

DNP-NURSE ANESTHETISTS AND ACUTE CARE

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DISCLOSURES

- **Member. PA State Board of Nursing**
 - **Chair, Advanced Practice Nurse Committee**
- **Chair Reviewer, AANA Council on Accreditation of Nurse Anesthesia Educational Programs**

OBJECTIVES

1. Discuss the history of American Nurse Anesthetists
2. Review scope of practice and professional demographics in the US
3. Review literature in support of CRNA practice safety
4. Describe the evolution of the DNP degree and the impact on the US CRNA workforce

The Past....

Before pulse oximetry....BP cuffs....formalized anesthesia training....antibiotics....health insurance...Press-Ganey scores.... or the business model of healthcare....

“Those who cannot remember the
past are condemned to repeat it“

George Santayana

Florence Nightingale and William Farr

Nightingale: The compassionate statistician



- Liberal/intellectual
- Humanist
- Medical statistics pioneer
- Nursing supervisor in the Crimean War



Notes on Matters Affecting Health, Efficiency, and Hospital Administration of the British Army (1858) (850 pages)

1860's: Nurses Provided Anesthesia in the US Civil War

From her autobiography:

“ the worst cases of the wounded the doctor would attend to. I also tied arteries and administered chloroform.”



AUTOBIOGRAPHY: SKETCH OF LIFE AND LABORS
OF MISS CATHERINE S. LAWRENCE, WHO IN
EARLY LIFE DISTINGUISHED HERSELF AS A BITTER
OPPONENT OF SLAVERY AND INTEMPERANCE

