

Forensic nursing science: strategies in forensic case management

Volume 10 Issue 2 - 2022

Virginia A. LynchDirector of forensic nursing and forensic health science,
university of Colorado, USA**Correspondence:** Director, Forensic Nursing and Forensic Health Science, University of Colorado, Colorado Springs, 514 Hopi Circle Divide, USA, Tel 719-687-8087, Email forensicn@aol.com**Received:** August 12, 2021 | **Published:** December 5, 2022**Keywords:** forensic nursing, investigation, forensic sciences, human rights**Abbreviations:** SANE, sexual assault nurse examiners; FNE, forensic nurse examiner; FNDI forensic nurse death investigator; NANDA, north american nursing diagnosis association; IAFN, international association of forensic nurses; ANCC, american nurses credentialing center; FNDI, forensic nurse death investigator

Introduction

Forensic Nursing is one component of the multidisciplinary, multi-sectored, forensic investigative science sections that work to minimize the devastating impact of social and cultural violence. Problematic social situations corresponding to the escalation of reported violence reinforce the need to redefine the role dynamics, processes, and guidelines as forensic nursing practice evolves. The enduring purpose of this new science is to promote forensic healthcare and help determine truth where the scales of justice may be poised, among others, on the testimony of the forensic nurse. After three decades of finding ground, the advancement and implementation of this concept and theory now requires the enhancement and expansion of 21st century forensic and nursing science. This specialty emphasizes exceptional nursing care and prevention modalities with a forensic focus on health and justice. These principles guide the forensic nurse clinician toward positive outcomes of holistic, forensic healthcare, which includes body, mind, spirit, and the law.¹

Historical perspective

The science of forensic nursing represents an emerging worldview of contemporary forensic sciences. Crime and violence bring together the two most powerful systems affecting the global population - health and justice. As the science of nursing merged with the forensic sciences and criminal justice systems, a distinctive discipline has evolved: Forensic nursing science. This emergent science has evolved in response to the consequences of global human violence. Problematic social and cultural situations corresponding to the escalation of reported violence reinforces the need to define the dynamics, processes, and guidelines for forensic nursing practice as it evolves and endures change.

Historically, the forensic aspects of nursing have long existed. According to Camp,² in the 17th century prior to the French Revolution nursing had not yet become a science until Florence Nightengale brought the forensic aspects of nursing into the Crimean War while caring for the war wounded and decedents including soldiers and civilians. Nurses have had an intrinsic responsibility in caring for the living and the dead in forensic cases. Since that time a more formal role in the scientific investigation of forensic issues has evolved.

Forensic nursing defined

Forensic nursing science is defined as a body of diverse and collective knowledge drawn from the application of the forensic

sciences to the nursing process in public or legal proceedings; the forensic aspects of healthcare involving the physiological, psychological, and behavioral sciences relevant to the scientific investigation of trauma and death, related medicolegal issues, and the protection of human rights.

Effective forensic case management is an area lacking in policy and legislation to ensure protection of the legal, civil and human rights of both victims and the accused. An identified shortage of skilled forensic physicians has resulted in serious deficits of quality forensic services in the United States (U.S.) and in other developed and developing countries. Recent strategies to improve global standards of care for victims of crime, the falsely accused and those wrongly convicted necessitate the application of forensic science to nursing practice. Forensic nursing science combines the principles and philosophies of the traditional forensic sciences and those of contemporary nursing science in the clinical investigation of crime related trauma and death.

Forensic nursing is a dynamic discipline that recognizes human violence and its associated trauma through a contemporary domain of scientific knowledge, health care, human rights, social justice, public health, and evidence-based practice. The history of forensic nursing within the American Academy Forensic Sciences was distinguish as a scientific discipline in 1991 at the 43rd annual meeting of the American Academy of Forensic Sciences.

