total of four TeleSANE consults took place in four months' time. Thirty-six pre-implementation questionnaires were received from the sites involved. A total of 25 post-surveys were collected from staff involved in the six go-live facilities.

Statistical testing. Data collected from the questions formulated with a Likert Scale were interpreted with a Mann-Whitney-U test. Statistical significance was set at 0.05. Comfort with completion of a SAK kit had a *p*-value of 0.719. The comfort level in caring for patients with complaints of SA had a *p*-value of 0.535. The ability to consult a trained SANE increasing comfort with SAE had the lowest and arguably most sizable difference pre-and post-intervention with a *p*-value of 0.053. Comfort discussing safety plans had a *p*-value of 0.984. A calculated *p*-value of 0.516 was found looking at comfort discussing post-exposure prophylaxis. Lastly, a *p*-value of 0.729 was calculated from pre-and post-intervention analysis assessing comfort with community resources.

Slight comfort was the highest average frequency chosen regarding comfort with SAK kit between the two groups. Slight comfort was the most frequent answer in pre-and post-questionnaires in the assessment of comfort level in caring for patients with complaints of SA. Forty-one percent (15) reported high comfort in the pre-questionnaire feedback on whether the ability to consult a trained SANE increased comfort with completion of a SAE compared to 16 (64%) stating high comfort in the post-questionnaire. High comfort was reported in 31 (51%) of the total frequencies reported from pre-and post-questionnaires. Looking at comfort with post-exposure medication prophylaxis, the highest total frequency reported was moderate comfort. No comfort with resource allocation was reported by three (8%) of the pre-questionnaire group, and this decreased to one (4%) in the post-questionnaire assessments. Statistical calculations, frequencies, keys, and demographic breakdowns can be found in Appendix D.

Anecdotal evidence. SANEs were requested to respond to the DNP Project Coordinator with any direct quotes about staff comfort with SAE and SAK completion during the post-encounter debriefing and additionally on the post-survey. Staff buy-in and perceived benefits were conveyed with quotes such as “The ability to use TeleSANE greatly decreases anxiety over performing this. The fear of doing something that will legally impact a case is decreased with the idea of having someone on camera assisting.” “This [intervention] will really help guide me in finding resources for the patient and explaining appropriate post-exposure prophylaxis.” Further remarks can be reviewed in Appendix H.

Discussion

One could infer that there was a significant change in comfort from pre-test and post-test values with the question "The ability to consult a trained SANE would increase my comfort in performing a sexual assault evidentiary exam." The *p*-value was calculated at 0.053. With a low sample size, greater changes must happen to demonstrate statistical significance. Although statistical significance was not met, it can still be deduced with anecdotal evidence that comfort did improve. With an increase in staff comfort, it is more likely that rural sites will utilize this intervention and complete more exams.

Clinical significance. The TeleSANE program will continue to play a great role in overseeing services delivered. Positive support from healthcare professionals is linked to greater perceived recovery and feelings of control (Delgadillo, 2017). This intervention has the continued potential to positively influence medical, psychological, and legal outcomes for patients, while also increasing staff comfort (Delgadillo, 2017; Gonnering, 2015; Hassija & Gray, 2011; Littel, 2008; MacLeod, et al., 2009; Meunier-Sham et al., 2019; Muldoon, et al., 2018; Nguyen, 2010; Walsh et al., 2019; WHO, 2003). Comfort was important to assess because TeleSANE programs are unsustainable without acceptance (Walsh et al., 2019).

Barriers. Staff buy-in was very important in this intervention and most staff verbalized comfort with equipment and telecommunications. Patient comfort in utilizing video technology during the SAE was also anticipated as a barrier, but all patients consented to the video consult with a SANE. Anticipated barriers to success were physical space limitations, equipment difficulties, and an insufficient number of cases.

There were no problems with physical space limitations at receiving sites. Initially perceived as an anticipated barrier, 24-hour coverage was not hard to obtain, and all four SANE consults requested via telehealth were completed.

The announcement of the provision of two Department of Justice (DOJ) grants totaling 4.5 million dollars was announced on September 30th, 2019. With the funds, TeleSANE is expected to provide outreach to 50 additional sites in surrounding upper Midwest states within a three-year time frame (J. Canton, personal communication, October 1, 2019). Ensuring appropriate processes were followed to parallel grant objectives was not initially discussed as a barrier. Awaiting funds turned out to be a large barrier to extending outreach and standardized equipment promptly to rural sites. Four sites that had invested before the grant award continued with the development and go-live dates quickly, but further sites, relying on grant money for the initiation, were delayed. This provided a barrier for the DNP Project Coordinator to provide site education. Due to reliance on grant money, the sites were unable to implement call services via telehealth before February. This caused a shorter period between provision of pre- and post-questionnaires in the last two sites evaluated and could have negatively impacted results.

Implications for Practice

Because telehealth methods in SAEs was a newer concept, this intervention helped both urban and rural facilities focus on multiple policies, including health insurance portability and accountability act (HIPPA), security and quality of calls, delivery of support, training opportunities, and professional interactions. The urban facility created and shared six new policies for the outlying facilities to adopt. These

shared policies helped take a uniform approach to the care of this vulnerable population (J. Canton, personal communications, March 9, 2020).

