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## Patient Care Advocacy Through Electronic Communication

Jared T. Holton

*Southern Illinois University Edwardsville*

Scott A. Kahre

*Southern Illinois University Edwardsville*

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## Executive Summary

### **The Problem**

In the United States of America, Certified Registered Nurse Anesthetists (CRNAs) are advanced practice nurses who provide anesthesia services. It is calculated that CRNAs administer approximately 43 million anesthetics annually, providing the lion share of anesthesia to the rural US (About Us, 2017). Because of CRNAs role as clinical providers, it is ethically incumbent upon them to advocate for patients in the creation of healthcare policy.

For decades, health policy advocacy has occurred through direct communication such as meetings, phone calls, physical letters, and electronic communiqué with legislative officials. Indirect advocacy has also transpired through professional healthcare organizations such as the American Association of Nurse Anesthetists (AANA) and political action committees. Despite the advocacy efforts by CRNAs over the last century, a significant disparity of access to anesthetic care exists, compounded by fiscally ineffective labor models reinforced by legislation at the federal and state levels (Epstein & Dexter, 2012; Hogan, Seifert, Moore, & Simonson, 2010; Liao, Quraishi, & Jordan, 2015).

Potential hindrances to effective patient advocacy in the legislative environment may include a lack of knowledge regarding scope of practice, difficulty with the technical aspects of political engagement, and/or how to converse with legislative or executive authorities. Advocacy software for smartphones and other mobile devices could be created to augment a clinician's political acumen, increase ease of political engagement, and increase the efficacy of organizational communication.

### **Literature Review**

A thorough literature review was conducted using the scholarly databases Scopus and CINAHL. Search terms and concepts included patient advocacy, healthcare policy influence by practitioners, comparative clinician labor cost, and use of electronic media in healthcare. Literature search spanned from 2010 until 2017. The website, Federalregister.gov was utilized to retrieve healthcare statutes related to practice law. Despite an exhaustive search of many bodies of professional literature, a dearth of literature regarding the use of electronic devices by professionals to influence the creation of policy emerged. As a result, an authority on professional organization influencing policy was also consulted.

The literature has well established that anesthesia care is frequently costlier than is necessary (Gilman & Koslov, 2014; Hogan et al., 2010). The Anesthesia Care Team (ACT) Model is the descriptor for a mix of CRNAs and physician anesthesiologists that divide anesthesia labor within a group at a facility (Epstein & Dexter, 2012). CRNAs and physician anesthesiologists are functionally interchangeable with regard to providing anesthesia (Hogan et al., 2010). Several studies have shown that CRNAs and physician anesthesiologists provide care equally safe (Dulisse & Cromwell, 2010; Lewis, Nicholson, Smith, & Alderson, 2014; Pine, Holt & Lou, 2003). State scope of practice law often create hurdles for CRNAs to practice independently despite their training and demonstrated safe care (IOM, 2011). Additionally, due to federal and state statutes, reimbursement for anesthesia services varies whether a CRNA independently provides anesthesia or does so under supervision or direction of a physician anesthesiologist (CMS, 2001). The Federal Trade Commission (FTC) has determined that unnecessary scope of practice restrictions have substantial fiscal consequences on the healthcare system and individual patients by weakening marketplace competition pressures and limiting access to care (Gilman & Koslov, 2014; Quraishi, Jordan & Hoyem, 2017).

The literature revealed that healthcare law is a complex topic. Healthcare law has and will continue to evolve ("History of Health Reform Efforts in the United States", 2011). Congress, insurance companies, healthcare provider systems, healthcare industry organizations, healthcare facilities, individual healthcare providers, and the public constitute most stakeholders interested in influencing healthcare law. State and federal congressional bodies are the gatekeepers and literal decision makers on the subject. A confluence of agendas converging on a byzantine and semi-opaque political arena has created an environment that is difficult for any singular group to be heard (Starr, 2012). Cutting through the noise, to connect with and create a working relationship with members of Congress appears to be essential to exerting influence in future legislation.

