

RUTGERS

School of Nursing
Nurse Anesthesia Program



Interdisciplinary Collaboration Between CRNAs and Dental Practitioners

Russell Lynn Memorial Student Lecture Series

Samantha Calhoun, BSN, RN, CCRN, RRNA

Luisa Villamil BSN, RN, CCRN, RRNA

Maureen McCartney, DNP, APN, CRNA

Project Chair

Thomas Pallaria, DNP, APN, CRNA

Project Member

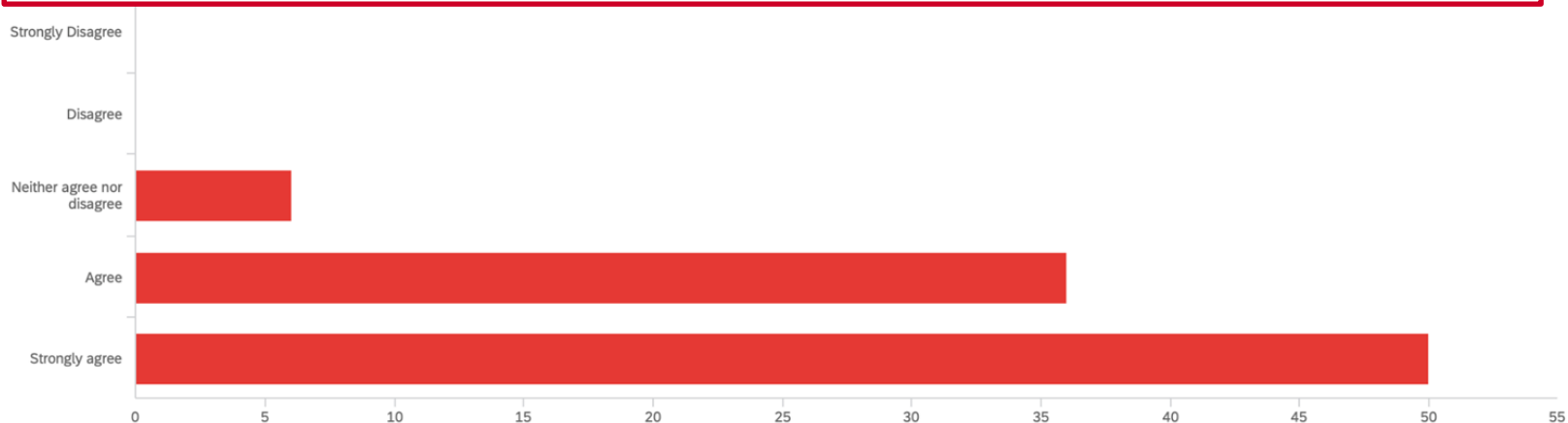
Background & Significance

- Our aim is to instill a better **understanding** of the CRNA profession amongst dental medicine students and increase their likelihood to **collaborate** with CRNAs in future practice
- Under **executive order number 112** in the state of NJ, CRNAs can now collaborate with dentists without the need for a **joint protocol** with a physician anesthesiologist
- This change can benefit both patients and practitioners by improving **access to care** while delivering a **cost effective and safe** anesthetic to a growing population in need

