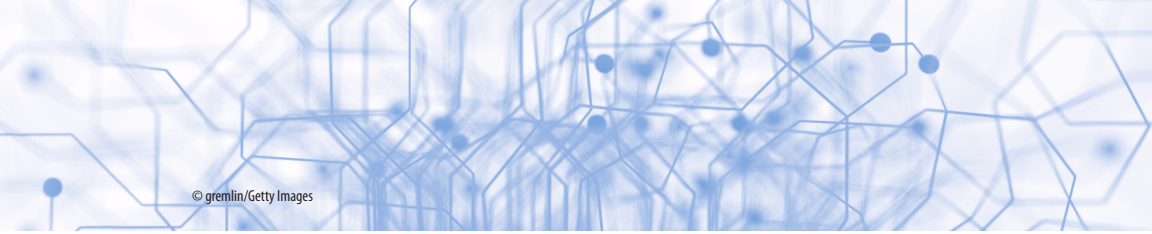

CHAPTER 5

Ethics for Nursing Research and Evidence-Based Practice

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CHAPTER OBJECTIVES

At the conclusion of this chapter, the learner will be able to:

1. Explain why ethical theories used in nursing practice are important for nursing research.
2. Acknowledge how international and national ethical principles have influenced ethical nursing research.
3. Discuss the impact of the history of human experimentation on nursing research today.
4. Delineate the ethical implications in each step of the research process.
5. Identify specific ethical issues when various research methodologies are utilized.

KEY TERMS

Autonomy
Beneficence
Code of ethics
Ethical theories
Ethics
Fidelity
Human experimentation
Informed consent
Institutional review board (IRB)
Justice
Morality
Nonmaleficence
Respect
Scientific misconduct
Trustworthiness
Veracity
Vulnerable subjects

Introduction

This chapter focuses on ethics in two areas: research and evidence-based practice (EBP). The literature for ethics in research is plentiful. However, literature regarding ethics in EBP is just emerging. Similarities and differences in ethics exist in both research and EBP. Because ethics in research is abundantly found in the literature, ethics in research is examined first.

Nurses practice within a unique social world with norms, controls, rules, and regulations. Nurses embody the art of caring and are required to do no harm to patients. Nurse researchers, acting as social scientists, examine the human condition in relation to health and illness. They, too, are governed by all the ethical principles encompassed within biomedical research. The International Council of Nurses (ICN) and the American Nurses Association (ANA) have developed ethical codes to control the practice of the nursing profession. Whether providing nursing care or doing EBP projects or research, nurses must engage in moral, ethical activities. Each ethical code specifies that a nurse researcher needs to be qualified to conduct research, regardless of the particular role (e.g., principal investigator, clinical research coordinator, or member of an institutional review board [IRB; known as a "research ethics board" in Canada]). This clarification means the researcher must understand all the elements required to maintain the highest ethical standards. The nurse researcher must understand what is morally and ethically appropriate to study and disseminate to be able to protect the vulnerable—a group that includes everyone who participates as a subject and who trusts the nurse researcher will be ethical. "Without an ethical practice environment, the patient is unprotected, as is the nurse who must meet moral obligations" (Cipriano, 2015, p. 3).

Nursing research, which lies within the domain of social science, is critical for the development of nursing knowledge. As a social science, nursing research is concerned with the human condition and, as such, is directed and controlled by all international ethical codes. The pursuit of nursing research requires participants to respect the specific ethical constraints and standards that are discussed in the sections that follow. This chapter discusses the ethical issues in each step of the research process. Universal ethical theories and their relevance to nursing research are presented, as well as theories that underpin all the health disciplines. A brief review of the history of human experimentation and the need for ethical practice is provided. The chapter also discusses the emerging ethical issues not only with research but also with EBP and quality improvement (QI).

Ethical Theories

To appreciate **ethical theories**, it is important first to understand the definitions of morality and ethics. **Morality** refers to "traditions or beliefs about right and wrong conduct" and is influenced by social and cultural practices, whereas **ethics** is "the study of social morality" (Burkhardt & Nathaniel, 2014, p. 35). Morality is what a person believes to be right and wrong and is shaped by what a person has been taught within society and her or his own culture. Cipriano (2015) suggests a moral person possesses integrity, respect, moderation, and industry, which are characteristics expected of nurses. Ethics is how a person makes judgments between right and

wrong. Not infrequently, little distinction is made between the two; however, both morality and ethics are important in making decisions.

Ethical theories provide society with general guidelines for making decisions, but it is a person's moral philosophy that ultimately factors into the decision. According to Burkhardt and Nathaniel (2014), moral philosophy is "the philosophical discussion of what is considered good or bad, right or wrong, in terms of moral issues" (p. 35). Individuals have their own personal moral philosophies that guide ethical decision making. Tschudin (1992) points out that ethics are identified as either normative or descriptive. Normative ethics are prescriptive ethics; they relate to the standards that have been laid down and are generally accepted in any society as the guidelines for what one should do. From normative ethics emerges the code by which a profession lives, which is particularly true in nursing. In contrast, descriptive (or scientific) ethics arise from what people do.

Most occupations have a professional **code of ethics** to provide a more formal process for applying moral philosophy and to "govern professional behavior" (Burkhardt & Nathaniel, 2014, p. 35). In nursing, the ANA has a "Code of Ethics for Nurses," which was revised in 2015. This code of ethics guides the practice of nursing and is "the promise that nurses are doing their best to provide care for their patients and their communities and are supporting each other in the process so that all nurses can fulfill their ethical and professional obligations" (ANA, 2015). In recognizing the importance of ethics to nursing practice, the ANA declared the 2015 National Nurses' Week theme to be "Ethical practice, Quality care" (*The American Nurse*, 2015, p. 1). In addition, the ANA promoted 2015 as the year of ethics. In health care, professional codes of ethics incorporate several basic principles to help guide healthcare professionals in determining right from wrong and in making ethical decisions. These basic principles include **autonomy**, **beneficence**, nonmaleficence, **veracity**, **justice**, and **fidelity**.

THINK OUTSIDE THE BOX

Consider the basic principles of ethics and morality. What basic principle shapes your decisions? How will your morals shape ethical decisions related to your nursing practice?

Embedded in an ethical theory is the freedom of the individual but also consideration for the common good: "A right action is only right if it is done out of a sense of duty, and the only good thing without any qualification is a person's goodwill: the will to do what one knows to be right" (Tschudin, 1992, p. 51). Nursing has the obligation to protect the vulnerable patient—and therein lies the cause for justice. For the nurse researcher, the obligation is to protect the human subject.

Values Theories

Principles of ethics not uncommonly used in health care include (1) respect, (2) autonomy, (3) beneficence (or nonmaleficence), and (4) justice. All ethics codes related to **human experimentation** stress **respect** for persons, both from the perspective of individual autonomy and by emphasizing the rights of those with diminished autonomy to the same protections. Autonomy refers to the ability to make careful choices. In relation to research, a potential subject should receive all the information

required to make an informed decision. It is important to note here that there is a distinct difference between assent and consent. For clarification, giving assent to a study means the subject(s) want to participate in the study. Consent means the subject(s) give their permission to be a participant in the study. This is of particular importance for intervention projects involving children (*IRB Advisor*, 2017). O'Mathúna (2015) emphasizes the importance of the ethics and integrity of anyone conducting research.

Beneficence refers to the practice of maximizing benefits while minimizing risks. In relation to research, as stated by the Council for International Organizations of Medical Sciences (CIOMS, 2002),

> this principle gives rise to norms requiring that the risks of research be reasonable in light of the expected benefits . . . the research design be sound . . . investigators competent to perform the research and to safeguard the welfare of the research subjects.

Another term for *beneficence* is **nonmaleficence**, or the doing of no harm to the individual. Beneficence is identified as an obligation, and every effort must be made to ensure the well-being of the research subject. The Belmont Report (National Institutes of Health [NIH], 1979) indicated that the principle of beneficence applies to society at large as well as to specific investigators. Thus, obligations are inherent in all human research projects that have implications measured in terms of long-term effects for society at large.

Finally, the principle of justice is particularly applicable to the "vulnerable" but is more widely viewed as the "ethical obligation to treat each person in accordance with what is morally right and proper, to give each person what is due to him or her" (CIOMS, 2002, p. 11). The Belmont Report (NIH, 1979) describes what is due as "(a) to each person an equal share, (b) to each person according to individual need, (c) to each person according to individual efforts, (d) to each person according to societal contribution, and (e) to each person according to merit." *Equal* in this instance implies equity, although clearly at times not everyone will be equal. Nevertheless, there should be equity or justice in distribution of whatever is distributed. The implication of "distributive justice," to which both CIOMS and the Belmont Report refer, is that the issue of vulnerability of human subjects must be addressed as the same for everyone.

In human studies, nursing and medical practitioners are tending to **vulnerable subjects** simply by virtue of the illnesses that brought patients to the attention of healthcare providers. CIOMS (2002) describes vulnerable as:

> substantial incapacity to protect one's own interests owing to such impediments as lack of capability to give informed consent, lack of alternative means of obtaining medical care or other expensive necessities, or being a junior or subordinate member in a hierarchical group. (p. 11)

Human subjects are therefore vulnerable before they are invited to participate in research projects, and this imposes further ethical obligations on the researcher to protect them. One example of a vulnerable population is research involving children. In an article in the *IRB Advisor*, Dr. Victoria Miller (2017) suggests that the notion of children as "little adults" should be eliminated. She promotes including children in the adult model of consent to participate where appropriate such as asking questions or expressing an opinion about the research.

THINK OUTSIDE THE BOX

Consider the various ethical theories. Which one seems to align with your nursing practice and why? Describe the difference between assent and consent in relation to a research project. Give an example of each that you encounter in your practice.