Through this intervention, each CAH or rural ED was staffed with supplies they could otherwise not budget for including a mobile camera cart for video consultation, a colposcope, and examination supplies. Federal grants have placed a financially secure foundation for this intervention to continue well after its funds have been exhausted. The exploration of staff comfort elicited many positive staff responses. The impact on the quality of care for patients has been acknowledged by many staff members including the SANEs, the telehealth staff, and the facilities receiving outreach via TeleSANE. The quality improvement project in its process has helped gather positive feedback which acts as a driving force in the continuation of this intervention.

Finances and Sustainability. The DOJ grants will increase specialized outreach to rural areas and may have a significant and measurable impact on health, education, and quality of life for those utilizing TeleSANE services. Sustenance of this project is largely due to the SANE trained nurses who are taking a minimum of 48 hours of paid call time above and beyond their required nursing shifts. It is important to be aware of the vicarious trauma that nurses and practitioners experience in the SANE specialty, and resources placed to help prevent burnout (Gonnering, 2015; Raunick, Lindell, Morris, & Backman, 2015). Ensuring adequate staffing and adequate reimbursement for services will help with SANE retention and prevent burnout (J. Canton, personal communication, June 9th, 2019).

The DNP Project Coordinator is part of a committee formed to discuss tasks impacting site implementation. These meetings discuss assessment of rural site needs,

security, requirements necessary for meeting grant expectations, protocol creation, and recommendations for adaptation of some facility educational forms. A second multidisciplinary group has been created to constantly evaluate the TeleSANE program. This group contains SANEs, law enforcement, medical personnel, and a prior victim of SA.

Limitations. The effectiveness of consults impacting staff comfort is difficult to definitively answer with the input received. Evidence collected during this quality improvement project is very reassuring that comfort is impacted positively by this intervention. More evidence is needed in terms of comfort, reviewing sustainability, and investigating barriers. Other limitations include small sample size, though numbers may drastically increase in the coming months.

There is a potential for confirmation bias without construct validity in the questionnaire, though it does maintain face validity. Questions built with Likert scales and the collection of ordinal data may be less statistically powerful than other forms of measurement. The power of the results is decreased due to smaller sample sizes. Though statistical power was just over 0.05 at a *p*-value of 0.053, there is no question about the clinical impact this intervention provided to the rural and underserved EDs and the patients that presented seeking help after SA.

Recommendations for further study. It is recommended to analyze providers and nurses independently of each other. Longer collection periods could offer greater returns on questionnaires, more anecdotal evidence, and more significant data conclusions. Due to time constraints data was collected earlier than what could be considered ideal. Collection of post-questionnaires at least four months after

implementation could offer better input. Future studies could also explore patient comfort with telehealth interventions. Further interventions could explore rural site clinician comfort with specific parts of evidence collection during SAE as well.

Conclusion

This telehealth center for SA exams will aim to continually expand access and connect underserved populations with a trained SANE. Utilization of SANEs via telehealth technology is one small step to transform care for this vulnerable population. It is the goal to continue to serve more rural and frontier populations as success is perceived and education provided within and beyond state lines to educate facilities on the importance of access to experts in the field of sexual assault exams.

References

Alexander, R., & Farst, K. (2009). Telemedicine and child abuse examinations. *Pediatric Annals, 38*(10): 574-578.

Annan, S. (2014). 'We desperately need some help here': The experience of legal experts with sexual assault and evidence collection in rural communities. *Rural and Remote Health. 14*(4), 2659.

Dang, D., & Dearholt, S. (2018). The Johns Hopkins nursing evidence-based practice model and process overview. In S. Dearholt & S. Allan (Eds.), *Johns Hopkins evidence-based practice model and guidelines* (3rd ed., 35-59). Indianapolis, IN: Sigma Theta Tau International.

Delgadillo, C. (2017). When there is no sexual assault nurse examiner: Emergency nursing care for female adult sexual assault patients. *Journal of Emergency Nursing, 43*(4), 308-315. doi:10.1016/j.jen.2016.11.006

Gonnering, R. (2015). A compromise to help the community: Rural sexual assault nurse examiner experiences. (Master's dissertation, Minnesota State University, Mankato, United States.) ProQuest Dissertations Publishing. Retrieved from https://sdstate-primo.hosted.exlibrisgroup.com/permalink/f/r5hs7o/TN_proquest1682499887

Gray, M., Hassija, C., Jaconis, M., Barrett, C., Zheng, P., Steinmetz, S., . . . Roberts, M. (2015). Provision of evidence-based therapies to rural survivors of domestic violence and sexual assault via telehealth: Treatment outcomes and clinical training benefits. *Training and Education in Professional Psychology, 9*(3), 235-241. Retrieved from: http://dx.doi.org/10.1037/tep0000083

Hassija, C., & Gray, M. (2011). The effectiveness and feasibility of videoconferencing technology to provide evidence-based treatment to rural domestic violence and sexual assault populations. *Telemedicine Journal of Emergency Health, 17*(4), 309-315.

Health Resources and Services Administration [HRSA]. (2019). Rural health information hub. Retrieved July 6, 2019 from https://www.ruralhealthinfo.org/states/south-dakota

International Association of Forensic Nurses [IAFN]. (2015). Sexual assault nurse examiner education guidelines. Retrieved May 22, 2015 from http://c.ymcdn.com/sites/www.forensicnurses.org/resource/resmgr/2015_SANE_ED_GUIDELINES.pdf

Lewin, K. (1938). *The conceptual representation and the measurement of psychological forces.* New York, NY: Duke University Press.