The General Sciences Section declared the discipline of forensic nursing science eligible for AAFS membership. Their pronouncement stated (in part) "it is proposed that the body of knowledge recognized as the science of forensic nursing consists of a synthesis, reorganization, and or extension of concepts drawn from the basic or other applied sciences that in their reformulation, tend to become new concepts". This pronouncement has brought the science of forensic nursing into prominence in developed and developing countries as a previously unrecognized resource to the forensic medical sciences for increased forensic services.

Framework for practice

This emergent nursing specialty provides a framework for health promotion and violence prevention in an effective collaboration with the disciplines of health care, criminal justice, and the forensic

sciences. Forensic nursing is a science broadly defined as nursing applied to the law; following the long-established exemplar of forensic medical science is defined as medicine applied to the law.³

There are 8 separate subspecialties within the discipline of Forensic Nursing Science with the potential of new and evolving roles as needs arise. The primary role of the forensic nurse is the investigation of trauma and medical death, the recovery, preservation, and security of clinical forensic evidence, to liaise with legal agencies, and both clinical and forensic physicians. The forensic nurse testifies in court as required. Forensic nurses maintain an index of suspicion when alerted to potential violations of legal and human rights. An identified shortage of clinical forensic physicians and forensic pathologists has brought attention to the need for additional healthcare resources worldwide. Although developed and developing countries have highly qualified physicians, they are extensively outnumbered by the patients affected by fatal and non-fatal violent events.

Forensic nurse liaison

Forensic nurses serve as a clinical liaison to medical and legal agencies supplementing the need for vital forensic services to provide fair and equal justice as questions of innocence or criminality arise. It must be emphasized that the practice of forensic nursing is not limited to victims, but includes court ordered evidence recovery from the voluntary suspect or the accused in custody. The forensic nurse, as the first point of contact in the immediate post-trauma period, is in an ideal position to gather information, trace and physical evidence related to a crime.

Sexual Assault Nurse Examiners are Registered Nurse (SANE) health care providers qualified in the examination and evaluation of physical trauma with an emphasis on maximizing evidence recovery while minimizing emotional trauma with trauma informed compassionate care modalities. Education of the SANE specialist in Adult and Pediatric populations entails a 41-hour adult SANE course and minimum 120 hours of clinical training, observation and precepted exams prior to caring for these patients. Pediatric SANE education is an additional 43-hour pediatric SANE course along with a minimum of 104 hours of clinical training, observation and precepted exams.

In 1996, U.S. Federal Bureau of Investigation recognized the forensic nurse examiner (FNE) as the ideal clinician to provide sexual assault examinations and to recover and preserve biological evidence for inclusion in the CODIS data bank. The American College of Emergency Physicians has endorsed the FNE concept and jointly assisted in developing protocol for the sexual assault nurse examiner. Increasingly, forensic pathologists are employing SANEs to provide rape/ homicide examinations and clinical forensic evidence recovery prior to autopsy. When sexual violence is reported it is imperative to identify both genital and non-genital trauma, skillfully interview patients with appropriate sensitivity, evaluate the nature and scope of the injury, accurately document findings, recover, preserve, and secure evidence.

Forensic nurse examiners (FNE) within the discipline's membership are active in an extensive range of subspecialties: pediatric and adult forensic health, psychiatric mental health, nursing jurisprudence, death investigation, intimate partner violence, child and elder abuse, human trafficking, refugee health, and other areas where forensic assessments are analyzed, including genocide, torture, and mass disaster response. The Sexual Assault Nurse Examiner (SANE) has become the primary face of forensic nursing roles based on the predominance of sexual violence worldwide. The SANE protocol includes coordination with police and provide court testimony if required. U.S. prosecutors agree that forensic nurses are formidable

witnesses in court. Prosecutors, police, homicide detectives, and emergency trauma physicians or forensic pathologists who work with FNE/SANEs concur that forensic nursing services are superior to those provided by non-forensic healthcare professionals.