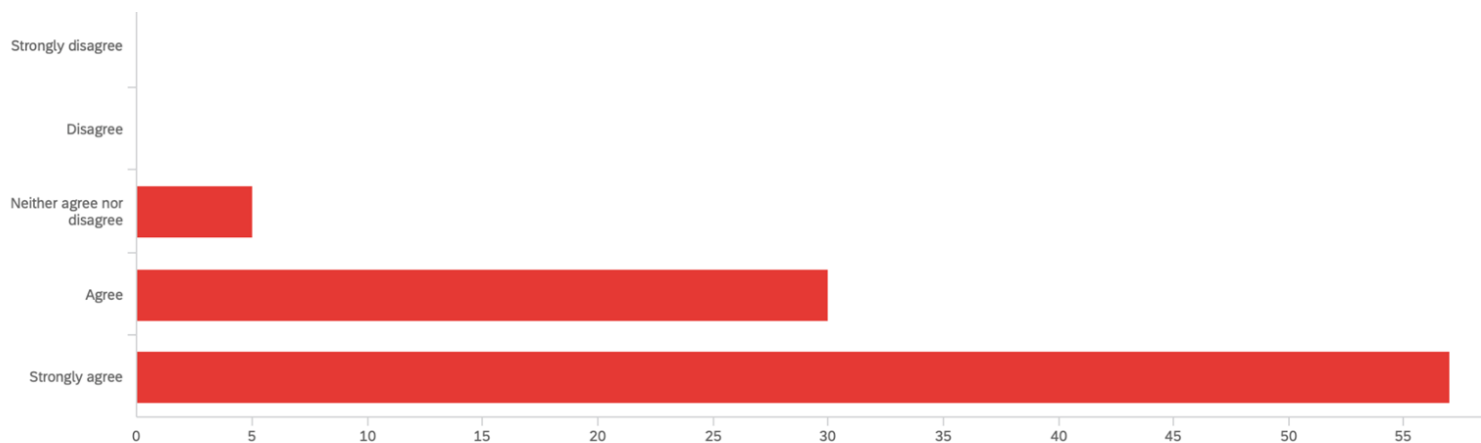
Background & Significance

- There is a **knowledge deficit** regarding CRNAs amongst other healthcare disciplines, including dentistry
- Interprofessional collaboration has been proven essential in order to improve the **value and quality** of healthcare (WHO, 2010) integrating interprofessional education amongst healthcare professionals seen to be **beneficial** to patient care and likely to **enhance professional working relationships**
- **Simulation learning** leads to improvements in self-efficacy, confidence, and, performance when the student is being observed and can communicate to the teacher about the process

The growing complexity of health problems is increasing the demand for interprofessional collaboration.



You feel that more training in interprofessional collaboration would make you more comfortable interacting with other health professionals.



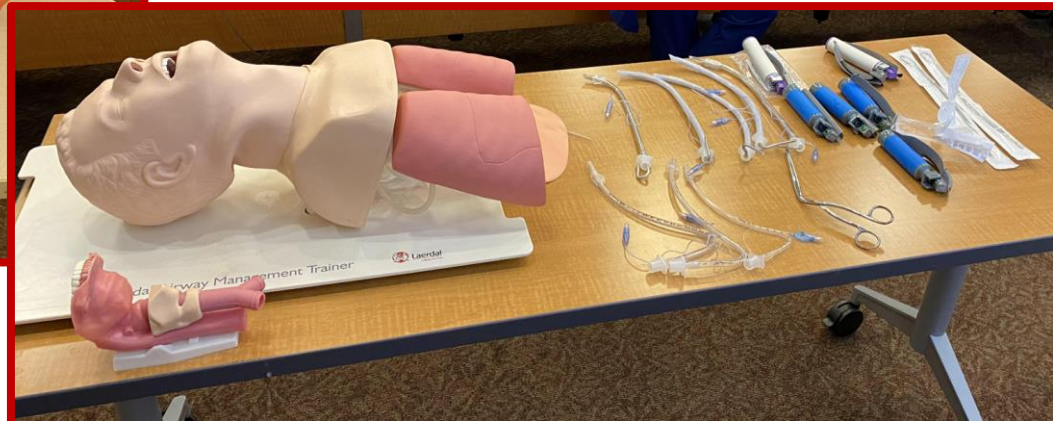
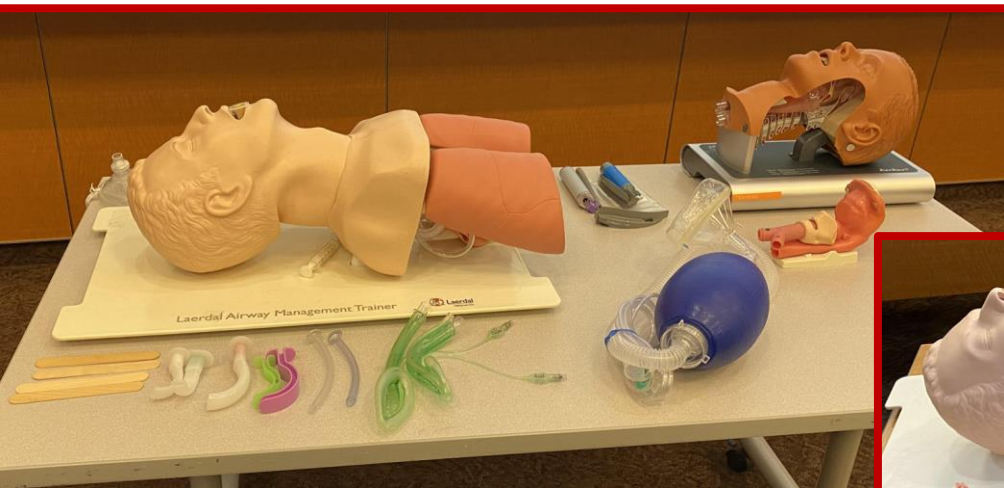
DNP Project Overview