Historical Overview

The 20th century saw an explosive increase in human subject research, with significant medical breakthroughs as a result of this type of experimentation. Although guidelines and standards for ethical research were not established until later in the early 20th century, ethical oversight and control were desperately needed to protect all human subjects. Several famous research studies have provided a framework for this historical overview. Some had excellent outcomes, while others did not. In all cases, it became evident that more stringent ethical standards were needed to protect the public.

For example, in 1789, in England, Edward Jenner first inoculated his son at 1 year of age with swinepox against smallpox, a lethal disease. This vaccination method proved to be ineffective, and later Jenner used cowpox on other human subjects. This approach was successful and led the way for effective inoculation against smallpox (Reich, 1995). Despite his undoubted achievement, Jenner's work raises a number of key ethical issues:

- No consent was obtained from the subject.
- No understanding was established as to whether the agents used (i.e., swinepox and cowpox) were safe for human use.
- Research was performed on a minor who would have had no understanding of what was happening, although the argument could be made that because the researcher was the father of the child, it was a nonissue. However, this practice would be deemed unacceptable today.

Nevertheless, throughout Western European history, there is evidence of the relevance of ethical behaviors in human research. Moses Maimonides (1135–1204), a physician and philosopher, "instructed colleagues always to treat patients as ends in themselves, not as means for learning new truths" (Reich, 1995, p. 2248). Claude Bernard, writing in France in 1865, stated

> Morals do not forbid making experiments on one's neighbor or one's self . . . the principle of medical and surgical morality consists in never performing on man an experiment which might be harmful to him to any extent, even though the result might be highly advantageous to science, i.e., to the health of others. (Reich, 1995, p. 2249)

However, recognition of the need for regulated ethical constraints emerged as a result of horrific episodes during the 20th century. The worst documented atrocities were probably the Nazi experiments that were conducted mainly on prisoners during World War II. These experiments included "putting subjects to death by long immersion in subfreezing water, deprivation of oxygen to learn the limits of bodily endurance, or deliberate infection by lethal organisms in order to study the effect of

drugs and vaccines" (Reich, 1995, p. 2253). In addition, "Nazi experimental atrocities included investigation of quicker and more effective means of inducing sexual sterilization (including clandestine radiation dosing and unanesthetized male and female castration and death)" (Reich, 1995, p. 2258).

In addition to these appalling events, highly unethical human research studies were performed in the United States. The most infamous was the Tuskegee Syphilis Study (Centers for Disease Control and Prevention [CDC], 2011), which involved African American males suffering from secondary syphilis; the treatment of penicillin (the recommended and available medication) was deliberately withheld from these patients so that the progression of the disease could be studied. The Tuskegee study, which was initiated in the mid-1930s, was not halted until 1972, when a newspaper published an account of it. At no time were the human subjects fully informed about the study, and in some instances they appear to have been deliberately misinformed. Among the many sad aspects of the study was the fact that subjects more than likely, in all innocence, infected others because their syphilis was not being treated. Therefore, maleficence was directed not only toward the study subjects but also toward their families, which compounded the researchers' ethical lapses.

Instances of human drug testing or usage with inadequate ethical oversight have also occurred. Thalidomide, a widely used sedative in the 1950s (though not in the United States), was given to some pregnant women to control morning sickness. When the tragic malformations of the fetuses were made public, thalidomide was removed from the market for this particular use. Thalidomide was one of a group of drugs for which it is evident that there was already knowledge about the potential for teratogenicity (malformation of fetuses). Yet because this drug had been "widely praised, advertised, and prescribed on the grounds that it was unusually safe" (Dally, 1998, p. 1197), it was never properly tested for safety before human use. Instead, because of the highly effective advertising campaign conducted by the drug's manufacturer, the medical community ignored the evidence and went on using thalidomide. This case highlights another aspect of the relevance of stringent ethical controls in human research studies.

More recently, the inadequate design of a medical research study at Johns Hopkins School of Medicine led to the death of one of the subjects. In this instance, prior to the initiation of the study on the inhalation of the drug hexamethonium, a limited and sketchy review of the literature was performed using only a medical index website. Such reviews are limited in terms of how far back they can search. The failure to explore the full history of the drug resulted in a healthy 24-year-old female losing her life. A review of the literature from an earlier period would have revealed potential hazards in association with this drug and its proposed route of administration. This case points to the importance of the careful design and organization of a study before it is initiated. Fault lay at many levels, not the least of which was the researcher but also perhaps with Johns Hopkins' research review board (Perkins, 2001).

THINK OUTSIDE THE BOX

Consider several examples of human experimentation that have occurred during the history of medical research. Have these projects resulted in beneficial outcomes for society? Can human experimentation be justified when the greater good of society is at stake? Defend your thoughts.

As technology evolves in an ever-changing healthcare field, nursing researchers need to continue to be vigilant about ethical oversight and control. Good ethical nursing research should adhere to ethical principles, be scientifically sound, and be subject to independent review boards (Doody & Noonan, 2016).

Research Ethics: Progress in the 21st Century

The core ethical issue in medical research is the need for voluntary consent of the potential research subject so that a fully informed individual participates. Many efforts have been made to address this issue, but perhaps the most significant progress came from the Nuremberg Trials, in which the Nazi war crimes were investigated. The result was the Nuremberg Code of 1946, in which it is stated, "The voluntary consent of the human subject is absolutely essential . . . This means that the person involved should have legal capacity to give consent . . . the research subject should be so situated as to be able to exercise free power of choice" and human subjects "should have sufficient knowledge and comprehension of the elements of the subject matter involved as to make an understanding and enlightened decision" (Reich, 1995, p. 2253).

In the United States during the 1960s, different agencies within the federal government began more stringently regulating funded research on human subjects. On July 1, 1966, the NIH, through the Public Health Service, assigned "responsibility to the institution receiving the grant for obtaining and keeping documentary evidence of informed patient consent" (Reich, 1995, p. 2254). It also mandated "review of the judgment of the investigator by a committee of institutional associates not directly associated with the project" (Reich, 1995, p. 2254). Finally, the "review must address itself to the rights and welfare of the individual, the methods used to obtain informed consent, and risks and potential benefits of the investigation" (Reich, 1995, p. 2254).

In 1973, Congress formally recognized the importance of ethical standards in human research when it created the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, whose mission was to protect the rights and welfare of research human subjects. Research oversight by the federal government continues with a constant updating of regulations, which can be found in the Code of Federal Regulations, Title 45 and 21—specifically in the Protection of Human Subjects Rule (U.S. Department of Health and Human Services [HHS], 2007). Federal efforts to improve the safeguards to human subjects in research continue, culminating most recently with Health Insurance Portability and Accountability Act of 1996 (HIPAA).

ICN (2012) has followed suit, making the need for protection of human rights very clear in its own code of ethics, which focuses on four principal elements: (1) nurses and people, (2) nurses and practice, (3) nurses and the profession, and (4) nurses and coworkers. Ethical behaviors within these relationships are expected at all times, not just in areas of research. The second statement in the "nurses and people" element of the "ICN Code of Ethics for Nurses" (ICN, 2012) reads as follows: "In providing care, the nurse promotes an environment in which the human rights, values, customs and spiritual beliefs of the individual, family and community are respected" (p. 2). As a social science, nursing research must demonstrate ethical values that reflect the values of the profession at any one time (Jeffers, 2005). Human rights, equity, and justice are stressed specifically in relation to educators and researchers. The "nurses and the profession" element of the ICN's code of ethics states that the

researcher must "conduct, disseminate and utilize research to advance the nursing profession" (p. 8). Although ethics is not named directly here, its importance is inherent in the entire document.

As mentioned earlier, the ANA (2015) also has a "Code of Ethics for Nurses," in which specific vulnerable populations are identified. These populations include children, the elderly, prisoners, students, and the poor. The code was published in 1994, copyrighted in 1997, updated and republished in 2001, and revised in 2015. It also indicates that the nurse clinician identifies clinical problems that need examining, and the researcher designs the study in association with the clinician. What is clear in this statement is that research topics in nursing should be focused on practice, which in itself should provide an ethical underpinning for nursing research. In 2017, ANA and the International Association for Clinical Research Nursing published a document focusing on nursing research and the scope and standards of practice for clinical nursing research practice.

Environment for Ethical Research

When the unethical treatment in the Tuskegee Syphilis Study was revealed, the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, in 1974, adopted the Belmont Report, which provided a code of ethics to guide all research (Chappy & Gaberson, 2012). The Belmont Report provided the formation of the 45 Code of Federal Regulations (CFR) part 46. This was developed by the Office for Human Research Protection.

Most nurse researchers are associated with institutions that already have ethical regulations in place that the researcher is required to follow. This offers protection to the institution, the researcher, and the human subjects. The research institution housing the project typically has an office for reviewing all research proposals, usually called the **institutional review board (IRB)**. The main purpose of an IRB is to protect human subjects, especially vulnerable populations such as children, prisoners, pregnant women, handicapped or mentally disabled persons, or economically and/or educationally disadvantaged persons. The IRB is charged with reviewing a proposal in advance as well as with periodic monitoring of the research while it is being conducted, all in an effort to protect the rights and welfare of the human subjects (Westlake & Taha, 2012). The IRB serves to

- promote fully informed and voluntary participation by prospective subjects who are capable of making such choices be a suitable proxy and
- maximize the safety of subjects once they are enrolled in the project (Westlake & Taha, 2012, pp. 66-67).

The issues that receive the most intense IRB scrutiny relate to thorough evaluation by the research team of the risks and benefits of the project, the provision of sufficient protection for human subjects, and the implementation of sufficient monitoring of the project once approval is given to proceed (Rothstein & Phuong, 2007). In addition, this office is most helpful in ensuring that the researcher submits all the required paperwork, including the proposal for the study, the consent form that study participants will sign, the budget, and whatever tools the researcher will be using in data gathering (e.g., surveys or instruments or interview guides in the case of qualitative studies).

