The Evolution of Nurse Anesthesia

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Introduction

When undergoing a surgical procedure, you may think that the primary thing affecting your health is the surgeon who is completing your surgery. You are wrong. There are a plethora of different factors that must work hand-in-hand to ensure that you really do wake up from surgery. One of the most significant factors is the person who is prescribing and monitoring your body's anesthesia intake. A Certified Registered Nurse Anesthetist (CRNA) is not only responsible for making sure that you are asleep during your surgery, but they are also in charge of keeping you stable for the entire procedure. They become your guardian angel when you have no one else to look out and care for you.

The field of nurse anesthesia has been in existence since around the time of the Civil War, when nurses on the front lines of battle cared for the wounded with the help of trained soldiers. Today, some 150 years later, approximately 44,000 CRNAs and student CRNAs across the United States of America will administer over 32 million anesthetics to patients everywhere (Wilson 215). When anesthesia was used for the first time, nurses used overly simple and sometimes dangerous methods of anesthetizing their patients during surgery; however, these crude, rudimentary forms were better than no anesthesia at all. Fast forward to modern day medicine and the picture changes dramatically to a highly complex and greatly respected field. Nurse anesthetists are responsible for constantly monitoring "complex and rapidly changing information" in their decision making processes during a surgical procedure (Peterson 346). CRNAs must be attentive to the variable "changing patient information, surgical conditions, and intraoperative communication" to make sure that they take immediate action to make sure that their patients come out of surgery safely (Peterson 346).

I became interested in the field of nursing several years ago when I knew I wanted to be in the medical field, but I did not want to spend a decade in school. So I decided I wanted to be a nurse. I have always had a passion for helping people. I was a Boy Scout for 13 years, and I received my Eagle Scout award, which I earned by helping people through service. This desire to help, in combination with my deep fascination with the medical field, has created a sense and recognition that nursing would be the most rewarding career choice for me! After I become a Registered Nurse (RN), I plan to later specialize in nurse anesthesia. I am currently the Vice President of the Association of Pre-Nursing Students (APNS) at the University of Central Florida (UCF) . I also attended several meetings with the faculty of the College of Nursing at UCF to collect more information on the field. In this paper, I aim to discover which specific genres nurse anesthetists reference when an attempt is made to further the expanse of the field, and how these genres help to shape the future of nurse anesthesia.

Review of Literature

The field of nurse anesthesia is rapidly changing with a never-ending debate over many of the critical topics that make up pivotal details within the community. There are many challenges faced by CRNAs that require a large amount of detail and care. One of these challenges is simply not

having enough nurses in the field. In collaboration with the *National Center for Nursing Research of the National Institutes of Health,* Ray reports "nurse anesthesia programs need approximately 1500 to 1800 graduated annually" in order to meet the country wide demands for CRNAs by the year 2010, and the main impediment to increasing the numbers of CRNAs was cited as a shortage of faculty (325-26). This shortage of faculty includes any positions essential to the education and preparation of CRNAs. These teachers, mentors, administrators, and even other CRNAs are crucial to the continued training of new CRNAs. This shortage of faculty is directly correlated to the difficulty associated with preparing an adequate number of CRNAs. Chipas and McKenna both specialize in nurse anesthesia at MUSC Children's Hospital in South Carolina and share similar views of the field as a whole. Due to the shortage in the nurse workforce, nurse anesthetists serve in multiple roles throughout the health care industry, such as "staff-nurse anesthetists, administrators, business owners, students, and our unsung heroes, the military nurse anesthetists" (Chipas and McKenna 127). The correlation of these ideas all lead to the same conflict—there are not enough nurses. This is one of the contributing factors that will shape the future of nurse anesthesia.

Drastic changes to the field of nurse anesthesia are coming in the near future. Mastropietro shares many ideas with Plaus, Muckle, and Henderson, all who offer ideas and guidelines for the future of the nurse anesthesia. Mastropietro gives multiple recommendations to the field as strategies for improvement:

1. Materials and brochures should be reviewed and updated periodically.

2. The American Association of Nurse Anesthetists (AANA) should emphasize building relationships with other organizations.

3. Faculty development should be ongoing.

4. Doctorally-prepared CRNAs should be cultivated by promoting the value of a doctoral education and the need for such preparation.

5. A protocol needs to be established for regularly updating and maintaining key statistics essential to achieving AANA's goals.