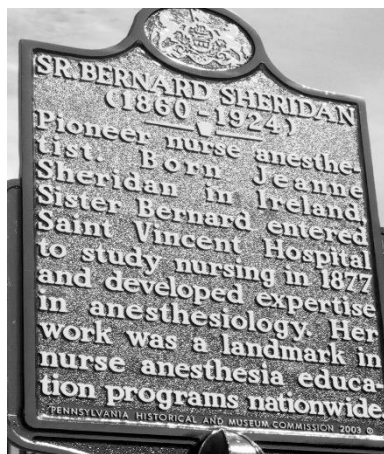
CATHERINE S. LAWRENCE



1870-1880' s: The Anonymous Anesthesia Providers: Catholic Nuns



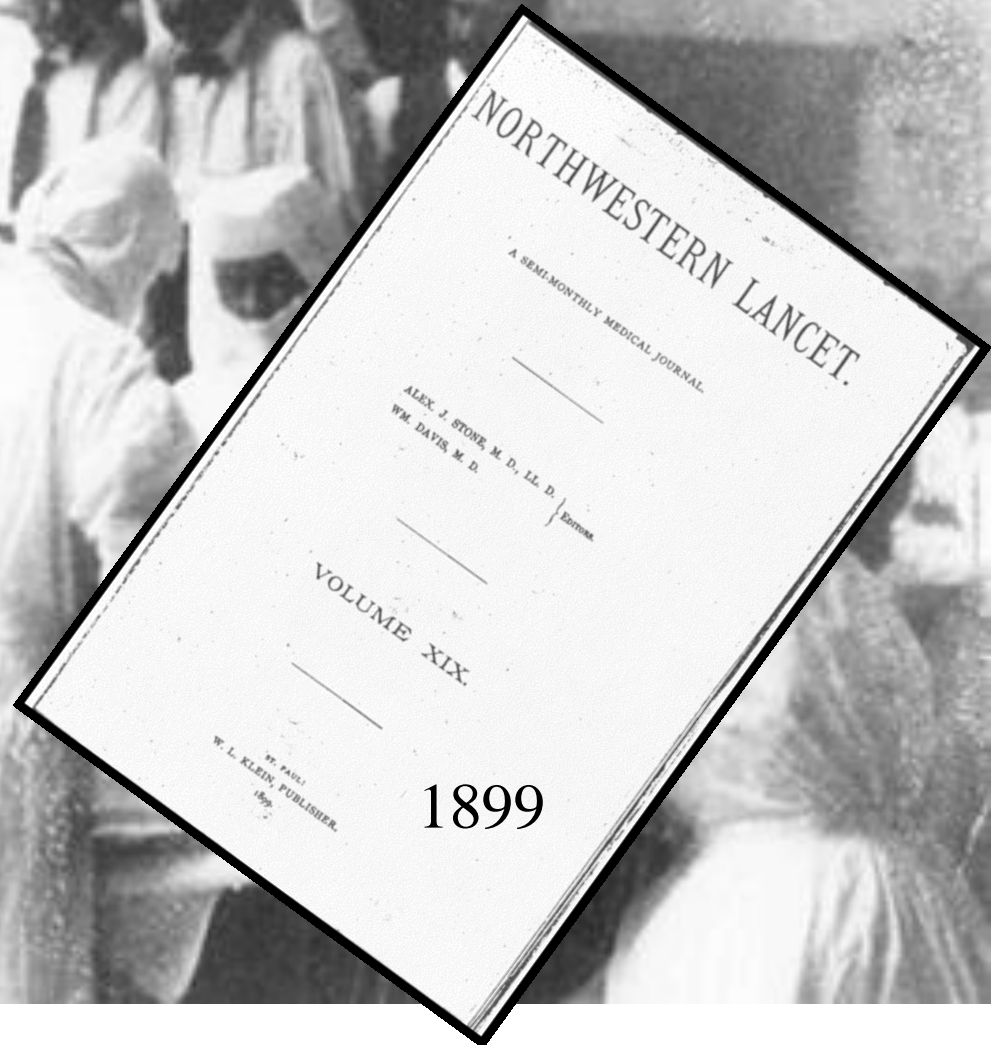
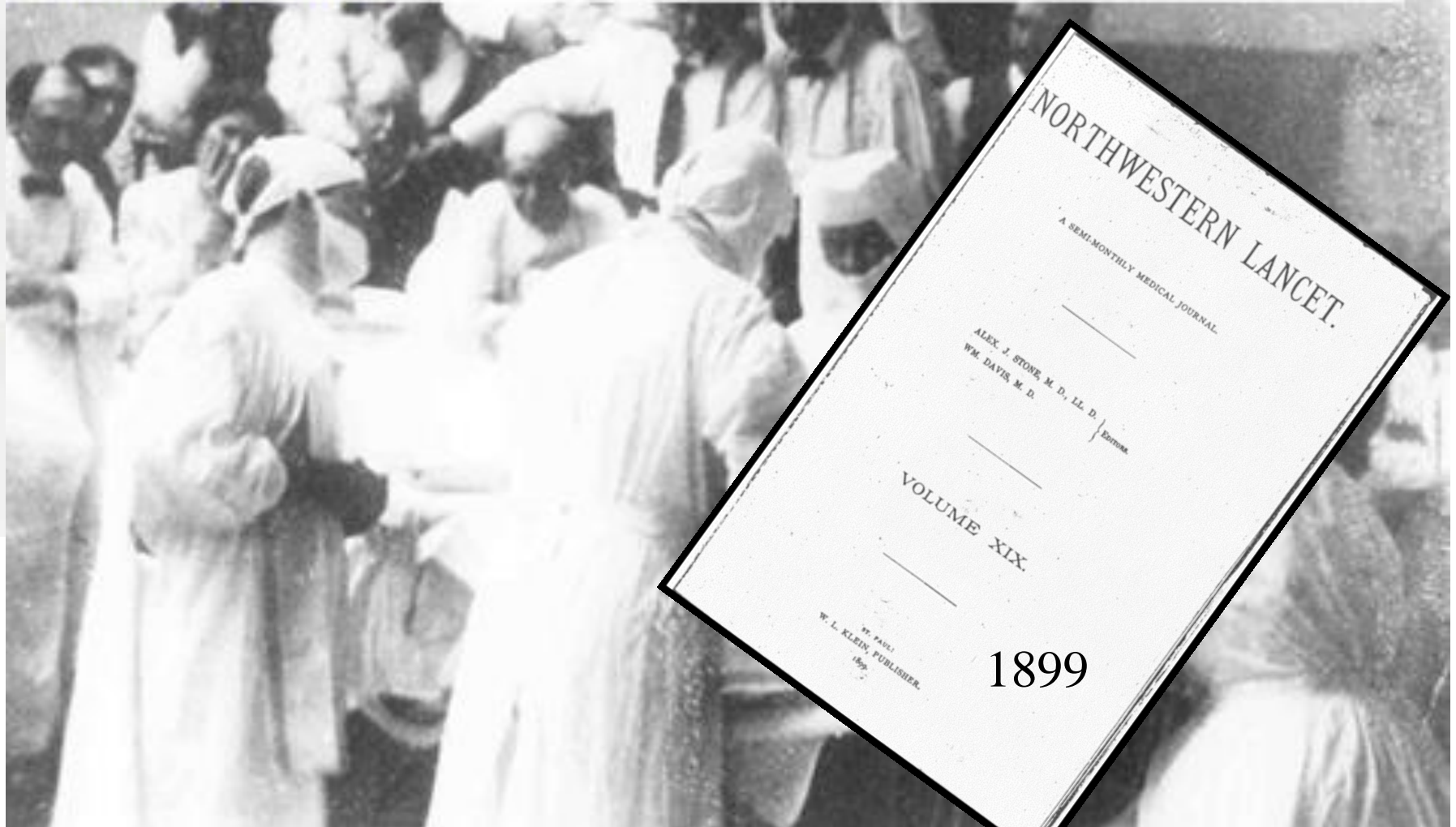
- Sister Mary Bernard:
St. Vincent's
Hospital in Erie
PA (1877)