The HHS CFR controls the IRB offices of various types of healthcare organizations. The membership of the IRB must include at least five members of different backgrounds who also have the competence to review research proposals. It is expected that each member will be culturally and gender diverse and be aware of local community mores. Thus, not only will there be healthcare professionals on the board but there will also be members who are "unaffiliated" with the institution; at least one member must have scientific interests, and one may not (Rothstein & Phuong, 2007). The members are expected to be knowledgeable about all federal guidelines and regulations. When reviewing a proposal, an IRB member may not have involvement with the project (HHS, 2009). Unfortunately, there have been instances when IRB members have had some sort of conflict of interest or lack of objectivity that renders the board less capable of being just, fair, and protective of human subjects (Rothstein & Phuong, 2007).

The IRB members meet once a month to review all proposals, which they have already carefully scrutinized, and they may request further information to make informed decisions. When the IRB is satisfied that the researcher will provide full protection of the human subjects, the researcher is given permission to proceed, and the project is given an identifying number. The researcher must report progress back to the IRB every 12 months. The IRB members expect the researcher to follow the protocol exactly as laid out in the proposal. If the project has more than one researcher, all must be listed on the protocol and, if requested by the institution, the curriculum vitae (CV) of each must also be attached. The issues of specific concern for ensuring ethical research are that the risks to the subjects are minimized (or are at least reasonable, providing the expected outcomes or benefits can be attained); subject selection is equitable; informed consent is sought from participants; and issues relating to data collection and storage, privacy, and confidentiality are managed according to regulations (HHS, 2017).

The approval of IRB studies falls under one of the following categories: exempt, expedited review, or full board review. An exempt review is for "low risk, nonvunerable, nonsensitive, and short-duration studies," whereas an expedited review is for "minimal risk to non-vulnerable subjects and nonsensitive topics" (Kawar, Pugh, & Scruth, 2016, p. 139). A full board review is one in which the research study involves "more than a minimal risk or vulnerable subjects and/or studies that do not qualify for exempt or expedited review" (Kawar, Pugh, & Scruth, 2016, p. 139).

The CFR Title 21 on the U.S. Department of Health and Human Services website (HHS, 2017) outlines regulations specific to the IRB and the subjects being researched; the current version of the regulations includes five subparts:

- Subpart A is the basic set of protections for all human subjects of research conducted or supported by HHS, and was revised in 1981 and 1991, with technical amendments made in 2005. Three of the other subparts provide added protections for specific vulnerable groups of subjects.
- Subpart B, issued in 1975 and most recently revised in 2001, provides additional protections for pregnant women, human fetuses, and neonates involved in research.
- Subpart C, issued in 1978, provides additional protections pertaining to biomedical and behavioral research involving prisoners as subjects.

- Subpart D, issued in 1983, provides additional protections for children involved as subjects in research.
- Subpart E, issued in 2009, requires registration of IRBs that conduct review of human research studies conducted or supported by HHS.

The researcher is expected to be competent to perform the research. Lenz and Ketefian (1995) indicate that in 1989, the Institute of Medicine's (IOM's) Committee on the Responsible Conduct of Research was concerned that there was "a lack of formal training in scientific ethics and the responsible conduct of science as a deficit in the training of scientists and clinicians" (p. 217). Although baccalaureate degree programs and higher levels of nursing education include courses on research, it is often not until a student is writing either a master's thesis or a doctoral dissertation that he or she begins to understand the process that ensures that the research is ethical and legal.

According to Ketefian and Lenz (1995), "[s]cientists have traditionally valued their independence in the conduct of their research. Although independence in research is desired, an institution does not want its reputation sullied by unprofessional, illegal, or unethical research." Research **trustworthiness**, reliability, and usefulness are utterly dependent on the credibility of the researcher, the work, and the institution. The rules and regulations are generally the most rigorous when an institution receives federal funding. In such cases, the IRB office is insistent on all requirements being met. Ultimately, the research has to be honest.

Although multiple brakes are now applied in an attempt to prevent unethical research from occurring, some continue to be concerned that there is still the potential for inadequate protection of human subjects. Wood, Grady, and Emanuel (2002) believe that the review process is "bureaucratic and inefficient" (p. 2) and suggest that IRB members are overworked, frightened by the possibility of federal audits, and do not always understand "ambiguous regulations" (p. 2). They continue: "Federal regulators are aggravated by the limited scope of their authority and variable adherence to regulations" (p. 2), and their concerns are not limited to these particulars. For the nurse researcher, however, adherence to the ethical standards for human subject protection applied by the organization for which the researcher works and the codes of ethics developed by ICN and ANA is crucial, regardless of external concerns. Although the IRB process can be long and tedious, its function is to protect the research participants.

Developing a Researchable Topic

Although nurse researchers may be curious and interested in many topics they believe have the potential for expanding the body of nursing knowledge, some topics may not be realistically researchable for a number of reasons. The critical factor relates to protection of the vulnerable subject. As nurses, we are deeply and intimately involved with human beings at their most vulnerable, and the research topic may well pose a further increase to those individuals' vulnerability. When developing a researchable topic, the nurse researcher is called on to utilize "ethical sensitivity" to decide what is appropriate, to have the "ability to perceive rightness and wrongness" (Weaver, 2007, p. 142), and to know what one is doing affects the welfare of another person either directly or indirectly.

Allmark (2015) discusses ethical concerns related to EBP and reviews the literature with an emphasis on critics who examined the ethics of using EBP. Allmark refers to four ethical concerns regarding EBP: (1) some types of knowledge are not in EBP, (2) EBP runs counter to patient-centered care, (3) testing done by randomized controlled trials (RCTs) is not the same as "most effective," and (4) decisions based on EBP can be unjust. Allmark especially proposes that strength of evidence used to prioritize health care is unethical.

Issues related to the researcher also determine whether a topic is researchable. Volker (2004) indicates that attempting to research certain topics could put the researcher at risk "for loss of professional license, legal actions, imprisonment and peer ostracism" (p. 119). The types of topics that pose a threat to the researcher, according to Volker (2004), include those examining "social deviance, [those impinging] on powerful social interests, or [those examining] a deeply personal sacred value held by study participants" (p. 117). Nurses should not be studying illegal activities as a general rule, of course. Volker uses the example of a patient requesting assistance with suicide—an issue that nurses confront in their practice. A topic such as this presents problems when considering a research project: According to the ANA's (1994) statement on assisted suicide, "Nursing has a social contract with society that is based on trust, and therefore patients must be able to trust that nurses will not actively take human life" (p. 4). Volker does not state that the topic of assisted suicide cannot be examined in a research project; rather, careful vigilance must be exercised to ensure the study design is meticulously developed to protect both the researcher and the research subject. Cipriano (2015) indicates nurses must speak up regarding decisions and actions that are questionable.

In legally sensitive research projects, further measures can be sought that protect the researcher against "compelled disclosure" (Anderson & Hatton, 2000, p. 249) or breaking confidentiality covenants (Volker, 2004) and that offer additional protection for the study subjects. In particular, a Certificate of Confidentiality may be issued by the HHS in such cases. Federal law states that a Certificate of Confidentiality:

> may authorize persons engaged in biomedical, behavioral, clinical, or other research (including research on the use and effect of alcohol and other psychotic drugs) to protect the privacy of individuals who are the subject of such research by withholding from all persons not connected with the conduct of such research the names or other identifying characteristics of such individuals. Persons so authorized to protect the privacy of such individuals may not be compelled in any Federal, State, or local civil, criminal, administrative, legislative, or other proceedings that identify such individuals. (Public Health Service Act, 42 USC 163, 1988)

Volker (2004) makes it clear that "researchers who engage in socially sensitive research must be prepared for scrutiny by diverse professional and lay parties who have varying agendas and interests" (p. 123). Research projects are usually undertaken in institutions that have a well-developed ethical structure and that are highly conscientious in following federal guidelines and regulations to protect the vulnerable patients under their care. As a consequence, the researcher, while developing the project, has resources immediately available for advice and consultation, including the IRB, professional colleagues, attorneys, and an ethics committee.

THINK OUTSIDE THE BOX

Can you think of some additional vulnerable populations that are emerging in the current healthcare environment? Explain why you see these groups as vulnerable. Which issues need to be considered when determining the vulnerability of a group of people? Of the following two articles, one regarding Felty's syndrome (Woolston & Connelly, 2017) and one regarding blood transfusion vital sign frequency (Cortez-Gann, Gilmore, Foley, Kennedy, & Kring, 2017), which involves a vulnerable population? Give a rationale for your choice.

The topic that the nurse researcher chooses should be one of real interest to him or her. The researcher should be willing to allocate the preparatory time and effort to ensure that the project meets all of the institution's ethical guidelines. Ethical behavior requires intellectual honesty of the researcher—giving credit due to others, not using ideas from others without acknowledgment, and not initiating data collection before institutional approval has been given. Plans for seeking funding for the study, the study design, methodology, data collection, and the dissemination of results (even if insignificant) at the conclusion of the study are also critical parts of developing the topic for research.

Pilkington (2002) makes it clear that if a research project is not scientifically valid, then it is unethical to involve human subjects. It is the responsibility of the IRB to ensure that a study is scientifically valid. In defining whether a research project is scientifically valid, Pilkington (2002) states bluntly, "If a study does not hold substantial promise of answering a significant question(s), thereby generating valuable knowledge, then there is no justification for exposing persons to the actual or potential risks and inconvenience of participation" (p. 197). Scientific validity, therefore, influences how a researchable topic is developed to be an ethical research study. *IRB Advisor* (2017) discusses oversight of QI projects. QI projects in a healthcare system are designed to improve practice within that system. QI activities are not considered research, which would protect human subjects. The issue of randomization of which individuals are to receive treatments may deviate from routine clinical care. Rather than submitting to an IRB, the article recommends a QI-IRB or a clinical decision support committee (CDSC).