6. The number and quality of applicants to nurse anesthesia programs needs to be monitored and recruitments activities adjusted accordingly. (455-457)

These ideas go hand in hand with some of the ideas presented by the National Board of Certification and Recertification of Nurse Anesthetists (NBCRNA). The NBCRNA has undertaken an in-depth analysis of the important concepts and intents related to continuing "competence and recertification" in Nurse Anesthesia" (Plaus, Muckle, and Henderson 418). Their analysis consisted of two different studies: "a certification industry benchmarking study" used to find trends and programs in different professions, and a "recertification practice analysis" to decide the expertise and skills required of "recertified nurse anesthetists" (Plaus, Muckle, and Henderson 418). This suggests that the board believes that there are some changes that need to be made because they feel the current stipulations in place are not up to par with the expectations of the field. Although this continues to be a controversial topic, the continued education and testing of CRNAs presents no immediate detrimental values to the overall goal of maintaining a high level of quality of care for patients that interact with CRNAs.

Many ideas have circulated concerning the direction of nurse anesthesia, with several causes impacting its future. One of the most significant influences is the *Journal of the Association of Nurse Anesthetists.* This journal contains countless articles and shared ideas directly related to the advancement of nurse anesthesia, though many other publications also contribute to this genre of academic writing focused on the field. As these genres evolve, they will change the way that nursing is practiced, and continue to make a difference on the face of healthcare every day. Through the evaluation of a collection of these genres, I will be able to determine which specific genres the community of nurse anesthetists looks to when an attempt is made to further the expanse of the field, and how the genres help to shape the future of nurse anesthesia.

Methodology

The field of nurse anesthesia is one that is rather prevalent within the city of Orlando, Florida. My research took place in part at a local university here in Florida. I conducted my detailed interview at this school in the graduate building on the second floor where the nurse anesthesia department is located. My interview was conducted with Dr. Alexandra Stanton (a pseuodonym), an Associate Professor of Nurse Anesthesia. She is not only a CRNA, but also a PhD, and an Advanced Registered Nurse Practitioner (ARNP). I conducted the interview with Dr. Stanton in her office, recording the interview using two different devices to ensure that the interview was recorded properly. The first device was an iPhone 4s equipped with an audio recording application. The second device was an iPhone 6 equipped with the same application. Later, I extracted the audio recording file located on the iPhone 6, as that the microphone was larger and this device is a more recent piece of technology. Dr. Stanton was chosen for the interview because she has not only the extensive background of being a CRNA, but also a background in teaching students who wish to be CRNAs. Teachers tend to see things differently than other professionals, and receiving information through the mind of a teacher would provide an interesting perspective beyond just a CRNA affiliation. Throughout my interview, I tried to ask detailed questions that would solicit broad answers. Since there was a lot of information I was trying to extract from this interview, I made it clear that I was looking for a broad overview for each of my questions. The total time elapsed for my interview was 1 hour and 2 minutes.

All secondary resources used were scholarly, peer-reviewed publications. The majority of my sources came from the database of CINAHL. The source by Wanda O. Wilson came from the Oakland University Interlibrary Loan, and some of my sources came from EBSOHOST. I used several different words for the majority of my search terms: "nurse anesthetist, nurse anesthesia, future, evolution, modernization, anesthesiologist and change." This section of research was extremely effective for me in terms of collecting large amounts of data on the field. Due to the fact that this community is very complex and dynamic, it was important for me to get a strong handle on the specifics of nurse anesthesia. I collected all of the information that I needed about being a CRNA before conducting my interview so that I could be as knowledgeable as possible prior to beginning so I could use the interview as effectively as possible.

I collected three different genres while conducting my interview, which helped to guide my research. This collection included a group of blank patient charts, a detailed informational brochure regarding the effects of anesthesia on a patient, and a digital copy of the *Journal of the American Association of Nurse Anesthetists.* All three of these genres were pivotal in shaping the way that I continued to evaluate my sources and guide my research. The patient charts that I analyzed showed me what the nurse anesthetist sees when they are with a patient. These pre- and post-operative documents contain vital information of each patient's case, exemplifying the work a nurse anesthetist might encounter during a typical day. The brochure demonstrates the main ideas that the nurse anesthetists convey to their patients when they come in for surgery.

This also helps to show what the future of anesthesia will look like in analyzing the issues present with current day anesthesia. The brochure provides the patient with a wealth of information regarding the prescription of anesthesia. Many patients do not understand all of the aspects of anesthesia, so this brochure provides pre-operative patients with what they can expect before, during, and after their surgery. The final genre I collected was the *Journal of the American Association of Nurse Anesthetists.* This was the most significant of the genres because it specifically relates to the advancement of the field. The articles presented in this journal contain the knowledge of the most important and influential people in the field. Their shared ideas and concepts will help to not only change the future, but also inspire future CRNAs and other healthcare workers.