- Sister Secundina Mindrup (1868-1951)

Alice Magaw: “The Mother of Anesthesia”

-Charles H. Mayo



Agatha Hodgins: Modern Anesthetist



- Agatha Hodgins (1877 - 1945)
- 1915- formed the Lakeside Hospital School of Anesthesia
- Was closed in 1916 in a dispute with the Ohio Board of Medicine (could nurses legally administer anesthesia)
- Won the case in 1919

1934- Dagmar Nelson Case

- California Supreme Court
- Affirms that nurses delivering anesthesia **are not practicing medicine**

Figure 1. Nurse anesthetist Dagmar Nelson, circa 1926



(Courtesy of Olmstead County Historical Society.)

Helen Lamb: 1935

NANA Education Committee



Helen Lamb

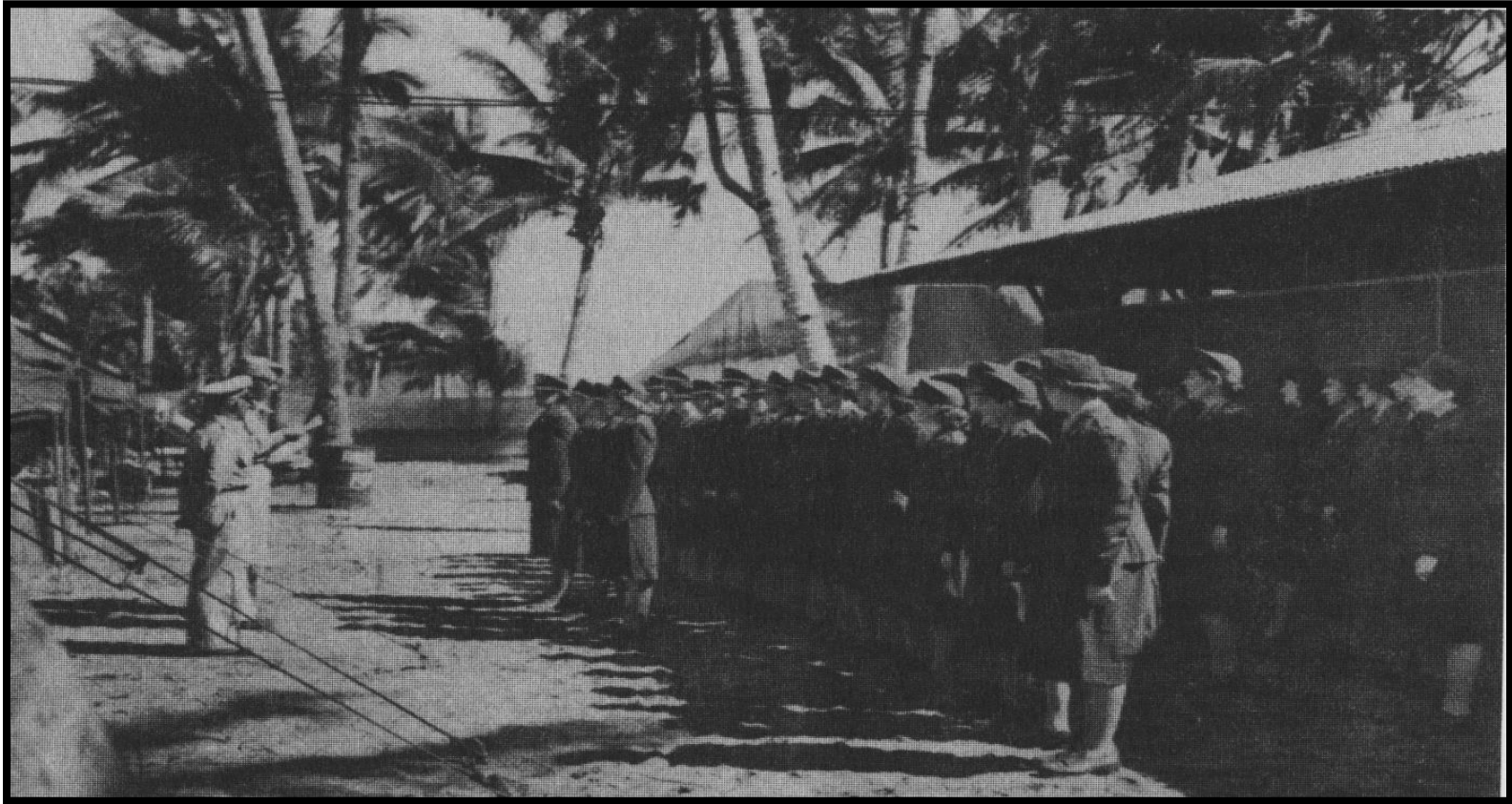
- Recommended curriculum, number of cases, minimum classroom hours
- Pushed for continued improvements in nurse anesthesia education
- Worked with Hodgins on accreditation and certification