- An educational lecture was delivered that included the following information:
 - Definition & role of a CRNA
 - Educational & licensure requirements for CRNAs
 - CRNA employment settings
 - Practice restriction differences across the United States
 - Patient outcomes related to CRNA care compared to that of other anesthesia providers

	CRNA/APN-A	MD-A
Coursework	7-8.5 years	8 years
Clinical Experience	9,400 hours	12,120 hours (including time spent in facility)
Work/Patient Experience Before Anesthesia Education	≥1 year critical care experience (average experience = 2.9 years)	No Requirement
Board Certified	100%	75%

DNP Project Overview

- A hands-on workshop component was held one week later focused on:
 - Different types of anesthesia (as previously requested by former study participants)
 - Advanced airway management
 - Integrate simulation and hands on experience to further demonstrate the expertise of the CRNA



Data Collection

- 10 question survey given before and after interventions via Qualtrics
- Likert scale style responses
- Questions meant to evaluate participants perceived importance of interdisciplinary collaboration, knowledge of the CRNA profession, and willingness to work together in future practice
- Survey adapted from a study done by Christian et. al. in 2015 which assessed attitudes toward interprofessional collaboration amongst optometry students
- For relevance purposes, the statements were altered to fit our project agenda



Implementation & Results



- Lecture delivered virtually, workshop held at Rutgers School of Dental Medicine Oral Health Pavilion in Newark, NJ
- Educational components extremely well received by dental students
- Not all participants filled out post intervention survey; 63 results compared to 92 for pre intervention surveys completed

Demographics



- 48.9% Males
- 51.1% Females



- 97.8% < 30 years old
- 2.2% between 30-50 years old



- 65.2% did not relocate from another state to attend Rutgers
- 34.8% did relocate from another state to attend Rutgers
- 54.4% intend to practice in NJ
- 45.6% intend to practice outside of NJ

YOU KNOW WHAT APN-A STANDS FOR. YOU KNOW AND UNDERSTAND THE TRAINING THAT IS NEEDED TO BECOME AN APN-A.

Pre-intervention

- Strongly Disagree 31.87%
- Disagree 51.65%
- Neither 7.69%
- Agree 5.49%
- Strongly agree 3.30%

Post-intervention

- Strongly Disagree 0%
- Disagree 0%
- Neither 11.11%
- Agree 52.38%
- Strongly agree 36.51%

Understanding increased from 8.79% to 88.89% amongst participants

YOU KNOW THE ROLE AND RESPONSIBILITIES OF AN APNAPre-intervention

- Strongly disagree 25.27%
- Disagree 57.14%
- Neither 7.96%
- Agree 7.69%
- Strongly agree 2.20%

Post-intervention

- Strongly disagree 0%
- Disagree 0%
- Neither 9.52%
- Agree 58.73%
- Strongly agree 31.75%

Understanding increased from 9.89% to 90.48% amongst participants

**YOU FEEL COMFORTABLE WITH YOUR AIRWAY ASSESSMENT AND
MANAGEMENT SKILLS**

Pre-intervention

- Strongly disagree 6.59%
- Disagree 28.57%
- Neither 31.87%
- Agree 29.67%
- Strongly agree 3.30%

Post-intervention

- Strongly disagree 0%
- Disagree 3.17%
- Neither 26.98%
- Agree 38.10%
- Strongly agree 31.75%

*Confidence in airway skills increased from 32.97% to
69.85%*

**IF BARRIERS TO APNA SCOPE OF PRACTICE WERE REMOVED, YOU
WOULD COLLABORATE WITH AN APNA IN YOUR PROFESSIONAL
PRACTICE**

Preintervention

- Strongly disagree 5.49%
- Disagree 7.69%
- Neither 50.55%
- Agree 28.57%
- Strongly agree 7.69%

Postintervention

- Strongly disagree 0%
- Disagree 1.59%
- Neither 19.05%
- Agree 41.27%
- Strongly agree 38.10%

*Collaboration likelihood increased from 36.26% to
79.37%*

Implications for Clinical Practice & Healthcare Policy

Increased **access** to cost effective anesthesia care for **underserved** populations

This subset opens up **job opportunities** for CRNAs that are dually valuable

Demonstration of the **value** of this model of CRNA practice in dental anesthesia will support the **continuation** of the executive order and the ultimate **elimination** of stringent supervision requirements for CRNAs

More data can be collected to add to the concept of CRNAs delivering **safe, effective, and cost-efficient** care

Educating the dental medicine residents about the mutual benefits of this **policy change** will create further **allies** for CRNAs

Plans For Future Scholarship

Disseminating this information to other healthcare disciplines such as **dental practitioners** is imperative so that they feel comfortable seeking out CRNA services for their **growing anesthetic needs**.