Court Testimony for the forensic nurse was recognized in 2002, the State Supreme Court of Virginia and affirmed as the expert witness testimony of the Sexual Assault Nurse Examiner (SANE) in criminal and civil litigation, based on the extensive clinical forensic education, experience, and qualifications these specialized nurses possess. In 2014, the U.S. Congress and President Obama signed into law a provision recognizing that forensic Sexual Assault Nurse Examiners (SANE) should work with military physicians to help reduce and prevent sexual assault in the U.S. Armed Forces.

Military forensic nurses are well educated in a broad variety of forensic science specialty areas. Forensic nurses have achieved their primary recognition as Sexual Assault Nurse Examiners (SANE), clinical investigators of human abuse and neglect, death investigation, and intimate partner violence. Forensic nursing as a scientific discipline includes specialty education and training in the FNE/SANE role of the adult and pediatric patient, standards for proper collection of biological, trace and physical evidence, preservation of medical specimens, and state-of-the-art technology. Forensic nurses also participate in disaster management involving mass fatalities, human rights missions, mass grave exhumations, research in the epidemiology of violence and associated consequences.

Scientific investigation of death

Trauma and death are first a medical concern and secondly a legal one. The Forensic Nurse Death Investigator (FNDI) is one member of the multidisciplinary forensic investigative unit recognized as an important role of the forensic nurse. Death investigation is a complex process, one that involves accurate data collection, communication, and documentation. As a science dealing in an objective assessment of death, the investigative process requires a serious degree of knowledge in human anatomy and physiology, psychology, basic chemistry, and physics. A variety of disciplines are essential to accurately assess, interpret, and correlate the various elements involved in decedent identification, cause and manner of death, support and encouragement to survivors, and to maintain channels of communication with additional investigative personnel. Members of the multidisciplinary death investigative team have routinely included law enforcement agencies, crime laboratory personnel, and medical examiner and/or coroner (ME/C) investigators. Additional team members may include those specializing in forensic engineering, odontology, anthropology, and the behavioral sciences.

The FNDI has become valued members of death investigative systems and is increasing in ME/C jurisdictions. Butts The forensic educational requisites of the FNDI include specific aspects of each of these various forensic disciplines with which they regularly interface. Forensic Nurse Death Investigators are licensed Registered Nurses and are recognized for their clinical education and experience in the biomedical sciences. The FNDI is accomplished in the application of the scientific method, objective data collection, evaluation and interpretation of that data, including the implementation of methods essential to the investigation of suspicious deaths.

Forensic nursing science skills also involve observation, documentation, assessment of objective data, biochemistry, microbiology, and pharmacology. Familiarity with human psychology in response to both internal and external stressors help to prepare the FNDI for the task of death notification. In addition, an understanding of transcultural family systems and available community resources are

essential in order to provide direction and support to the bereaved. The FNDI is uniquely qualified to fill the role of the forensic investigator of death.

Defending human rights

The introduction of a forensic clinician in nursing is intrinsic to the role nurses fill in the challenges to address the legal issues pertaining to forensic healthcare. Forensic nurses are ideally suited for disaster response and intervention provides a vital clinical and humanitarian resource to the multidisciplinary investigation of disaster-related trauma and death. Whether the disaster results from a natural phenomenon, mass homicide or suicide, terrorist bombing, plane crash, tsunami or tornado, war or revolution, the event will be handled as a medicolegal event.

The complex legal needs of the survivors require expert patient care while considering the civil and criminal implications of disaster investigations. These issues may involve an individual or company liable for the disaster and civil or criminal charges if found guilty, responsibility for survivor's medical care, rehabilitation or death benefits.

American academy of forensic sciences

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The issue of violence is central to the role of the forensic specialist in nursing science. Violence poses a global threat to public health and safety posing interdisciplinary problems that demand inter-sectorial solutions. Nurses have historically cared for victims of violence while facing the extremes of human behavior-both the living and the dead. Forensic nurses provide a crucial role in the examination and evaluation of patients who have experienced violence; including the abuse of children and the elderly, intimate partner and sexual violence, domestic homicides, liability issues, persecution, torture, and all violations of human rights.