Educational Standards: 1940-2019

	1940	2019
Course of study	4 months	36 months
Degree	Certificate or diploma	DNP
Cases	250	700
Clock hours	75	465

WW II: 1941-1945

Accelerated Training: 600 CRNAs Trained



Army nurses after release from Japanese POW camp

CRNAs served in all theaters of WW I, WW II, Korea, Vietnam, Desert Storm, Desert Shield, Afghanistan etc....

National Qualifying Exam

EXAMINATION OF
AMERICAN ASSOCIATION OF NURSE ANESTHETISTS

PART I

ANATOMY AND PHYSIOLOGY

I. ANSWER ANY 20 OF THE FOLLOWING 22 QUESTIONS. INDICATE BY A CHECK MARK (✓) IN THE PROPER COLUMN WHETHER THE STATEMENT IS TRUE OR FALSE. IF FALSE, STATE THE REASON.

TRUE FALSE

___ ___ A. The normal pulse rate in an adult is between 70 and 80.

REASON: _____

___ ___ B. Carbon dioxide is a respiratory stimulant but affects the carotid body more strongly than it does the medulla.

REASON: _____

___ ___ C. There is no difference between the action of the sympathetic and the parasympathetic nerves.

REASON: _____

___ ___ D. The left side of the heart ~~receives~~ contains de-oxygenated blood.

REASON: _____

___ ___ E. Pulse pressure is the difference between the systolic and diastolic pressures.

REASON: _____

___ ___ F. The pulse rate is increased with fear and excitement.

REASON: _____

___ ___ G. The muscle of the heart is the pericardium.

REASON: _____

___ ___ H. Veins enter the heart and arteries leave the heart.

REASON: _____

___ ___ I. The systolic pressure is the pressure of the blood when the heart is in systole.

REASON: _____

- First qualifying exam
- Given June 4, 1945
- 38 pages long
- 90 women took the exam at 39 sites



1947: AANA Invites Men



- AANA membership to males given in 1947
- Everard Hicks was one of the first
- Currently ~5-10% of nurses are men
- ~40% of CRNAs are men

Summary: Origins of Nurse Anesthesia Profession in USA

- 1858: Nightingale
- 1899: First Magaw paper
- 1931: Agatha Hodgins
 - **National Association of Nurse Anesthetists**
- 1933: Re-organized by Gertrude Fife
- 1939: **Became AANA**

<http://www.aana.com/>

Current State of CRNA Scope of Practice

- Work in every setting- rural to tertiary
- Provide every type of anesthetic
 - **General, regional, sedation, pain mgt**
- Different models of care
 - **Anesthesia care team to independent**
- State by state regulation (50 states)

2007- 2015: Effort to Provide Evidence of Low-Cost, Safe Care by CRNAs

ORIGINAL ARTICLE

2015

Scope of Practice Laws and Anesthesia Complications
No Measurable Impact of Certified Registered Nurse Anesthetist Expanded Scope of Practice on Anesthesia-related Complications

*Brighita Negrusa, PhD, Paul F. Hogan, MS, John T. Warner, PhD,
Caryl H. Schroeder, BA, and Bo Pang MS*

Physician anaesthetists versus non-physician providers of
anaesthesia for surgical patients (Review)

Lewis SR, Nicholson A, Smith AF, Alderson P

2014



By Brian Dulisse and Jerry Cromwell

**No Harm Found
When Nurse Anesthetists
Work Without Supervision
By Physicians**

2010

*Paul F. Hogan
Rita Furst Seifert
Carol S. Moore
Brian E. Simonson*

2010

**Cost Effectiveness Analysis of
Anesthesia Providers**

**Anesthesia Staffing and Anesthetic
Complications During Cesarean Delivery**
A Retrospective Analysis

Daniel C. Simonson ▼ Melissa M. Ahern ▼ Michael S. Hendryx

2007



*American Association of
Nurse Anesthetists (AANA)*

**AANA Mission: advances patient safety, practice excellence,
and its members' profession**

AANA Council on Accreditation

- Sets case numbers
- Accredits programs
 - **Site visitors**
 - **Standards and Guidelines**
- Complies with USDE regulations
- Handles complaints