Developing Researchable Questions

Although the nurse researcher may have a burning interest in a particular topic, developing the question(s) appropriately is most important when gearing up for a formal study. This development is necessary to narrow the topic to a specific focus, clarify the methodology, determine whether the topic has embedded in it useful questions that will give shape to the study, and ensure that significant research results will emerge and add to the body of nursing knowledge. The questions should be broad enough to obtain results yet not so broad as to yield diffuse and possibly meaningless results.

Thorough reading on the subject can assist in developing questions that meet these criteria. This preliminary investigation can help identify the gaps in

the literature and hone the researcher's thinking about what it is specifically that he or she wants to investigate. Communication with both clinician colleagues and fellow nurse researchers can also assist in refining the questions.

The ethical component of this endeavor derives from ANA's demand for effective and efficient care of the patient. If the research design is faulty at any level—and specifically the question development level—then one must ask if the results will improve the efficiency and effectiveness of patient care.

Participant Recruitment and Informed Consent

Vulnerable populations are always a concern for all research regulatory bodies, but some populations are particularly vulnerable—the very young, the frail elderly, prisoners, the mentally incompetent, and women. In addition, issues related to socioeconomic status, education, and language may contribute to a specific population's vulnerability (Anderson & Hatton, 2000; Rogers, 2005). The researcher must be sensitive to these issues and to the points specifically outlined in federal regulations. This can make recruitment more difficult and the need for true **informed consent** crucial. Very specific regulations can be found in the Belmont Report (NIH, 1979), the International Ethics Guidelines for Biomedical Research Involving Human Subjects (CIOMS, 2002), and the HHS's Protection of Human Subjects document (HHS, 2009), including sections relating to the protections needed for specific vulnerable populations.

The key ethical issue embedded in informed consent is that the individual always has the freedom of choice to participate or not participate, and the individual may withdraw from the study at any time. Another term used in conjunction with informed consent is valid consent. Valid consent is thought to involve more information about the process. This freedom of choice is built on a series of components:

- The language is simple enough to be clearly understood.
- The potential subject adequately comprehends the project.
- The subject has had time to think about the study and its potential risks and benefits and to discuss it with family members.
- The consent is not coerced.
- The written consent is documented.

CIOMS (2002) discusses "inducements" to participation, which can be identified as coercion and therefore are not appropriate. Several authors have expressed concern over how to achieve consent and indicate that obtaining consent should in fact be a continuous process throughout a research project. In other words, the researcher should regularly check with the subject to ensure that he or she is still a willing and informed participant (Edwards & Mauthner, 2002; Miller & Bell, 2002). The only payment or compensation allowed includes the costs of transportation or loss of earnings due to participation in the research project. It is unethical to offer more financial incentives because they may encourage a potential subject to consent against his or her better judgment. It is also unethical for the researcher to receive compensation from a pharmaceutical company to conduct a study.

Research using child participants encompasses all the usual ethical issues relating to informed consent, privacy, and confidentiality, but it includes several other factors that may compound these issues. Children exist in a natural power hierarchy with adults, but they are able to communicate and understand according to their interpretation of the world around them (Kirk, 2007). Children must believe they are part of the project, but researchers must be alert to the specific child's "agenda" and continually check with the child to ensure that he or she wants to continue to participate. Parents are also involved with providing informed consent, but researchers must ensure that children do understand what they are getting into and that their consent is given freely. Hanna, Weaver, Slaven, Fortenberry, and DiMeglio (2014) obtained informed consent of parents and youths 18 years old or older. In some instances, only one parent's consent is required, although two parents' consent is preferable. On occasion, a child and parents may not agree on continued participation; in general, it is the child's decision that is accepted in such cases.

IRB Advisor (2017) suggests children be allowed the opportunity to have a voice in the research activity. Miller (2017) discusses the process of assent (wanting to do) versus consent (giving permission) where ethical and legal concerns need to be addressed. She does propose that the process of assent can benefit children through the decision-making model.

The success of the study may depend on the warmth, interest in the child, and rapport established by the researcher so that the child trusts the researcher. These characteristics have been demonstrated to be critical in longitudinal studies with children (Ely & Coleman, 2007), particularly when ill children are subjected to discomforting treatments. A slightly different issue arises with teenagers who, while still legally minors, have the right to give informed consent without parental consent (Roberson, 2007). Parents still have legal responsibility "to ensure the child [receives] appropriate medical care, [but] there is also the ethical need to 'respect the rights and autonomy of every individual, regardless of age'" (Kunin, 1997, cited by Roberson, 2007, p. 191).

Recruiting the desired composition and number of participants may require establishing multiple research sites, which can create some problems for the researcher, even as it confers some distinct advantages to the study. Such studies are "likely to produce generalizable, high quality results . . . [increase the] likelihood of attracting funding . . . [provide access to] a broader range of practice settings and patients with a wider range of diagnoses . . . [and] expedite data collection" (Twycross & Corlett, 2007, p. 35). Multisite research enables experts to work together and perhaps close the theory–practice gap. Of course, some notable difficulties in conducting multisite studies are noted, including those related to establishing and maintaining collaborative, trusting relationships with one's colleagues; meeting face to face; overcoming organizational cultural differences; and having to gain IRB approval at each site.

Young (2017) suggests that IRBs should examine whether risks and benefits are appropriate. She emphasized the importance of ethics in regard to data sharing. The use of data sharing needs to be transparent so that specific outcomes are delineated, in particular with clinical trials for new drugs.

Data Collection and Data Analysis

Protection of vulnerable human subjects remains the critical ethical issue with data collection and analysis. First and foremost, the privacy and confidentiality of the subjects must be protected, which means that the data must be locked securely in a safe place at all times. Data may include audio, video, podcasts, surveys, or other types of digital recordings and media.

Digital recordings, whether audio, video, or both, are increasingly popular. Additional ethical issues—namely, privacy; participant burden and safety; storage, location, and condition of storage of recordings; maintenance of the recordings in storage; access to recordings; use of the recordings as part of a presentation; and whether the actual taping will interfere with clinical care—must be addressed when such data collection methods are used. The IRB will make decisions on all these issues and may require stipulations, such as that faces be blurred and/or eyes are covered with a black box in the final recording.

Each institution has specific guidelines about how long data files must be kept. Lutz (1999) has raised the issue of premature destruction of original data, predominantly in studies on particularly vulnerable populations (e.g., battered women). According to this author, such destruction could occur if the researcher were concerned about court subpoenas that could compromise the participants' safety. However, premature destruction could lead to institutional accusations of scientific misconduct, which suggests that the researcher has a fine line to walk between ethical and unethical actions.

Ethical analysis and interpretation depend on the honesty and trustworthiness of the researchers. Although healthcare organizations make every effort to ensure ethical behavior within their research environments, ultimately it rests with the researchers to ensure that the project is indeed conducted ethically in all areas, including analysis, interpretation, and dissemination of results. The opposite of ethical behavior is scientific misconduct, which brings dishonor to both the individual and the institution and renders the research project meaningless. In addition, concern for the welfare of the vulnerable human subjects is negated when misconduct occurs. **Scientific misconduct**, an extremely serious issue, is defined by HHS as follows:

THINK OUTSIDE THE BOX

Determine if your school or hospital has an IRB. Which criteria do the board members use when approving a research project?

> Fabrication, falsification, plagiarism or other practices that seriously deviate from those that are commonly accepted within the scientific community for proposing, conducting or reporting research. It does not include an honest error or honest differences in interpretations or judgments of data. (Commission on Research Integrity, 1995, p. 1.)

Lutz (1999) has cited Macrina (1995), who states that falsification involves results being manipulated or tampered with, fabrication refers to "totally unfounded results" (Lutz, 1999, p. 90) being produced, and plagiarism is "theft of another person's ideas" (p. 90). History makes evident that falsification, fabrication, and plagiarism are unconscionable and utterly unethical.

Issues in Quantitative and Qualitative Research

There is concern in qualitative research about the increased risk for ethical lapses inherent with this research methodology. As Birch and Miller (2002) state, "[This] type of research relationship may involve acts of self-disclosure, where personal, private experiences are revealed" (p. 92) and is never value free or "value neutral" (Christians, 2003, p. 213). The researcher must be aware of this potential and approach this type of research by making every attempt to acknowledge any personal biases.

In qualitative research, interviews are commonly used to gather data, resulting in face-to-face exposure for both the researcher and the researched, as was the case in the study of Felty's syndrome (Woolston & Connelly, 2017). The dialogue serves as the research data that are then analyzed and interpreted. The vulnerable patient immediately becomes more vulnerable as the researcher delves into his or her lived experience. Anonymity and confidentiality are inevitably compromised in the interaction between researcher and human subject, which means there is an even greater need for data security and constant awareness on the part of the researcher of these issues. Honesty and trustworthiness of the research and researcher are even more important in such cases. Firby (1995) has stated, in relation to an IRB giving permission for a qualitative research project, "We should not simply assume that because research has been accepted by a committee it is morally justifiable in its methods" (p. 41). The moral obligation of nursing is to do good and to do no harm. Therefore, qualitative nursing research must meet that obligation.