Advances in electronic communication vis-à-vis mobile devices provide a well-suited platform for development of a new advocacy tool. Mobile computing software has begun to change provider-patient communication and interaction. Granado-Font et al. (2015) demonstrated that use of mobile software is impacting healthcare stakeholders' behaviors and relationships with each other. Researchers from numerous disciplines are describing new avenues and behaviors of communication as incredibly impactful, and, at times, disruptive to classic economic, political, and social structure theories (Schadler & McCarthy, 2012; Stephens, 2012; Twentyman, 2013). Some research has shown that the agency and self-industry of an individual or group are directly related to the quality of their social networks (Granado-Font et al., 2015; Lapinski, Anderson, Cruz, and Lapine, 2015). By equipping individual CRNAs with mobile device software, the providers would have an increased opportunity to be advocate with less opportunity costs. The software could also be utilized to assess organizational weaknesses and strengths, provide social analysis and evaluate outcomes of advocacy strategies (Hindhede

and Aagaard-Hansen, 2017). Ralph Kohl, the Senior Director of Federal Affairs at the AANA verified that political engagement by CRNAs in terms of advocacy was not as robust as it could be. He confirmed that individual CRNA advocacy efforts might be improved through use of mobile advocacy software.

### **Methodology**

Professional health care providers have yet to integrate and leverage electronic mobile software as advocacy communication tools. CRNAs could augment patient advocacy efforts by installing advocacy assistive software on their digital devices. Push notifications from professional leadership could galvanize the professional body immediately at any time clinician input would be helpful to legislators and governors. This would significantly decrease the latency between the clinician at the patient's bedside and legislators crafting health care law and provisioning health care resources. Because the mobile software would decrease the opportunity costs associated with the act of patient advocacy, it should in turn increase the likelihood of participation in advocacy. The software would also provide a political resource library from which to reference when engaging congressional members, governors, patients, their families, and other stakeholders. The software would assist clinicians to be more effective advocates, tighten the loop between providers and key stakeholders, and, amplify the voice of the profession by pure mass effect.

The Senior Director of Federal Affairs at the AANA, Ralph Kohl, was contacted, and a brief explanation of the potential of a patient advocacy tool was described. Kohl then organized another meeting including several other administrative directors at the AANA when a formal explanation of the scope of the proposed software was provided. This meeting included preliminary project planning forecasts regarding rough timetables, financial impacts, and legal

issues. With permission of the AANA Board of Directors, commencement of the software development began in December of 2016. At this time, it was agreed that a booth would be provided at the National Conference in Seattle in the fall of 2017 so that the software could be promoted and demonstrated to those in attendance, as well as distribution of a survey for the purposes of this project.

The Assistant Dean of Graduate Programs and the Internal Review Board Committee at Southern Illinois University at Edwardsville reviewed the scope of the project and determined that no review was warranted.

Software research, graphic design began in December of 2016. The alpha software was written using Swift 4.0 using Xcode 9.3 for Apple platforms. The software was written to be compatible for iOS 6 and above including all compatible physical formats existing at that time.

Research and application prototype production continued during the spring of 2017. A testing candidate could not be built without a discussion including the AANA's third-party IT vendor. Multiple requests were made to the AANA to set up a conference call with the IT company in their employ. In June of 2017, the vendor stated during a conference call that they would not be willing to assist integration of the new software into the AANA's existing IT infrastructure. More research was conducted to find a solution to bypass the reliance upon the IT vendor and create stand-alone interface for the AANA to utilize the app as a communication platform with the professional body. Several solutions were offered to the AANA in the subsequent meeting a month later. At that meeting, the administration of the AANA decided they wanted to see a working prototype demonstrated to them in person before investing time and money in new IT infrastructure. A complete redesign of the software had to occur due to the changing vision and commitment of the AANA. The AANA leadership stated in that meeting

that there were branding and legal issues that needed to be solved before moving forward. At that time, the booth space to publicly announce and demonstrate the software was withdrawn. The collection of surveys from the leadership and lay-members in attendance remained a part of the plan.

The new software leveraged some existing resources of the AANA IT infrastructure including AANA.com and the CRNA-PAC.com websites with permission of the executive administrators as proposed in July of 2017. The software was extended to testing devices via the Apple Developer Suite and iTunes Connect on August 18<sup>th</sup>, 2017.

The development app was deployed for interactive use at the 2017 Nurse Anesthesia Annual Congress of the AANA in Seattle, Washington. An iPad and iPhone SE were utilized to demonstrate the app to the executive administrators. The authors of this project were in personal attendance to demonstrate the software and distribute questionnaires.

Two unique surveys, one for the AANA administrators and the other for the members of the AANA, were created for analysis of and reception to the project. The executive administrators in attendance voluntarily completed surveys following a demonstration and explanation of the software.