An identified shortage of clinical forensic physicians and forensic pathologists has brought attention to the need for additional healthcare resource worldwide. Although these countries have highly qualified physicians, they are extensively outnumbered by the patients affected by fatal and non-fatal violent events. The forensic nurse represents a previously unrecognized resource to the forensic medical sciences for increased forensic services. These responsibilities are ideally separate from the lifesaving responsibilities of the trauma team. The primary role of the forensic nurse is the investigation of trauma and medical death, the recovery, preservation, and security of clinical forensic evidence, liaison with legal agencies and both clinical and forensic physicians. The forensic nurse testifies in court as required. The FNE is not a criminal investigator but rather a clinical investigator with crime and liability-related injury at the core.

Role of investigation

The FNE/SANE is not a criminal investigator but rather a clinical investigator with crime and liability-related injury at the core.

Specialized knowledge is required to accurately document injury, to recover, preserve, and the security of medical/forensic evidence. The academic application of forensic science to nursing practice requires unique knowledge and skills in the investigation of criminal or liability related trauma involving the legal process. This responsibility directly relates to the North American Nursing Diagnosis Association (NANDA) recommendation for legal and ethical care in the investigation of non-fatal and fatal trauma.

"The structure of the entire nursing process is predicated on maintaining a certain state of mind – an investigative, interpretive, dogmatic search for the facts and the truth (NANDA, 1990)." This concept is applied to the specific processes involved in the clinical investigation of trauma or death of the forensic patient (Lynch, 2008).

Investigation is the basis for all evidence-based nursing practice signifying a systematic process of search, assessment, and application of the scientific method pertaining to health and justice outcomes.⁴ Forensic nursing introduces investigation as an instrument to allow resolution of health and legal issues that offer the best possible care alternatives to meet the objectives of both. The function of the scientific method in nursing practice provides the best available scientific results.

The identity of forensic nursing as a specialty practice is defined as the application of the nursing process to public or legal proceedings; the application of forensic health care in the scientific investigation of trauma and/or death.³ Forensic patients are those admitted with legal issues that impact health care. Research indicates that 27 categories of forensic patients are routinely admitted to various departments within hospital systems (Pasqualone, G., Michaels, C., 2006).

Forensic nursing science is exemplified in the application of clinical and scientific nursing knowledge to questions of law related to the civil and criminal investigation of the disaster origin and the subsequent liability for traumatic injury, unknown or suspicious causes of death, and evaluation of the patient's emotional trauma. Competent forensic holistic care is defined as body, mind, spirit, and the law. The holistic investigation of fatal and non-fatal trauma presents unique challenges beyond the immediate treatment environs specific to the clinical and humanitarian resources in times of emergent need.

Competency education is essential for expertise in scientific knowledge, policy, and protocol in mass casualty incident preparedness. The American Nurses Credentialing Center (ANCC) has developed the first certification designed to verify competence in disaster health care professional competence.

This program offers

- a) expertise in professional development
- b) validates mastery of specific skills
- c) demonstrates knowledge for job effectiveness.

A competency examination is required to award the credential in healthcare disaster decision making. Credentialing helps to assure employers and the public that these health care disaster professionals have achieved competency skills in this challenging field.

The multicultural population of the United States and the increasing number of immigrants and refugees requires cultural competence in the aftermath of catastrophic trauma and death. As a holistic discipline the forensic nurse clinician recognizes the relevance of cultural diversity and the application of psychosocial and transcultural nursing skills. The forensic patient may be a disaster survivor or victim of human rights violations in their country of origin and may express

a fragile fear at the sensitive assessment and examination or photo-documentation of bodily injuries. The forensic nurse death investigator must also be prepared to experience the emotional reactions of family members when making notification of death. Competent forensic nursing skills are demonstrated by respecting the forensic patient and their family's spiritual beliefs as well as court-related issues surrounding patient care.