In contrast to qualitative research, quantitative research, which initially arose from the objective methodology of the Enlightenment's scientific paradigm, is more apt to be value neutral. The quantitative researcher is less likely to engage in face-to-face self-disclosure, which protects him or her and the subject. The facts should speak for themselves. However, the researcher must be alert to the potential for his or her biases to influence the interpretation of data. Nevertheless, there remains the ethical principle of justice and the need for informed consent for human participants in such studies. Allmark (2015) cautions that EBP decisions may not be fair or just. Examples given are those in which rare conditions eliminate RCTs, expense for treatments, and removal of patient choice. Those issues impact the design, implementation, and evaluation of research projects. Obviously, regardless of the type of research, researchers should closely examine issues before embarking on projects.

External Pressures

Conducting research studies is never easy, but various pressures making it more difficult may push the researcher toward unethical behaviors. According to Lutz

(1999), these pressures include limited funding, the competition for achieving tenure for faculty, and "increasing emphasis on producing research reports" (p. 92). New technology and seeking cures also place pressure on healthcare providers (Cipriano, 2015).

HIPAA is designed to protect patients against unauthorized disclosure of their health and medical records. At the same time, it adds another source of pressure for nurse researchers because passage of HIPAA has led to some new concerns related to health research. According to Erlen (2005), these regulations were written for healthcare delivery organizations and not for universities per se; nevertheless, the latter organizations have had to develop their own policies and procedures that meet the requirements of HIPAA. At times it has proven difficult to draw "clear boundaries," and universities have tended to err on the side of caution by providing for additional protection of human subjects, privacy, confidentiality, and informed consent. HIPAA compliance has meant additional training for anyone who wishes to engage in research. The institution's IRB office sets the policy for how the researchers of that institution can proceed while adhering to HIPAA regulations.

HIPAA and its ramifications are key ethical considerations for the nurse researcher. With the drive for evidence-based research to underpin practice, the nurse researcher needs to be aware that study data and their interpretation must be shared, but within the constraints of HIPAA. To meet these criteria, data must contain no identifiers of an individual in a sample. Thus, subjects may be given a code number or letter. Only the researcher maintains a list linking the sample identifiers with their associated codes, and this document must be kept secure at all times.

EBP and Ethical Implications

Now that we have explored ethics in the research process, let's examine ethics and EBP. In the clinical environment, considerable effort is being made to implement evidence-based nursing practice. However, the terms *EBP* and *research* are often used interchangeably. EBP is defined as "the combination of scientific evidence, patient preferences, and clinician expertise when making decisions for patient care," and it leads to the "development of best practices to meet the need of clients efficiently and effectively" (Carter, Mastro, Vose, Rivera, & Larson, 2017, p. 267). Such practice is derived from several elements, including experiential knowledge on the part of the nurse (i.e., knowing what works in practice and why), having clinical judgment and skills of critical inquiry, knowing the individual patient both as a human being and in terms of his or her pattern of responses to what is occurring, and knowledge of current scientific research findings (Borsay, 2009; Redman, 2007; Tanner, 2006). EBP is designed to reduce unthinking, ritualistic practices in nursing care (Siedlecki, 2008). Nurses are uniquely placed to establish an ethical practice environment that protects the patient (Cipriano, 2015).

QI, on the other hand, is a data-driven effort that seeks to "improve processes specific to an organization" (Carter et al., 2017, p. 267). It is constantly performed in healthcare organizations. Data are gathered in order to improve patient outcomes through "local innovations in and assessment of the processes and systems of care delivery" (Redman, 2007, p. 217). This process is designed for rapid implementation of change. It is different from the slower, rigorous, empirical research approach, which is more deliberative and follows a "fixed protocol with a clearly defined method

and . . . a period of analysis after completed data collection" (Lynn et al., 2007, p. 668). QI is not empirical research. There is some concern, however, related to the ethics of human subject protection in QI practices (Grady, 2007; Lynn et al., 2007). To date, there has been no standard established regarding whether there should be a separate IRB process for QI. According to Hockenberry (2014), "in general, a QI project does not require IRB review and approval because it is not research that is subject to the federal human subjects' protection regulations" (p. 217).

Changes that are derived from QI are not regarded as the strongest evidence in EBP. Rather, EBP depends on generalizable scientific evidence (Batalden & Davidoff, 2007). The research utilized in evidence-based nursing practice uses well-tested scientific study data from studies that have undergone the required ethical scrutiny.

Developing an Evidence-Based Project

Similar to some nurses interested in researchable topics, other nurses may want to pursue EBP projects. Much interest has been generated in QI, patient autonomy, quality of life, and end-of-life issues. The specific process of developing an EBP project is discussed elsewhere; however, ethical issues need to be addressed prior to, during, and after the completion of EBP projects that parallel ethical issues in research projects.

EBP is a broad area that encompasses more than scientific research. In fact, research is considered to be one aspect of EBP. Not all nurses have the knowledge and skill to conduct research, but that does not mean they don't encounter clinical situations that pique their curiosity. As a result, they may wish to pursue information to improve nursing care. Developing an EBP topic also requires sensitivity to vulnerable populations, confidentiality, and existing federal and state guidelines, as well as professional regulations to practice nursing. Keeping all this in mind, the nurse should choose an EBP topic that is of specific interest to him or her to improve nursing practice. EBP projects also require the nurse to meet the institution's ethical guidelines.

The PICOT (population, intervention, comparison, outcome, time) format can be used as a starting point for developing an EBP question. Nurses must consider the ethics of asking an EBP question. The topic selected must be narrow enough to produce results that will improve patient care. At the same time, the design must be carefully planned to eliminate the potential of harm to participants. Stephens (2017) suggests that ethical issues require nurses to think through a situation by using the situational analysis (SA) process. The process has three phases: stop, think, act, which can help to improve performance and outcomes. Protection of human subjects is as important to EBP projects as it is to research. Thus, vulnerable populations are a concern for EBP projects. For example, if you want to collect data about fall rates in your institution, the population might include the elderly and/or children. Ethically, you must ensure that patient privacy and confidentiality are protected. Even if you are only conducting a retrospective chart review of patients who have fallen, you must still keep all patient information in confidence and not reveal any patient identification information. It is also necessary to ensure that participants in an EBP project will be honest in their responses. If a nurse is investigating nurses' medication errors in his or her institution, nurses in the institution must report that a medication error is made. If the nurses making the errors do not report them for fear of reprisal, the information about the number, type, or reasons for the error(s) will not be accurate,

and recommendations to decrease medication errors will not be effective. The EBP project must also be ethical in all areas, including design, implementation, and evaluation. EBP projects require the same ethical rigor required in research.

Data collection for EBP generally focuses on institutional benchmarks to improve patient outcomes, patient satisfaction, communication techniques, hospital readmissions, and staff/physician satisfaction, to name just a few potential areas of investigation. An example might be a hospital that wants to decrease the occurrence of pressure ulcers. To accomplish this, the hospital wound care nurse obtains permission to adapt the Braden Scale as part of the nursing assessment of skill. The wound care nurse then educates the staff regarding the use of the Braden Scale and how it is mandatory to chart this assessment so that pressure ulcers can be prevented by early detection. After 1 month, the wound care nurse performs a chart review to determine if nurses used the Braden Scale, if they charted the skin assessment results, and if the number of new pressure ulcers decreased. The wound care nurse may also compare the results with other hospitals in the same geographic area or with other hospitals of the same size and same general population. Thus, data analysis does not necessarily involve statistical tests or methods as seen in research projects.

Data collection and data analysis for EBP projects, such as the wound care example, require the same ethical considerations for protection of human subjects. Many hospitals ask patients if they will allow their information to be used to promote better outcomes and/or for teaching purposes. To be ethical in the example given, the wound care nurse must protect patient confidentiality, remove patient identifying information, and report results in the aggregate (group) and not individually.

Issues in Evidence-Based Projects

As in research projects, anonymity and confidentiality in EBP projects are paramount. The person(s) responsible for EBP projects must protect the human subjects and must do no harm. In addition, they must be alert to any bias that may influence how the data are interpreted. Training regarding issues such as HIPAA is necessary to ensure no violations occur.

Because EBP projects are often specific to an institution, care must be taken to avoid pressure from individuals within the organization who want to show positive results. The EBP project must ensure that policies and procedures are followed and that data are accurately represented.

An additional ethical dimension is encountered when, at the end of the research or EBP project, it is time to publish the results: Journals accept only peer-reviewed manuscripts (Ketefian & Lenz, 1995). Peer referees are required to evaluate the scientific merit of the research study as well as the manuscript's acceptability for a particular journal. To warrant publication, the findings are expected to contribute new knowledge to the practice of nursing (Driever & Pranulis, 2003). Without that expectation, the research is inappropriate, if not unethical. Those who review manuscripts for publication must have the knowledge and expertise to evaluate the work appropriately (Pilkington, 2002). According to Chappy and Gaberson (2012), the "necessity for IRB approval cannot be overlooked . . . most journals will not publish results of projects for which IRB approval was not obtained initially . . . experts advocate for making IRB approval a requirement for all projects . . . because publication may be a goal any time that results are worth sharing" (p. 683).

THINK OUTSIDE THE BOX

Should approval by an IRB be a requirement for EBP projects? List the reasons why or why not IRB approval is necessary.

An emerging segment of the literature is focusing on issues related to publication. Conn (2008) discusses how pressure may be put on the author to change results because the manuscript reviewers resist "unexpected outcomes" (p. 161) and want revisions that are not consistent with the results. The authors may need to make changes, but those changes should not come at the expense of reliable data results. Freda and Kearney (2005) discuss how editors can face ethical issues when articles have been published in more than one journal; when data are published in more than one journal with no changes; or when there is evidence of author misconduct, demand for credit for someone "undeserving" of credit, lack of IRB approval, or misconduct related to lack of informed consent or an undeclared conflict of interest.