## **Evaluation**

The prime goal of the project was to alert key decision makers of a professional healthcare provider organization that existing technology could be harnessed to augment patient advocacy within the professional body. This was achieved in the initial meeting with Ralph Kohl in November of 2016. The idea was successful enough to garner a meeting with more key stakeholders within the AANA organization. After deliberation, the AANA agreed to the creation of demonstrable app. The project continued to evolve, and a secondary goal arose. The

new goal was to demonstrate the app to the AANA's senior decision makers and to the professional lay body and then gauge their responses by purposive and convenience sample surveys respectively. Both surveys utilized Likert Scale and open-ended questions tailored to each group. The second goal was achieved in Seattle, Washington at the AANA National Conference in September of 2017; however, due to an AANA executive strategy decision at the conference, the member body demonstration and survey collection was aborted. The impression was given that leadership was not ready to announce the development of this software to the lay-member body. Of note, during the time of the project implementation, the AANA leadership was experiencing major leadership changes. The existing Executive Director retired, and a new Executive Director was named. Unfortunately, the insertion of the new executive came with some scrutiny. Perhaps, this dynamic was somewhat responsible for the difficulties we faced working with the BOD.

Of the six AANA administrators' responses, all were very positive. Unanimously, they felt strongly that the software could help AANA members become more politically engaged, would ease access to advocacy resources by AANA members, and would integrate well with the existing AANA digital presence. All six of the leadership also expressed that CRNAs would likely be more engaged in advocacy if time were not a hinderance, and if there were a quicker and more direct way to contact legislative decision makers.

Only three of the six AANA leaders wrote in response to the open-ended questions on the survey. All three agreed that push-notifications and end-user metrics would be a welcome addition to the suite of functions within the software. One leader wrote that they would like more time to use the app themselves. Another wrote that they would eventually like lay-member feedback from use of the app. At the end of the meeting the AANA requested an ongoing



partnership to develop and release an enterprise class application based on the prototype demonstrated to them as well as an opportunity to work on other IT related projects the AANA had planned. That day, a meeting was planned for finalization of features and timetable for release in December of 2017.

In December of 2017, after several emails were exchanged to schedule the meeting, responses from the AANA halted abruptly and unexpectedly. After a direct inquiry as to the status of the project to the AANA, the CIO stated that AANA leadership had decided to table the software indefinitely. However, we are currently working with subsidiary state organizations for further implementation.

### **Impact on Practice**

When implemented, the use of this mobile software could change the current model of patient advocacy and political engagement by clinicians. The long-term impact could increase the CRNA influence at state and federal healthcare policy levels. This would impact several aspects of healthcare in this country including scope of practice, reimbursement, access to healthcare, and cost of healthcare. This project can be replicated at the state level and used in nurse anesthesia programs to educate and increase the potency of new CRNAs as political advocates. Furthermore, this technology can be adopted to other advance practice nurses, who have historically had difficulty achieving advocacy and healthcare policy influence potency.

### **Conclusions**

Working with a multimillion dollar organization such as the AANA turned out to be fraught with many challenges. Organizational communication was difficult throughout the process. Multiple requests were made to address forthcoming hurdles very early on in the project without response from the AANA; these included legal, technical, and final decision-making

challenges. Despite foreseeing issues arising in the future and attempting to be proactive, it was exceedingly difficult to talk to the right people within the organization that could prevent problems. As an outsider, it was nearly impossible to understand a large organization's internal structure and politics, making efforts toward responsible partnership exhausting at times. The organization moved very slow and very indecisively. Having taken on a project with a large company in this manner, it was interesting to be given privy to the intimate internal workings and personalities of the organizational machine.

After demonstration of the software in Seattle, response from the executive administrators were incredibly positive. Using off-the-shelf technologies, the software offers a simple solution to a complex problem that has plagued clinical providers for decades. State-level CRNA and APRN organizations have shown an interest in developing analogue software for state advocacy efforts. A Washington State application is currently in active development and informal presentations have been given to key political advocacy actors in other states such as Arizona and New Mexico. A Limited Liability Company (LLC) was formed to create software of this and other types for CRNAs, other health professionals, and their organizations. The experiences and lessons in creating the company, business law, finance and taxes, technological and intellectual property rights, contract negotiations, and many other ancillary issues related to starting and running a business deserves more time and space than is allowed in this format.

**Author Contact Information**

Scott Kahre, BSN, RN, CCRN, SRNA  
314-497-0606  
[skahre@siue.edu](mailto:skahre@siue.edu)

Jared Holton, BSN, RN, CCRN, SRNA  
618-971-7919

[jholton@siue.edu](mailto:jholton@siue.edu)