Scientific investigation of death

Death investigation is a complex process, one that involves accurate data collection, communication, and documentation. As a science dealing in an objective assessment of death, the investigative process requires a degree of knowledge in human anatomy and physiology, psychology, basic chemistry, and physics. A variety of disciplines are essential in order to accurately assess, interpret, and correlate the various elements involved in decedent identification, cause and manner of death, support and encouragement to survivors and to maintain channels of communication with additional investigative personnel. Members of the multidisciplinary death investigative team have routinely included law enforcement agencies, crime laboratory personnel, and medical examiner and/or coroner (ME/C) investigators. Additional team members may include those specializing in forensic engineering, odontology, anthropology and the behavioral sciences.

The Forensic Nurse Death Investigator (FNDI) has become valued members of death investigative systems and is increasing in ME/C jurisdictions. The forensic educational requisites of the FNDI include specific aspects of each of these various forensic disciplines with which they regularly interface. Forensic nurse investigators are recognized for their clinical education and experience in the biomedical sciences, are licensed Registered Nurses. The FNE is accomplished in the application of scientific process to objective data collection, evaluation and interpretation of that data, including the implementation of methods essential to the investigation of suspicious deaths. Forensic nursing science requisite skills involve observation, documentation, assessment of objective data, human anatomy and physiology, basic chemistry and biochemistry, microbiology, physics, and pharmacology. Familiarity with human psychology in response to both internal and external stressors help to prepare the FNE for the task of death notification. In addition, an understanding of cultural family systems and available community resources is essential in order to provide direction and support to the bereaved. Thus, the FNE is uniquely qualified to fill the role of the forensic death investigator.

Forensic nurses are skilled in the process of providing highly sensitive information to the grieving and bereaved next of kin when providing professional delivery of death notification, counseling and referrals for the deceased's family/significant others and/or reviewing/explaining the autopsy report/death certificate when requested. Forensic Nurse Death Investigators (FNDI) have mastered an inter-professional body of knowledge and skills related to all phases of the disaster cycle. Certification will support the mission and vision of the hospital in healthcare disaster management. Counseling and referrals for the deceased's family/significant others and/or reviewing/explaining the autopsy report/death certificate when requested.

Conclusion

As the science of forensic nursing has become an established body of nursing and forensic science over the last 30 years, the Academy of Forensic Nursing, the International Association of Forensic Nurses and the American Academy of Forensic Sciences have established programs representing the future of forensic nursing science. Currently,

academic and public expectations have become more stringent and expected as this emergent discipline has become a recognized resource worldwide. Yet, educational programs, experience, and professionalism define. This pronouncement launched a movement now recognized worldwide. The following year, the International Association of Forensic Nurses (IAFN) was founded.

In 2022, Forensic Nursing Science was recognized as the American Academy of Forensic Sciences' 12th Scientific Section and has set precedence for other academies of forensic sciences to incorporate forensic nursing in a variety of disciplines. The Balkan Academy of Forensic Sciences has emulated the AAFS in creating a Forensic Nursing Science Section that will reach across the 11 Balkan countries. The Balkan Academy of Forensic Sciences provides an opportunity to meet and associate with members of the forensic science disciplines that will influence the perspectives and comprehension of the forensic sciences. The BAFS also provides the privileged to work with forensic colleagues who have served as examples in professionalism, ethics, academics, human rights, and to participate in the global forensic sciences. our image as one of the most sought-after roles of practice in healthcare. It is essential for our forensic nurses to reflect these qualities to earn the trust of patients, law enforcement agencies, and the judicial systems (AFN).

Acknowledgments

None.

Funding

None.

Conflicts of interest

Author declares that there is no conflicts of interest.

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