Littel, K. (2008). Implementing SANE programs in rural communities the West Virginia regional mobile SANE project. Retrieved from https://www.ovc.gov/publications/infores/WVA_Mobile_SANE_guide/pfv.html

MacLeod, K., Marcin, J., Boyle, C., Miyamoto, S., Dimand, R., & Rogers, K. (2009). Using telemedicine to improve the care delivered to sexually abused children in rural, underserved hospitals. *Journal of Pediatrics 123*(1), 223-228.

Marks, S., Kaiser, L., & McCleery, M. (2017). A novel approach to sexual assault nurse examiner training: A pilot program. *Clinical Simulation in Nursing*, *13*(12), 595-600. Retrieved from https://doi.org/10.1016/j.ecns.2017.07.002

Meunier-Sham, J., Preiss, R., Petricone, R., Re, C., & Gillen, L. (2019). Laying the foundation for the national telenursing center: Integration of the quality-caring model into telesane practice. *Journal of Forensic Nursing, 15*(3), 143-151.

Miyamoto, S., Dharmar, M., Boyle, C., Yang, N., Macleod, K., Rogers, K., Nesbitt, T., & Marcin. J. (2014). Impact of telemedicine on the quality of forensic sexual abuse examinations in rural communities. *Child Abuse & Neglect, 38*(9), 1533-1539. doi:10.1016/j.chiabu.2014.04.015

Muldoon, K. A., Drumm, A., Leach, T., Heimerl, M., & Sampsel, K. (2018). Achieving just outcomes: Forensic evidence collection in emergency department sexual assault cases. *Emergency Medicine Journal*, *35*(12), 746-752. doi:10.1136/emermed-2018-207485

Munro, B. (2005). *Statistical methods for health care research*. (5th ed.) Philadelphia, PA. Lippincott Williams & Wilkins.

Nguyen, V. (2010). Using telemedicine technology to increase child sexual abuse expertise among medical professionals: A grant proposal. (Master's thesis, California State University, Long Beach, United States. ProQuest Dissertations Publishing. Retrieved from https://search.proquest.com/docview/757011691/?pq-origsite=primo

Peplau, H. (1952). *Interpersonal relations in nursing.* New York, NY: G. P. Putnam's Sons.

Petricone, R. (2019). Sexual assault nurse exams through the national telenursing center. Retrieved from https://www.ruralhealthinfo.org/project-examples/889

Raunick, C., Lindell, D., Morris, D., & Backman, T. (2015). Vicarious trauma among sexual assault nurse examiners. *Journal of Forensic Nursing*, *11*(3), 123-128. doi:10.1097./JFN.0000000000000085

Walsh, W., Meunier-Sham, J., & Re, C. (2019). Using telehealth for sexual assault forensic examinations: A process evaluation of a national pilot project. *Journal of Forensic Nursing*, *15*(3), 152-162.

World Health Organization [WHO]. (2003). Guidelines for medico-legal care for victims of sexual violence. Retrieved May 22, 2019 from http://apps.who.int.excelsior.sdstate.edu/iris/bitstream/10665/42788/1/924154628X.pdf

Appendix A

University IRB Approval

Your study/research/project *IS NOT* Human Subjects Research. No application to the IRB is required.

Questions?
Contact us at:
sdsu.irb@sdstate.edu
https://www.sdstate.edu/research-and-economic-development/research-compliance-human-subjects

Appendix B

Facility Approval

October 3, 2019

This letter is in support of Samantha Konechne's DNP Project Utilization of TeleSANE Program to Enhance Resources for Victims of Sexual Assault in Rural Emergency Departments at Avera eCARE. This project will analyze among rural practitioners and nurses utilizing telehealth in the ED, does utilization of telehealth to consult an experienced sexual assault nurse examiner from an urban hospital compared to previous practice of no consult increase comfort with sexual assault exam, during a five-month observation period?

Samantha has been instrumental in the development and growth of the bedside SANE program and brings a fresh perspective to the Tele SANE program. We are honored to have her expertise and research focus.

We look forward to the results of the project.

Lisa Lindgren

Lisa Lindgren, CNO Avera eCARE

Appendix C

Facility IRB Approval

Institutional Review Board
Federalwide Assurance #: FWA 00000426
1325 S. Cliff Ave.
Sioux Falls, SD 57117
(605) 322-4706
www.avera.org

Friday, November 8, 2019

HHS Registration #: ☐Avera Central Services #3 / IRB00010096
☒Avera McKennan Hosp IRB #1 – DBA Avera IRB #1 / IRB00001096

Protocol Title: **Utilization of TeleSANE Program to Enhance Resources for Victims of Sexual Assault in Rural Emergency Departments**

IRB Protocol #/ Reference #:	2019.055 / 100729	**IRB Submission:**	Original Review
IRB Determination:	Quality Improvement Project	**IRB Action Date:**	11/8/19

Dear Samantha Konechne:

Thank you for your submission. I am pleased to inform you the Avera Institutional Review Board (IRB) has reviewed the above-referenced protocol and has made the determination this project is not human subjects research, but instead is a Quality Improvement Project. This project does not meet the definition of human subject research as per 45 CFR 46.102 and 45 CFR 164.501, and therefore falls outside the requirement of IRB review.