Collecting an ample amount of data in a short amount of time became easier than expected

and helped to make my data collection process much simpler in the long run. The large amounts of articles and journals on the topics that I was researching surprised me, and made the collection of data much easier than I was expecting. I collected a lot of data on the many different current controversies of the field and it caused my research to point in a slightly different direction that made it possible to collect even more valuable information to put towards my data collection. The thing that was most challenging was the fact that I kept stumbling upon more and more data in my attempts to collect information that made me want to point in a different direction. The reason for this is that the field is so large and complex and there are so many different ideas about what direction the field should go in and how it should be led. If I had to make a recommendation to future students who wish to study this field, I would strongly recommend prior to even starting, that they form an extremely strong and specific research question that is stable and relatively focused, with room for directional changes, due to the fact that once research begins it is so easy to want to change your research question a countless number of times which makes it so much harder to compile a useable list of data for your paper. This topic is very interesting however, and it has the potential to successfully be used for a large variety of research questions due to the versatility of the field. The future of the field will be an open field to study in the coming years as we progress into new procedures and rules in the community of CRNAs. The possibilities are endless.

Discussion

Future: Cost Effectiveness

One of the main factors shaping the future of nurse anesthesia over the next few years relates to the advantages of using nurse anesthetists over anesthesiologists. In the modern day hospital, it is considerably more economical to use CRNAs over using anesthesiologists. According to McCauliffe and Henry, "[i]n one study, it was demonstrated that for the cost of preparing one physician anesthetist, ten nurse anesthetists can be educationally prepared and cumulatively provide 35 to 40 years of nursing and nurse anesthesia services to a community" (285). This significant factor may influence many hospitals around the country to convert from expensive anesthesiologists to more cost effective nurse anesthetists. The main reason for this progressive switch is that nurse anesthetists are just as capable of performing any anesthesia-related procedure as anesthesiologists. The major difference between nurse anesthetists and anesthesiologists is their background. Anesthesiologists are medical doctors who do not need supervision to put a patient under anesthesia. Nurse anesthetists are nurses that require supervision in some states, though not in other states. The change to using CRNAs is relatively new to most hospitals across the country. The first places that are beginning to use CRNAs more are in rural hospitals. The "anesthesia workforce planning" groups need to consider the fact that CRNAs play a vital role in the "provision of anesthesia services in rural communities" (Seibert, Alexander, and Lupien 189). This is very important since often rural facilities may not have the same large-scale budgets that big city hospitals might have, so being able to have CRNAs in place of high paid anesthesiologists will not only save money, but also provide patients with healthcare providers who are not overworked.

As hospitals begin to transition into this new trend of employing more and more CRNAs, they will need guidance for this transition. This guide will need to be prepared and laid out by both AANA and the NBCRNA.

Future: Genres

An increasingly significant publication to the field of Nurse Anesthesia is the *Journal of the American Association of Nurse Anesthetists*. This journal is incredibly important because it focuses on the evolution of the field as a whole. It features articles about new technologies, equipment, methods, rules, and other new dimensions of how change is occurring within the profession. This

concentration on the evolution of the field is an important concept for medical professionals to recognize. This periodical is generated bi-monthly so errors can be corrected and innovative and/or expanding concepts can be continually produced to advance forward-thinking. Sharing concepts and ideas challenges other members of the nurse anesthesia community to consider new viewpoints, adopt new strategies and practices, and so the entire field is elevated. The main audience for this journal is CRNAs, though anyone who is largely affected by anesthesia in the healthcare field is also a part of this audience. The articles look to improve the anesthesia care in the healthcare, so it has the potential to benefit different groups of healthcare workers. This creates a unique journal with entries from many respected individuals in the field of CRNAs and anesthesiologists. The journal is free to members of the AANA, and is also free to the public on the AANA website with digital copies available. The journal has been printed since the origin of the association in 1931. When an entire academic field comes together in one communal journal, it creates an environment that stimulates knowledge and causes the field to evolve constantly, and that is exactly what is happening within the field of nurse anesthesia.

Nursing has been an expanding field for many years and continues to be one of the most primary and influential fields in the community of healthcare.