A study by Henley and Dougherty (2009) revealed another potential problem related to publication of research results: discrepancies in the quality of the reviews submitted by many persons who serve as peer reviewers. According to these authors, "Peer review is the mainstay of the editorial process" (p. 18). The key issues of concern within a paper were poor reviews related to the study's theoretical framework (47.2%), literature review (35.15%), discussion and interpretation of results (22%), and data analysis/presentation (21.9%). In terms of usefulness of the written comments to the author, 14.4% of peer reviews were deemed poor (Henley & Dougherty, 2009). Finally, in terms of usefulness to the editor, 12.2% of peer reviews were poor or inadequate (Henley & Dougherty, 2009). These authors recommended formal training and a probationary period for all potential reviewers.

An additional ethical issue relates to who should be listed as first author when multiple researchers participated in the study. Generally, the principal investigator is listed as first author. In the case of multiple authors, however, negotiation determines the first author named on various publications. Ketefian and Lenz (1995) point out that listing authors in order of the extent of effort they made is the most ethical way of recognizing authorship. These authors also suggest that it is unethical to publish the same manuscript or article in multiple journals. It is appropriate to publish several articles on the same study, provided that each manuscript is written with a different focus. In addition, all contributions and funding sources for an article must be acknowledged.

Emerging Ethical Issues in Research, EBP, and QI

The prevalence of EBP projects has caused much controversy about whether EBP and research are separate. One school of thought is that research is not a component of EBP; the other side, of course, is that research is one aspect of EBP.

Much depends on the definition of each. Proponents of research argue that EBP is specific to an institution, has no theoretical framework, and data are not able to be statistically tested and analyzed. Proponents of EBP state that EBP is broader, includes research where appropriate, and that data collected from specific institutions can be compiled and added to national data banks providing information that has broad implications. Ethical considerations for both will continue to be required regarding protection of human subjects, regardless of the prevailing school of thought.

Although nurses generally have not been involved in animal, genetic, or biological material research in the past, this situation is changing and is likely to continue to do so as more transdisciplinary, translational research occurs. The issues of concern with animals include ensuring that the least harm and suffering are inflicted; using animals only when absolutely necessary; using the fewest animals possible; and, when seeking IRB permission, ensuring someone on the board understands the implications of animal research. In relation to genetic and biological materials research, the same moral and ethical obligations apply as when dealing with any human subjects (Cipriano Silva, 2006).

Stephens (2017), the American Nurses Association and International Association of Clinical Research Nurses (2017), Young (2017), and Allmark (2015) all advocate for nurses to carefully examine ethical issues whether the projects are research EBP or QI. As technology improves and emphasis is placed on outcomes, nurses must be vigilant in conducting projects.

The community-based care facility (i.e., nursing home) is an environment that has been neglected as a site for study in the past but is likely to draw increasing attention from researchers in the future because of the aging of the U.S. population. All of the usual ethical research issues apply in this setting, but some additional concerns may arise relating to ensuring the quality of life, safety, and satisfaction of those residing in nursing homes and to ensuring that the study will not impose an undue burden on the participants. Proxies may be required to give consent for resident participation if the resident is mentally incompetent or extremely frail; however, use of proxies requires that the proxy holder have the authority to give this type of consent, and he or she must be adequately informed of the study's focus. In a study by Cartwright and Hickman (2007), it was discovered that community-based facility administrators had limited understanding of the protections established by an IRB that gives consent to a study, although most seemed aware of federal and state statutory requirements in terms of informed consent. In an attempt to overcome these deficits, Cartwright and Hickman developed what they call a Bill of Rights for Community-Based Research Partners, which could prove valuable for similar institutions.

Another issue emerging is the global aspect of research, especially with low- and middle-income countries (Schroeder, 2017). Schroeder cites studies in China and India as examples of "ethic dumping," in which designs were conducted that provided no intervention when treatments actually exist. Two additional issues that will certainly generate research involve the opioid crisis and mental health issues. There were successful drug trials relating to opioid usage to control pain, but financial gain, easy access and lack of adequate protection, and ethical issues relating to opioid use have emerged. Lack of adequate mental health resources resulting in multiple deaths is an additional issue with ethical aspects for research.

Conclusion

The lessons learned from the history of human experimentation have led to the development of ethical codes, both nationally and internationally. These controls are crucial for the protection of vulnerable human subjects. Indeed, ensuring adequate protection of human subjects requires that particular care be taken in each step of the research or EBP process. The obligations inherent within nursing demand the "moral deliberation, choice and accountability" (Edwards & Mauthner, 2002, p. 14) of the nurse researcher. Nurses in their practice are tending to humans at their most vulnerable, and this level of understanding adds to the responsibility of the nurse as researcher or EBP project director. For years, nursing has topped the list as the most trusted profession. Thus, achieving valid research and EBP that enhances nursing knowledge depends on adherence to the highest ethical standards. The key components necessary to ensure that these ethical standards are met, as described in this chapter, should provide a useful guide for all nurses embarking on a research-based, EBP or QI project.

Summary Points

1. History provides many lessons on the importance of protection of vulnerable human subjects. These history lessons have led to the development of national and international ethical codes of conduct.
2. Both the International Council of Nurses (ICN) and the American Nurses Association (ANA) acknowledge the obligations of the nursing profession to the vulnerable human and, as such, stress ethical standards in nursing research.
3. Ethical theories guide the standards of nursing research.
4. Some populations (e.g., children) are more vulnerable than others, and they must be provided with the utmost protection during the research or EBP project.
5. Each step of the research process involves meeting ethical standards.
6. The privacy and confidentiality of the human subject must always be guaranteed.
7. Informed consent must be given by a human subject participant who truly understands to what he or she is consenting.
8. The honesty and trustworthiness of the nurse researcher or EBP project director are crucial in ensuring valid—and valuable—results are derived from any study.

RED FLAGS

- Every study must address the ethical aspects of that study. Documentation of this focus may be demonstrated through a statement reflecting IRB approval of the study.
- Every study must speak to how the subjects will be protected from harm—physical and/or psychological—during the research process.

Critical Discussion: Ethical Issues in Nursing Research and EBP Projects

1. A research study of incarcerated women who are human immunodeficiency virus (HIV) positive or have acquired immunodeficiency syndrome (AIDS) is being conducted. You are not the principal investigator, but you are one of the researchers who has received permission to interview some of the women who volunteered to participate. One woman gives you inappropriate information about another prisoner, whom she states propositioned her for sex; the interviewee claims this prisoner has AIDS. As you leave the prison, the warden asks you to relate what happened during this interview. Discuss your responsibilities as a researcher in this sensitive study. A number of critical elements must be taken into account: the interviewee divulging information about another prisoner's possible HIV/AIDS status and behaviors, confidentiality and protection of human subjects, the warden's request, and your ethical responsibility to the study and to your institution.
2. You are the principal investigator studying young teenagers (10–14 years old) who are receiving aggressive treatment for life-threatening cancers. One 11-year-old boy has had many bouts of chemotherapy, which have made him acutely ill. His parents would like the child to participate in the study, but he refuses. What he shares could potentially be of use in treating other young teenagers. Clearly, there are some issues of consent here. Discuss what you should do.
3. You are one of a group of nurse researchers who is participating in a multinational study. The sample will include people of many different ethnic groups, all of whom speak different languages, and will include women and children. You understand the process of IRB review in your own institution, but many other issues arise when one is participating in international studies. Among the issues of concern here are the need for an interpreter, confidentiality, local permission requirements, management of the study in the foreign country, recruitment of persons into the study, and protection of human subjects in a different country. How can these issues be resolved so that the study may be conducted?
4. Your hospital wants to decrease the rate of falls in patients older than 65 years of age. You have been asked to conduct an EBP project regarding these patient outcomes. What are some ethical considerations you must incorporate into this project?
5. Catheter-associated urinary tract infections (CAUTIs) are on the rise. The nurses in a long-term care facility want to eliminate CAUTIs. List at least two ethical issues associated with this project.

Multiple-Choice Questions

1. When developing a nursing research project, why is it important to remember the ethical constraints?
   A. The study will not be approved by the IRB without these constraints.
   B. The protection of human subjects underlies all human research projects.

C. The results will not be trustworthy and replicable.
D. The nurse researcher will not be able to get funding for the project and therefore will not be able to complete the project.

2. The atrocities performed on prisoners in Nazi Germany violated which ethical principles?
   A. Value of life, justice, and respect
   B. Beneficence, nonmaleficence, and value of life
   C. Autonomy, nonmaleficence, and respect
   D. Justice, autonomy, and nonmaleficence

3. Protection of vulnerable individuals is a critical ethical component in human research studies. How did Edward Jenner fail to meet this standard when he tested swinepox on his 1-year-old son?
   A. He thought the new knowledge overrode any concern he should have for the rights of his son.
   B. He did not know any better.
   C. He ignored the point that he could not get informed consent from his son, who was particularly vulnerable.
   D. He did not fail: Given that smallpox was such a lethal disease at that time, it was better for Jenner to ignore his son's vulnerability in order to gain new knowledge.

4. The Tuskegee Syphilis Study lasted many years, and none of the human subjects were properly informed about the study's conduct. Which ethical principle was egregiously ignored in this study?
   A. Autonomy
   B. Respect
   C. Nonmaleficence
   D. Justice

5. Why does an ethical research environment assist with ensuring scientific integrity?
   A. Within this environment, expectations for scientific integrity are laid out.
   B. Federal regulations related to ethical standards are adhered to, increasing the likelihood of integrity.
   C. The researcher always works within an ethical environment, which encourages the practice of ethical research behaviors.
   D. Scientific integrity ensures funding, which means that the study will be completed.