We wish you great success in this project. Please contact the Avera Institutional Review Board directly at 605-322-4706 if you have any questions. Thank you.

Regards,

Tammy Hein
IRB Manager

Appendix D
Statistical Calculations

Questions 3-9 with reported frequencies

C1 * Group Crosstabulation

			Group		
			Post	Pre	Total
C1	No confidence	Count	4	9	13
		% within Group	16.0%	25.0%	21.3%
	Slight confidence	Count	12	14	26
		% within Group	48.0%	38.9%	42.6%
	Moderate confidence	Count	7	10	17
		% within Group	28.0%	27.8%	27.9%
	High confidence	Count	2	3	5
		% within Group	8.0%	8.3%	8.2%
Total		Count	25	36	61
		% within Group	100.0%	100.0%	100.0%

C2 * Group Crosstabulation

			Group		
			Post	Pre	Total
C2	No confidence	Count	6	5	11
		% within Group	24.0%	13.9%	18.0%
	Slight confidence	Count	9	16	25
		% within Group	36.0%	44.4%	41.0%
	Moderate confidence	Count	8	10	18
		% within Group	32.0%	27.8%	29.5%
	High confidence	Count	2	5	7
		% within Group	8.0%	13.9%	11.5%
Total		Count	25	36	61
		% within Group	100.0%	100.0%	100.0%

C4 * Group Crosstabulation

			Group		
			Post	Pre	Total
C4	No confidence	Count	0	1	1
		% within Group	0.0%	2.8%	1.6%
	Slight confidence	Count	0	6	6
		% within Group	0.0%	16.7%	9.8%
	Moderate confidence	Count	9	14	23
		% within Group	36.0%	38.9%	37.7%
	High confidence	Count	16	15	31
		% within Group	64.0%	41.7%	50.8%
Total		Count	25	36	61
		% within Group	100.0%	100.0%	100.0%

C5 * Group Crosstabulation

			Group		
			Post	Pre	Total
C5	No confidence	Count	2	1	3
		% within Group	8.0%	2.8%	4.9%
	Slight confidence	Count	7	12	19
		% within Group	28.0%	33.3%	31.1%
	Moderate confidence	Count	12	18	30
		% within Group	48.0%	50.0%	49.2%
	High confidence	Count	4	5	9
		% within Group	16.0%	13.9%	14.8%
Total		Count	25	36	61
		% within Group	100.0%	100.0%	100.0%

C6 * Group Crosstabulation

			Group		
			Post	Pre	Total
C6	No confidence	Count	1	4	5
		% within Group	4.0%	11.1%	8.2%
	Slight confidence	Count	13	11	24
		% within Group	52.0%	30.6%	39.3%
	Moderate confidence	Count	9	17	26
		% within Group	36.0%	47.2%	42.6%
	High confidence	Count	2	4	6
		% within Group	8.0%	11.1%	9.8%
Total		Count	25	36	61
		% within Group	100.0%	100.0%	100.0%

C7 * Group Crosstabulation

			Group		
			Post	Pre	Total
C7	No confidence	Count	1	3	4
		% within Group	4.0%	8.3%	6.6%
	Slight confidence	Count	9	12	21
		% within Group	36.0%	33.3%	34.4%
	Moderate confidence	Count	12	18	30
		% within Group	48.0%	50.0%	49.2%
	High confidence	Count	3	3	6
		% within Group	12.0%	8.3%	9.8%
Total		Count	25	36	61
		% within Group	100.0%	100.0%	100.0%

Question correlation with group cross-tabulations

Question 3	**Correlates to frequency in C1**
Question 4	**Correlates to frequency in C2**
Question 6	**Correlates to frequency in C4**
Question 7	**Correlates to frequency in C5**
Question 8	**Correlates to frequency in C6**
Question 9	**Correlates to frequency in C7**

Demographics in consideration to years in emergency department

Average years worked in the ED	**Percentage of staff PRE (5 unanswered)**	**Percentage of staff POST**
0-5 years	**41%**	**40%**
5-10 years	**5%**	**32%**
>10 years	**36%**	**28%**

Reported completion of SA kit

Previous completion of Sexual assault Kit?	**Percentage of staff PRE**	**Percentage of staff POST**
YES	**61%**	**76%**
NO	**49%**	**24%**

Statistical Calculations

Calculated Z-scores and *P*-values

Items (score range 0–4)	Z-score	P-Value
Comfort level with completing a Sexual Assault Kit	-0.359	.719
Comfort level in caring for patients with complaints of sexual assault	0.623	.535
The ability to consult with a trained SANE nurse increased my confidence performing a sexual assault evidentiary exam	-1.928	**.053**
Comfort discussing safety plans with victims of sexual assault	0.022	.984
Comfort discussing post-exposure prophylaxis with victims of sexual assault	0.653	.516
Increased resources for victims of sexual assault	-0.345	.729

Appendix E
Rural site practitioner questionnaire

e-SANE consult via telehealth

1. How many years of experience have you had in the ED?

   Less than 1 year 1-5 years 5-10 years 10 years or greater

2. Have you ever completed a sexual assault kit for a patient with concerns of sexual assault?

   Yes no

3. What is your comfort level with completing a Sexual Assault Kit?

   0=no comfort 1=slight comfort 2= moderate comfort 3=high comfort

4. What is your comfort level in caring for patients with complaints of sexual assault?

   0=no comfort 1=slight comfort 2= moderate comfort 3=high comfort

5. Describe your comfort level with forensic evidence collection?

   0=no comfort 1=slight comfort 2= moderate comfort 3=high comfort

6. The ability to consult a trained SANE nurse would increase my comfort in performing a sexual assault evidentiary exam.