Armed with the knowledge that **CRNAs** can provide **cost effective** and **safe anesthesia care**, future dental medicine practitioners will be more enthusiastic to collaborate with them in practice.

Continuing to foster a **positive working relationship** between Rutgers School of Nursing and Rutgers School of Dental Medicine will positively impact this populations' **awareness** of CRNA practice, as well as improve the likelihood of future **interdisciplinary collaboration**.

THANK YOU!



References

- American Association of Nurse Anesthetists. (2019a). *Certified registered nurse anesthetists fact sheet* [PDF document]. Retrieved from [https://www.aana.com/docs/default-source/pranaa-com-web-documents-\(all\)/crna-factsheet.pdf?sfvrsn=c5f641b1_10](https://www.aana.com/docs/default-source/pranaa-com-web-documents-(all)/crna-factsheet.pdf?sfvrsn=c5f641b1_10)
- American Association of Nurse Anesthetists. (2019c). *Office based anesthesia: Position statement* [PDF document]. Retrieved from [https://www.aana.com/docs/default-source/practice-aana-com-web-documents-\(all\)/office-based-anesthesia.pdf?sfvrsn=503136ab_2](https://www.aana.com/docs/default-source/practice-aana-com-web-documents-(all)/office-based-anesthesia.pdf?sfvrsn=503136ab_2)
- Cintina, I., Hogan, P., Schroeder, C., Simonson, B., & Quraishi, J. (2018). Cost Effectiveness of Anesthesia Providers and Implications of Scope of Practice in a Medicare Population. *Nursing Economics*, 36(2), 67–73.
- Clinical anesthesia (8th ed.). Wolters Kluwer. Butterworth, J.F., Mackey, D.C., & Wasnick, J.D. (2018). Morgan & Mikhail's clinical anesthesiology (6th ed.). McGraw-Hill Education.
- Coomer, N., Mills, A., Beadles, C., Gillen, E., Chew, R., & Quraishi, J. (2019). Anesthesia staffing models and geographic prevalence post-medicare CRNA/physician exemption policy. *Nursing Economic*, 37(2), 86–91.
- Dulisse, B., & Cromwell, J. (2010). No harm found when nurse anesthetists work without supervision by physicians. *Health Affairs*, 29(8). <https://doi.org/10.1377/hlthaff.2008.0966>
- Executive Order NO. 112. (2020, March 28). Retrieved Feb 07, 2021 from <https://nj.gov/infobank/eo/056murphy/pdf/EO-112.pdf>
- Hogan, P. F., Seifert, R. F., Moore, C. S., & Simonson, B. E. (2010). Cost effectiveness analysis of anesthesia providers. *Nursing Economics*, 28(3), 159-169. Retrieved from [https://www.aana.com/docs/default-source/research-aana.com-web-documents\(all\)/nec_mj_10_hogan.pdf](https://www.aana.com/docs/default-source/research-aana.com-web-documents(all)/nec_mj_10_hogan.pdf)
- Hutchinson, S. (2020). General anaesthesia for dentistry. *Anaesthesia and Intensive Care Medicine*, 21(9), 467–470. <https://doi.org/10.1016/j.mpaic.2020.06.009>
- Morgan & Mikhail's clinical anesthesiology (6th ed.) 2018. McGraw-Hill Education.
- Needleman, J., & Minnick, A. (2009). Anesthesia Provider Model, Hospital Resources, and Maternal Outcomes. *Health Services Research*, 44(2p1), 464–482. <https://doi.org/10.1111/j.1475-6773.2008.00919.x>
- Negrusa, B., Hogan, P. F., Warner, J. T., Schroeder, C. H., & Pang, B. (2016). Scope of practice laws and anesthesia complications: No measurable impact of certified registered nurse anesthetist expanded scope of practice on anesthesia-related complications. *Medical Care* 54(10), 913-920. doi:10.1097/MLR.0000000000000554
- Pine, M., Holt, K., & Lou, Y. (2003). Surgical mortality and type of anesthesia provider. *AANA Journal*, 71(2), 109–116.