6. Why do federal regulations specify that the makeup of the IRB should reflect cultural and gender diversity and an awareness of local mores?
   A. This practice ensures that all research projects presented to the IRB will receive fair examination and will not be denied without discussion.
   B. Gender studies have not been common until recently, and females react differently to different treatments.
   C. Awareness of local customs and culture means that both IRB members and researchers understand issues of concern in a non-American population.
   D. There is now great interest in researching healthcare issues in persons of different cultures.

7. Why is it important that the researcher be competent to conduct research?
   A. It is not ethically appropriate for an incompetent person to conduct research.
   B. An incompetent researcher will not be able to get informed consent from the vulnerable subject, which is unethical.
   C. An incompetent researcher should always work with someone who is competent so that he or she can learn the process.
   D. Research is a complicated process that has to be learned.

8. What is the issue of greatest concern when developing a research project?
   A. The competence of the researcher to do the research
   B. The availability of funding
   C. The protection of the vulnerable subject
   D. Informed consent

9. A certificate of confidentiality may be required to protect both the researched and the researcher. Why?
   A. The nurse researcher will not thus lose his or her license to practice and do research because of the sensitive topic being researched.
   B. If the research topic is particularly sensitive, this certificate protects patients from divulging issues uncomfortable to them.
   C. The certificate protects the researcher and the researched from being coerced by governmental authorities to reveal sensitive information.
   D. The certificate means that no information is shared with those who should not be informed.

10. Why do research questions have to be developed carefully?
    A. The wrong question for the study means the wrong answer.
    B. Carefully developed and refined questions focus the research project.
    C. Without careful development of the questions, the research results will be meaningless.
    D. It is unethical not to develop questions carefully.

11. Why is informed consent a crucial issue in research projects?
    A. Research results will be more meaningful.
    B. The researcher will be adhering to international codes of ethics from which federal regulations are drawn.
    C. The project will be rejected by the IRB because the subject is not informed about the study.
    D. The consenting subject will understand what the research is about and will have the choice to participate or not.

12. Scientific misconduct on the part of the researcher is very serious. What constitutes scientific misconduct?
    A. Lying about the project to subjects when seeking informed consent
    B. Fabrication, falsification of data, and plagiarism
    C. Attributing only partial authorship to other contributors when they have done most of the work
    D. Making false claims about a project being funded when the researcher is talking about his or her work

13. HIPAA, which was designed to protect all humans and their medical records in this era of electronic paperless records, has imposed another restraint on conducting research. Why?
    A. It is more difficult to obtain IRB permission to conduct a research project.
    B. With paperless medical records, there are no data to analyze, even when interview data and surveys are involved.
    C. The regulations protect against unauthorized disclosure; although IRB permission includes this protection, additional care is taken under HIPAA.
    D. HIPAA ensures that highly sensitive data (e.g., HIV/AIDS status) are not disclosed.

14. Privacy and confidentiality are always issues in human subject research. What are the important steps to ensure that they are protected?
    A. The researcher does not talk about what the subject shares until the project's results are published in a peer-reviewed journal.
    B. All data are kept securely locked in a safe place and destroyed when the study is completed.
    C. Care with replication studies must be taken so that original data are not shared in the second study.
    D. All data are kept securely locked in a safe place and may be destroyed only according to IRB instructions.

15. Both the International Council of Nurses and the American Nurses Association make it clear that the ethical standards of the profession require the same obligations from the nurse researcher. Why?
    A. For the protection of vulnerable clients and patients
    B. For the protection of the nurse researcher
    C. Because of an obligation inherent within the nursing profession
    D. Because practice on which these ethical standards are built focuses nursing research

16. A nurse is developing a question for an EBP project involving the fall rate of patients 65 years of age and older. What should the initial ethical consideration be?
    A. The age of the researcher
    B. The number of falls
    C. The age of the population
    D. The sample size of the population

17. EBP projects in your institution are not required to obtain IRB approval. What must the nurse in charge of the EBP project still do?
    A. Maintain anonymity and confidentiality of patient information
    B. Maintain professionalism in gathering patient information
    C. Provide all staff access to the patient information
    D. Provide patient information obtained to the hospital board of directors

Discussion Questions

1. Several nurses are working together to develop a research project. Only one is doctorally prepared; the others have either a master's degree or a baccalaureate degree. The preparatory work is to be shared equally among all the nurses. As the project evolves, it turns out that those who do not have a doctorate do all the work. At a meeting, the doctorally prepared nurse insists that she be listed as the principal investigator for the grant to be submitted and as the first author on all publications. She bases her request on a belief that the reviewers of the grant would "pay more attention to the application" if the principal investigator has a doctoral degree. Discuss the ethical issues embedded in this situation.
2. The protection of human subjects lies at the heart of any research project. Part of this protection entails the need to obtain informed consent. A female nurse wants to do a qualitative study investigating what it means for males to live with diabetes mellitus and the resultant impotence. Qualitative research usually involves interviewing the human subject, and sexual impotence is a particularly sensitive subject. How should the nurse explain the study to her potential sample to ensure that the consent is truly informed and that the subjects will not drop out of the study because of extreme discomfort during the interview? What are the ethical issues involved?
3. Codes of ethics in human research, developed partly as a result of the atrocities of the mid-20th century, continue to be refined. The dictionary definitions of *moral* and *ethics* suggest that the meanings of these terms can and will change, and the evolving codes support this idea. Yet codes of ethics are based on some universal theories and values theories. Discuss why, despite the universality of these theories, the codes continue to evolve.
4. You have an idea for an EBP project that your hospital has approved regarding the fall rates of pediatric patients on your unit. Discuss the ethics involved with this particular population. How would you incorporate ethics in the data collection, analysis, and report of the project?

Suggested Readings

American Association of Critical-Care Nurses (AACN). (2015). Ethics in critical care nursing research. Retrieved from http://www.aacn.org/wd/practice/content/research/ethics-in-critical-care-nursing-research.pcms

Im, E.-O., & Chee, W. (2002, July/August). Issues in protection of human subjects in Internet research. *Nursing Research, 51*(4), 266–269.

International Council of Nurses (ICN). (2012). *The ICN code of ethics for nurses*. Retrieved from http://www.icn.ch/images/stories/documents/about/icncode_english.pdf

Lanter, J. (2006). Clinical research with cognitively impaired subjects. *Dimensions of Critical Care Nursing, 25*(2), 89–92.

Levine, C., Faden, R., Grady, C., Hammerschmidt, D., Eckenwiler, L., & Sugarman, J. (2004). The limitations of "vulnerability" as a protection for human research participants. *American Journal of Bioethics, 4*(3), 44–49.

National Institutes of Health (NIH). (1979). The Belmont report: Ethical principles and guidelines for the protection of human subjects of research. Retrieved from http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html

Rogers, B. (2005). Research with protected populations: Vulnerable participants. *AAOHN Journal, 53*(4), 156–157.

Smith, L. (2001, May/June). Ethics and the research realist. *Nurse Educator, 26*(3), 108–110.

United Nations. (2002). International covenant on civil and political rights, article 7. Universal declaration of human rights. Retrieved from https://treaties.un.org/doc/Publication/UNTS/Volume%20999/volume-999-I-14668-English.pdf

U.S. Department of Health and Human Services. (1998). Sponsor–investigator–IRB interrelationship—information sheet. Retrieved from http://www.fda.gov/RegulatoryInformation/Guidances/ucm126425.htm

U.S. Department of Health and Human Services. (2005). Protection of human subjects rule, 45 C.F.R. 46. Retrieved from http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html

References

Allmark, P. (2015). Ethics and evidence-based practice. In M. Lipscomb (Ed.), *Exploring evidence-based practice: Debates and challenges in nursing. Routledge key themes in health and* society (pp. 180–194). London, UK: Routledge. Retrieved from Sheffield Hallam University Research Archive, http://shura.shu.ac.uk

American Nurse, The. (2015). Welcoming in the "year of ethics." *The American Nurse, 47*(1), 1.

American Nurses Association (ANA). (1994). *Position statement: Assisted suicide*. Washington, DC: Author.

American Nurses Association (ANA). (2015). *Code of ethics for nurses*. Retrieved from http://www.nursingworld.org/codeofethics

American Nurses Association and International Association of Clinical Research Nurses. (2017). *Clinic research nursing: Scope and standards of practice*. Silver Spring, MD: American Nurses Association.

Anderson, D. G., & Hatton, D. C. (2000). Accessing vulnerable populations for research. *Western Journal of Nursing Research, 22*(2), 244–251.

Batalden, P. B., & Davidoff, F. (2007). What is "quality improvement" and how can it transform healthcare? *Quality and Safety in Health Care, 16*(1), 2–3.

Birch, M., & Miller, T. (2002). Encouraging participation: Ethics and responsibilities. In M. Mauthner, M. Burch, J. Jessop, & T. Miller (Eds.), *Ethics in qualitative research* (pp. 91–106). London, UK: Sage.

Borsay, A. (2009). Nursing history: An irrelevance for nursing practice? *Nursing History Review, 17*(1), 14–27.

Burkhardt, M. A., & Nathaniel, A. K. (2014). *Ethics and issues in contemporary nursing* (4th ed.). Stanford, CT: Cengage Learning.

Carter, E. J., Mastro, K., Vose, C., Rivera, R., & Larson, E. L. (2017) Clarifying the conundrum: Evidence-based practice, quality, improvement, or research? *The Journal of Nursing Administration, 47*(5), 266–270.

Cartwright, J. C., & Hickman, S. E. (2007, October). Conducting research in community-based care facilities: Ethical and regulatory implications. *Journal of Gerontological Nursing, 33*(10), 5–11.

Centers for Disease Control and Prevention (CDC). (2011). The Tuskegee timeline. Retrieved from http://www.cdc.gov/tuskegee/timeline.htm

Chappy, S., & Gaberson, K. B. (2012). To IRB or not to IRB: That is the question. *AORN Journal, 95*(6), 682–683.