   0=no comfort 1=slight comfort 2= moderate comfort 3=high comfort

7. I feel comfortable discussing safety plans with victims of sexual assault.

   0=no comfort 1=slight comfort 2= moderate comfort 3=high comfort

8. I feel comfortable discussing post-exposure prophylaxis (i.e. medications for the prevention of sexually transmitted infections, HIV prevention, and pregnancy prevention) with victims of sexual assault

   0=no comfort 1=slight comfort 2= moderate comfort 3=high comfort

9. I understand what resources my community has to offer victims of sexual assault

   0=no comfort 1=slight comfort 2= moderate comfort 3=high comfort

10. Is there anything in specific you would like to comment about regarding your comfort with sexual assault exams, the population, medication, advocacy, or resources since learning about the go live education and the ability to consult a trained SANE nurse via telehealth?

Appendix F

Questionnaire Review Form and Stakeholder Sign Off

DocuSigned by:
Amy Clay BSN, RN

DocuSigned by:
Amy Stainbrook, BSN, RN, sane staff

DocuSigned by:
Becky Vandekieft

DocuSigned by:
Brian Stow, MD Avera eCARE Medical Director

DocuSigned by:
Cindy Pirrung, BSN-RN, CEN, CPEN Avera eCare Clinical Nurse Educator

DocuSigned by:
Jen Canton, MSN, RN, SANE, SANE-P, SANE coordinator

DocuSigned by:
Josephine Peters BSN, RN, SANE

DocuSigned by:
Leslie Wilson, DNP, sane staff

DocuSigned by:
Lisa Lindgren, RN, Vice President of Clinical Operations Avera eCARE

DocuSigned by:
Kayla Mast, Manager, eCare Quality & Training

DocuSigned by:
Nicole Boress, MD Emergency Medicine

DocuSigned by:
Robin Arends DNP, CNP, Avera eCare

DocuSigned by:

Appendix G
Education Tools for Outlying Facilities

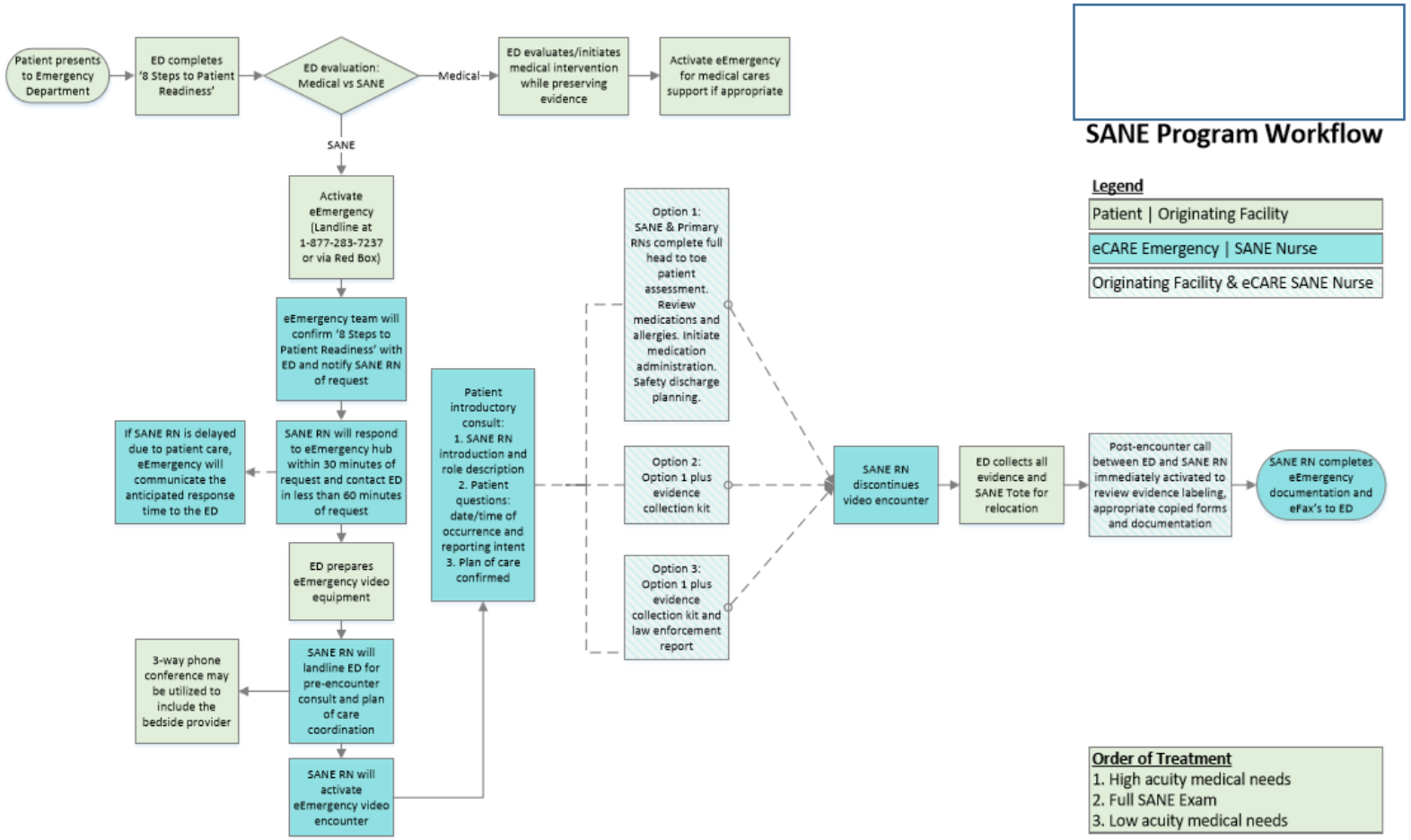
Training Agenda

*eCARE Emergency **SANE***

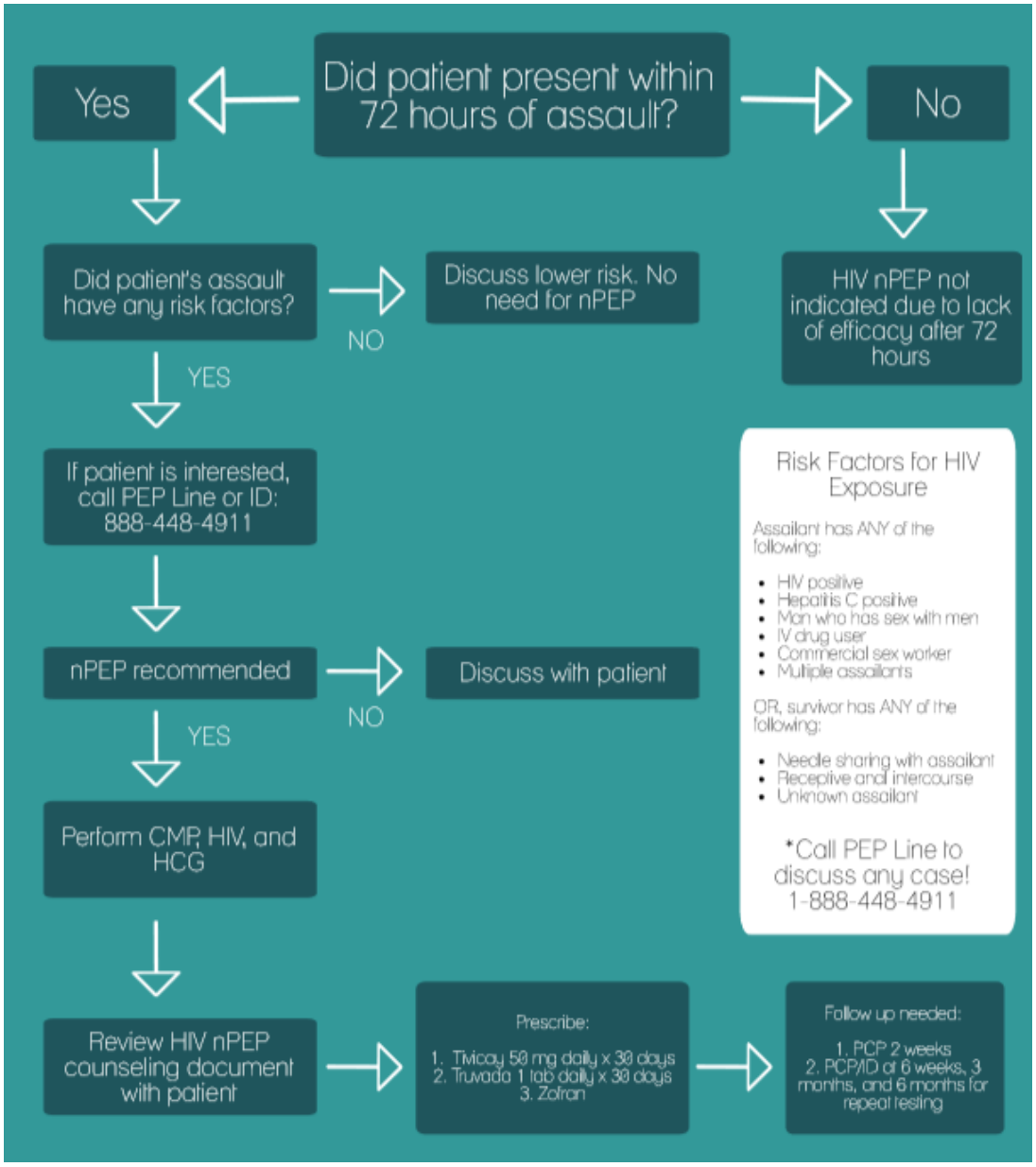
- ☐ What is Avera *e*CARE SANE?
  - Scope of Service
- ☐ Change Management
- ☐ Bedside Nurse Role & Responsibilities
  - 8 Steps to Patient Readiness
  - Chain of Custody
  - Documentation
  - Evidence Collection
- ☐ Bedside Provider Role & Responsibilities
  - Medical Clearance
  - Documentation
  - Pelvic and/or Rectal Exam
- ☐ SANE Workflow
- ☐ Site Template
- ☐ Interpreter Services
- ☐ Debriefing
- ☐ Utilization Policy
- ☐ eEducation