Future: Classroom Changes

The initial stage for change within the nurse anesthesia field is the classroom. Dr. Stanton holds degrees in both nursing and teaching, which makes her an interesting candidate for questions regarding this topic, as she can provide answers from two connected yet distinct perspectives. When prompted with the question of what she would change about the current classroom setting, Dr. Stanton said that "if time and faculty personnel was no limit," she would add a large amount of simulation to the program. Simulation is using robots to create a situation in either a patient room or an operating room that would simulate real life situations. She believes that students do not understand how time-consuming it is to fabricate simulations or the amount of time it takes to develop skills related to the highly complex field. This would build a stronger bridge between the clinical practice and the real thing. The way the field is moving right now points in a direction that suggests that soon CRNAs will be required to get a doctorate degree; currently, CRNAs only need a master's degree. Dr. Stanton described some of the challenges of the current day situation. She believes that most "CRNAs don't primarily focus on what happens in the health care field other than anesthesia." She thinks that once you start to get to the doctoral level, there will be people who are "incredibly knowledgeable about anesthesia," but will also see it from other perspectives, and she believes that, "that breadth of awareness will ultimately help to make improvements in the whole field." Changing these things will help to make CRNAs view the field in a broader spectrum. All of these changes will come together to form an environment that will foster the future of nurse anesthesia by bringing in nurses who are extremely prepared for anything that comes their way. When they have this level of training, they will not only be able to practice medicine in a safer and more reliable way, but also they will be able to contribute to the field as a whole more often and more successfully. This will increase the rate of speed in which the field evolves, causing even more breakthroughs, innovations, and inventions. Related to this is the switch from anesthesiologists to CRNAs. With this new education system, there will be fewer differences between the two medical professionals. There will be a stronger pull for students to become CRNAs because pay levels will increase with a higher level of education, and the field will be more respected while also lessening the shortage of CRNAs. This continuous circle of evolution will make nurse anesthesia a more central feature of the healthcare field.

Future: Continuing Education

One of the simplest ways to change any field is through mandated continuing education hours. Currently, in the field of nurse anesthesia, according to Dr. Stanton, "it is required that every CRNA have 40 continuing education units every 2 years." This requirement is undergoing change and is a widely debated topic in the field right now. Continuing education hours not only keep up good practice habits, but they also create an environment that can be used to establish new ideas and share new trends with nurses. The future of nurse anesthesia can be transformed through these continuing education hours. By using the *AANA Journal* to help facilitate and instruct these continuing education classes, the future of nurse anesthesia is directly in the hands of those who are structuring academic coursework. All of these different ways of moving the field forward link together to work toward the creation of a strong and capable workforce of nurse anesthetists who can change not only their field, but also the healthcare industry in its entirety. Increased respect for the field will lead to a greater number of people who begin their educational pathways with nurse anesthesia is their chosen profession. The future of CRNAs is in the hands of current CRNAs. They hold the power to shape the future, what will happen within the education programs and systems, and the rules of the field. However, the rapid evolution of techniques and technologies is also working toward this new future.

Conclusion

Nursing has been an expanding field for many years and continues to be one of the most primary and influential fields in the community of healthcare. When looking at the field on a global scale, nurses truly become the primary caregivers of health care (McAuliffe and Henry 285). I am honored and quite excited to have the opportunity to join a career path as rewarding and thrilling as the one that I am currently en route towards. The journey that I have ahead of me will be both arduous and time consuming; however, the end product will provide me with a valuable career and the ability to deliver quality healthcare and valued assistance for the specific needs of an infinite number of patients. This field of nursing can and will continue to be researched for a long time. The only question I still have about the field is why are there still 34 states across the country that do not allow CRNAs to practice independently of supervision? I believe this number will continue to drop as states allow CRNAs to practice independently which will cause significant and beneficial changes to the field as a whole. The future research of this topic should be taken head on by evaluating the ways that the healthcare field reacts to the practice of CRNAs. This will prove that CRNAs are just as capable of performing as Anesthesiologists. Future research could go in any direction; however, the analysis of future technologies would aid in discovering the ways that the field will continue to change. There are many outlets that can contribute to the overall academic conversation surrounding this community. The future of this community is ultimately in the hands of the boards that helped to construct it. This will shape not only the field, but also any research that will be done within the profession in the future. The future is an unpredictable and variable state. This is what makes research so interesting—it shapes the future of medicine and healthcare as we know it.

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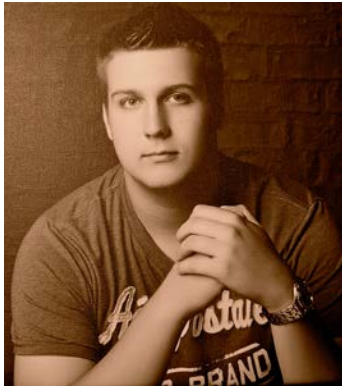
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