Christians, C. G. (2003). Ethics and politics in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The landscape of qualitative research: Theories and issues* (2nd ed., pp. 208–244). Thousand Oaks, CA: Sage.

Cipriano, P. F. (2015). Ethical practice environments, empowered nurses. *The American Nurse, 47*(2), 3.

Cipriano Silva, M. (2006). Ethics of research. In J. Fitzpatrick & M. Wallace (Eds.), *Encyclopedia of nursing research* (2nd ed., pp. 177–180). New York, NY: Springer.

Commission on Research Integrity. (1995). *Integrity and misconduct in research* (U.S. Department of Health and Human Services, Publication No. 1996–746–425). Washington, DC: U.S. Government Printing Office.

Conn, V. S. (2008). Staying true to the results. *Western Journal of Nursing Research, 30*(2), 161–162.

Cortez-Gann, J. Gilmore, K. D., Foley, K. W., Kennedy, M. B. & Kring, T. M. (2017). Blood transfusion vital sign frequency: What does the evidence say? *Medsurg Nursing, 26*(2) 89–92.

Council for International Organizations of Medical Sciences (CIOMS). (2002). International ethics guidelines for biomedical research involving human subjects. Retrieved from http://www.cioms.ch/publications/guidelines/guidelines_nov_2002_blurb.htm

Dally, A. (1998). Thalidomide: Was the tragedy preventable? *Lancet, 351*(9110), 1197–1199.

Doody, O., & Noonan, M. (2016) Nursing research ethics, guidance and application in practice. *British Journal of Nursing, 25*(14), 803–807.

Driever, M. J., & Pranulis, M. F. (2003). New challenges for issues in clinical nursing research. *Western Journal of Nursing Research, 25*(8), 937–947.

Edwards, R., & Mauthner, M. (2002). Ethics and feminist research: Theory and practice. In M. Mauthner, M. Burch, J. Jessop, & T. Miller (Eds.), *Ethics in qualitative research* (pp. 14–31). London, UK: Sage.

Ely, B., & Coleman, C. (2007). Recruitment and retention of children in longitudinal research. *Journal for Specialists in Pediatric Nursing, 12*(3), 199–202.

Erlen, J. A. (2005). HIPAA: Implications for research. *Orthopedic Nursing, 23*(2), 139–142.

Firby, P. (1995). Critiquing the ethical aspects of a study. *Nurse Researcher, 3*(1), 35–41.

Freda, M. C., & Kearney, M. H. (2005). Ethical issues faced by nursing editors. *Western Journal of Nursing Research, 27*(4), 487–499.

Grady, C. (2007). Quality improvement and ethical oversight. *Annals of Internal Medicine, 146*(9), 680–681.

Hanna, K. M., Weaver, M. T., Slaven, J. E., Fortenberry, J. D., & DiMeglio, L. A. (2014). Diabetes-related quality of life and the demands and burdens of diabetes care among emerging adults with Type I diabetes in the year after high school graduation. *Research in Nursing & Health, 37*(5), 399–408.

Henley, S. J., & Dougherty, M. C. (2009). Quality of manuscript reviews in nursing research. *Nursing Outlook, 57*(1), 18–26.

Hockenberry, M. (2014). Quality improvement and evidence-based practice change projects and the institutional review board: Is approval necessary? *Sigma Theta Tau International, 11*(4), 217–218.

International Council of Nurses (ICN). (2012). *The ICN code of ethics for nurses*. Retrieved from http://www.icn.ch/images/stories/documents/about/icncode_english.pdf

IRB Advisor. (2017, August). Gray zone remains between clinical research and quality improvement efforts. *IRB Advisor, 17*(8), 93–94.

Jeffers, B. R. (2005). Research environments that promote integrity. *Nursing Research, 54*(91), 63–70.

Kawar, L. N., Pugh, D. M., Scruth, E. A. (2016). Understanding the role and legal requirements of the institutional review board. *Clinical Nurse Specialist, 30*(3), 137–140, doi:10.1097/NUR.0000000000000197

Ketefian, S., & Lenz, E. R. (1995). Promoting scientific integrity in nursing research. Part II: Strategies. *Journal of Professional Nursing, 11*(5), 263–269.

Kirk, S. (2007). Methodological and ethical issues in conducting qualitative research with children and young people: A literature review. *International Journal of Nursing Studies, 44*(7), 1250–1260.

Kunin, T. F. (1997). Ethical issues in longitudinal research with at-risk children and adolescents. Cited in A. J. Roberson (2007). Adolescent informed consent: Ethics, law, and theory to guide policy and nursing research. *Journal of Nursing Law, 11*(4), 191–196.

Lenz, E. R., & Ketefian, S. (1995). Promoting scientific integrity in nursing research. Part I: Current approaches in doctoral programs. *Journal of Professional Nursing, 11*(5), 213–219.

Lutz, K. F. (1999). Maintaining client safety and scientific integrity in research with battered women. *Image: Journal of Nursing Scholarship, 31*(1), 89–93.

Lynn, J., Baily, M. A., Bottrell, M., Jennings, B., Levine, R., Davidoff, F., . . . James, B. (2007). The ethics of using quality improvement methods in health care. *Annals of Internal Medicine, 146*(9), 666–673.

Macrina, F. L. (1995). *Scientific integrity: An introductory text with cases*. Washington, DC: ASM Press.

Miller, T., & Bell, L. (2002). Consenting to what? Issues of access, gate-keeping and informed consent. In M. Mauthner, M. Burch, J. Jessop, & T. Miller (Eds.), *Ethics in qualitative research* (pp. 53–69). London, UK: Sage.

Miller, V. A. (2017, August). Assent is not consent: Children in clinical trials are not little adults. *IRB Advisor*, *17*(8), 3–5.

National Institutes of Health (NIH). (1979). The Belmont report: Ethical principles and guidelines for the protection of human subjects of research. Retrieved from http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html

O'Mathúna, D. P. (2015). Ethical consideration for evidence implementation and evidence generation. In B. M. Melnyk & E. Finout-Overholt (Eds.), *Evidence-based practice in nursing and healthcare: A guide to best practice* (3rd ed). Philadelphia, PA: Lippincott, Williams & Wilkins.

Perkins, E. (2001). Johns Hopkins tragedy: Could librarians have prevented a death? *Information Today, 18*(8), 51, 54. Retrieved http://newsbreaks.infotoday.com/nbreader.asp?ArticleID=17534

Pilkington, F. B. (2002). Scientific merit and research ethics. *Nursing Science Quarterly, 15*(3), 196–200.

Public Health Service Act, 42 USC 163. (1988). Cited in D. L. Volker (2004). Methodological issues associated with studying an illegal act: Assisted dying. *Advances in Nursing Science, 27*(2), 117–128.

Redman, R. W. (2007). Knowledge development, quality improvement, and research ethics. *Research and Theory for Nursing Practice: An International Journal, 21*(4), 217–219.

Reich, W. T. (Ed.). (1995). *Encyclopedia of bioethics* (pp. 2248–2259). New York, NY: Simon & Schuster Macmillan.

Roberson, A. J. (2007). Adolescent informed consent: Ethics, law, and theory to guide policy and nursing research. *Journal of Nursing Law, 11*(4), 191–196.

Rogers, B. (2005). Research with protected populations: Vulnerable participants. *AAOHN Journal, 53*(4), 156–157.

Rothstein, W. G., & Phuong, L. H. (2007). Ethical attitudes of nurse, physician and unaffiliated members of institutional review boards. *Journal of Nursing Scholarship, 39*(1), 75–811.

Schroeder (2017). Ethics dumping—the dark side of international research. Retrieved from https://theconversation.com/ethics-dumping-the-dark-side-of-international-research. December 12, 2017.

Siedlecki, S. L. (2008). Making a difference through research. *AORN Journal, 88*(5), 716–729.

Stephens, T. M. (2017). Situational awareness and the nursing code of ethics. *American Nurse Today, 12*(11), 56–58.

Tanner, C. A. (2006). Thinking like a nurse: A research-based model of clinical judgment in nursing. *Journal of Nursing Education, 45*(6), 204–211.

Tschudin, V. (1992). *Ethics in nursing: The caring relationship*. Oxford, UK: Butterworth Heinemann.

Twycross, A., & Corlett, J. (2007). Challenges of setting up a multi-centered research study. *Nursing Standard, 21*(49), 35–38.

U.S. Department of Health and Human Services. (2009). Protection of human subjects, title 45, code of regulations, part 46. Retrieved from http://www.hhs.gov/ohrp/humansubjects/regbook2013.pdf.pdf

U.S. Department of Health and Human Services. (2017). Code of Federal Regulations, 21 U.S.C.A.§56.101 *et. Seq.* US. Food and Drug Administration, 2017.

Volker, D. L. (2004). Methodological issues associated with studying an illegal act: Assisted dying. *Advances in Nursing Science, 27*(2), 117–128.

Weaver, K. (2007). Ethical sensitivity: State of knowledge and needs for further research. *Nursing Ethics, 2*(4), 141–155.

Westlake, C., & Taha, A. A. (2012). The institutional review board: Purpose and process. *Clinical Nurse Specialist, 26*(2), 66–70.

Wood, A., Grady, C., & Emanuel, E. J. (2002). The crisis in human participants research: Identifying the problems and proposing solutions. Retrieved from http://bioethics.georgetown.edu/pcbe/background/emanuelpaper.html

Woolston, W., & Connelly, L. M. (2017). Felty's syndrome: A qualitative case study. *MedSurg Nursing, 26*(2) 105–109, 118.

Young, M. (2017, August). ICMJE underlines ethics on importance of data sharing. *IRB Advisor, 17*(8) 85–86.