TELESANE PROGRAM FOR VICTIMS OF SEXUAL ASSAULT

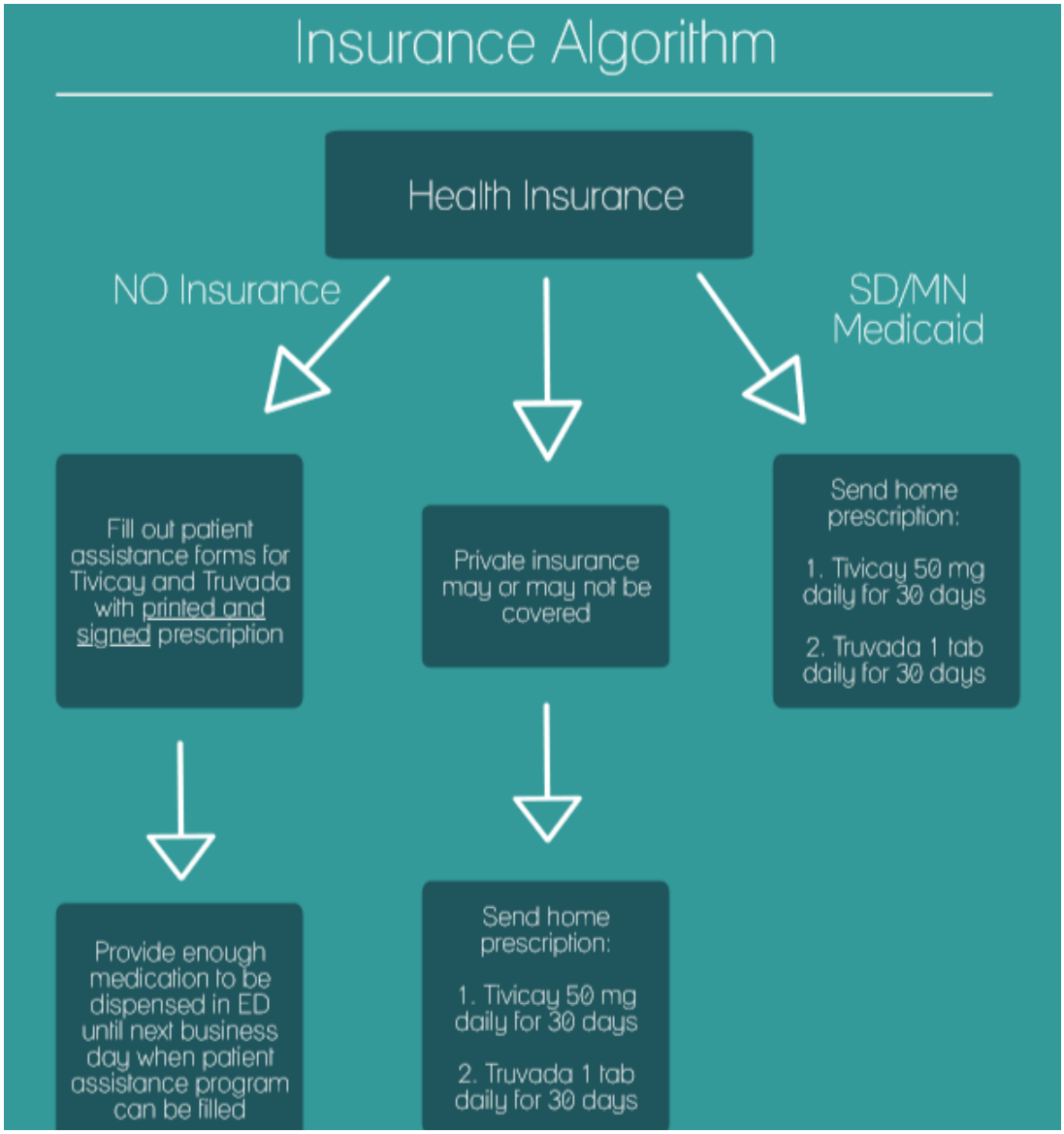
Workflow for presentation of sexual assault



HIV algorithm education



HIV Insurance Algorithm for education



Sexually Transmitted Infection Education

STI Prevention Medications for Sexual Assault:

- 250mg *IM* –**Rocephin** (Gonorrhea)

**If patient is allergic to *Rocephin*: 1 gram of Azithromycin (in addition to the already given dose for Chlamydia) PO is given with 240mg IM Gentamicin instead.

- 1gram *PO* -**Azithromycin** (Chlamydia)

** If patient is allergic to *Azithromycin*: Doxycycline 100mg PO BID x7days is prescribed.

- 2 grams *PO* –**Flagyl** (Trichomoniasis/Bacterial vaginosis)

*Do not give in ED if patient has ingested alcohol in the last 24 hrs- (May provide script or dose of medication to take 24hrs after ingestion of alcohol)

**If patient is allergic to *Flagyl*: no alternative available

- 2.4 million units *IM* - **Bicillin-LA-** (Syphilis) (if indicated for your specific area)

**If patient is allergic to Penicillin or Bicillin: 100mg Doxycycline BID for 14 days PO is given instead

Pregnancy Prevention Medication for Sexual Assault

- 1 tablet PO -Plan B (1.5mg levonorgestrel)
  **Give within 72 hours of sexual assault

**Zofran 4mg PO or IV for nausea related to STI/Preg. Medications

*Verify patient allergies and current medications; consult ED pharmacist/provider if allergic to recommended medications.
*Offer snack/beverage, and nausea medications as needed.

(Updated 3/28/19)

Digital Photography Policy Education

Policy Number: 8721.22

Purpose:

To direct the Sexual Assault Nurse Examiners (SANEs) in the use of digital photography for documenting photographic forensic evidence, and to record and preserve, maintain integrity and proper storage of the photographic documentation.

Procedure:

1. Consent from the patient must be obtained prior to photography. Photos may be used for medical, forensic/investigative/legal, and/or peer review purposes.
    a. Patient may refuse to have specific pictures taken of their body during exam.
    b. Please refer to child abuse policies for situations involving minors.
2. Photos will be taken by a trained SANE who is competent in forensic photography as defined by SANE guidelines.
    a. One digital view should include the patient's face for identification purposes.
    b. When possible a full body picture should be taken.
    c. Utilize a standardized measurement instrument in one of the pictures to indicate the size of injuries.
    d. Pictures should be taken from close, mid and long range distances as determined by the SANE.
3. The first and last picture taken during an examination will contain a facility patient label.
4. Each photo taken will contain the patient's account number, if possible.
5. Each sexual assault kit contains body diagram forms where injuries are documented with details. Each injury should have a corresponding photo series (if patient allows).
6. A photo log will be used to catalog the list of pictures taken. A copy of the photo log will become a part of the patient's medical record.
7. Photos will be uploaded directly to Meditech. Photographs may be stored in Meditech in one of two ways:
    a. Confidential Photos will be stored in an HIM-only file. There will be a form scanned into Meditech regarding the photos that are available for Risk/Legal purposes and how to obtain a copy, if needed.
    b. Photos used for patient care will be stored in Meditech with access available for patient care.
8. Storage, disclosure and retention of photographs will be done by standard HIM policies.
9. Process for release of images from medical records:
    a. Investigator/law enforcement or attorneys will need to contact Avera HIM with a valid subpoena or court order for release **or** a signed authorization from the patient.
    b. If possible, an attempt to notify the patient of disclosure of confidential photos will be made by a SANE nurse.

Patient Readiness Education for Rural Sites

SANE Program
877.283.7237

8 Steps to Patient Readiness:

1. Immediately room patient, bypassing waiting room
2. Patient required to refrain from bathroom use (voiding, handwashing, showering, etc.)
    a. If patient cannot wait to void, instruct to not wipe (before or after) and to not wash hands
        i. Collect dirty urine, air dry, specimen must remain in patient room at all times
    b. Provider order of clean catch urine specimen for analysis would be completed after the SANE exam
3. Patient required to refrain from beverage consumption
4. Law Enforcement notification will be initiated after Avera eCARE SANE nurse involvement
    a. If LE arrives with patient or has been notified prior to patient presentation to the ED, bedside staff should not be present during LE interview
5. Assessment and documentation: Medical and/or SANE
    a. Leave in street clothes
    b. Obtain vital signs
    c. Perform basic nursing assessment
    d. Initiate emergent medical needs while awaiting SANE nurse arrival
    e. Medical record documentation will not include details of the sexual assault
6. Request Avera eCARE SANE activation via land line phone call **877.283.7237**
7. Provide patient education:
    a. Partner with eCARE SANE nurse who will provide support by video
    b. eCARE SANE nurse will provide self-introduction and assist with process and options
    c. Patient privacy is a priority and respect is a priority
    d. Patient is in control of the SANE exam and process
8. Contact Advocate

Appendix H
Anecdotal Evidence

Staff comments regarding TeleSANE

"The ability to use TeleSANE greatly decreases anxiety over performing this. The fear of doing something that will legally impact a case is decreased with the idea of having someone on camera assisting."
"This [intervention] will really help guide me in finding resources for the patient and explaining appropriate post exposure prophylaxis."
"I admire this team, the effort everyone gives, how we look out for each other"
"I'm really excited for it too. SANE has been a sticking point in our ER. Our clinical Coordinators have expectations that we should all confidently perform SANE exams with a video for training online. You and I both know how effective those are. I've pushed back a lot to them about it - train us appropriately or give us resources for it. This is the answer we needed. So grateful."
"This[intervention] is absolutely helpful, it's not something we see a ton of, so it's very helpful."
I was sexually assaulted when I was a teenager, the work you guys are doing, it is truly beneficial to patients.
"I look forward to the implementation phase for our facility, this is a great resource."
"Most importantly though, patients that receive post-sexual assault care from a trained SANE have improved overall recovery outcomes with less long-term health effects. Unfortunately, not all medical facilities have the capability of having SANEs available. Using a telehealth platform to provide experienced SANEs to those facilities is the perfect way to improve the care delivered to patients who have experienced sexual assault as well as offer support to the healthcare providers who are in those facilities."
"this [intervention] will provide a team-based approach for sexual assault patients in remote and rural areas by combining technology and expert trauma-centered care. This unique and vital service will allow patients and care providers assurance of a timely response, and high-quality care for those in extremely vulnerable situations."
"this is a great service to make available to victims as well as the health care professionals to hopefully make our process smoother."