STANDARDS FOR ACCREDITATION
OF NURSE ANESTHESIA PROGRAMS

2015

Practice Doctorate



1998: MSN Required

The Council on Accreditation of Nurse Anesthesia Educational Programs

- Required all programs to be at the graduate level—i.e. awarding at least a master's degree— by **Oct. 1, 1998**
- Substantial resistance to this idea
 - **Error? We made VERY robust programs**
 - **More credits than many doctoral programs**

2007 / 2009

Adopted/Implemented

AANA Position on Doctoral Preparation of Nurse Anesthetists Adopted: June 2, 2007

Position Statement

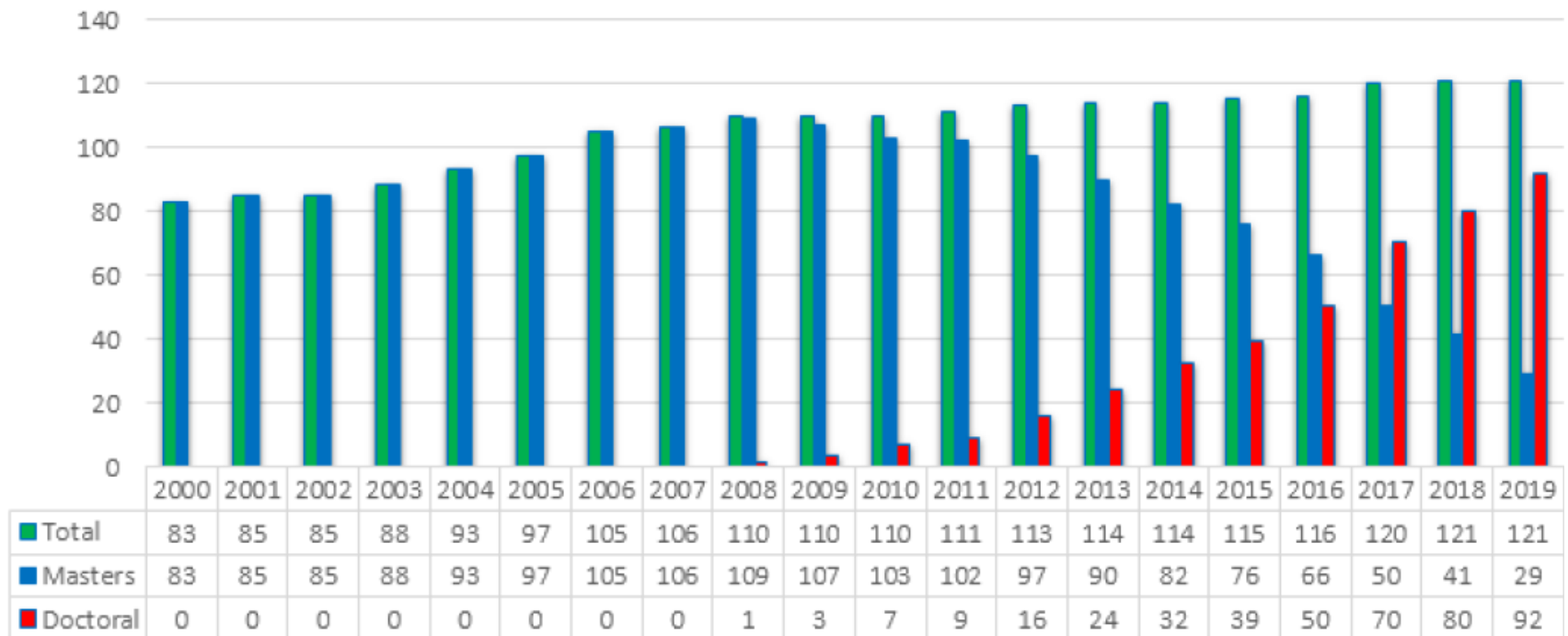
The AANA supports doctoral education for entry into nurse anesthesia practice by 2025.

- Accepted degrees:
 - DNP and DNAP
- No student may enter an MS/MSN program after 2022
- Program lengths increasing from 28 to 36 months
- ‘Grandfathering’ of CRNAs with state practice acts

Nurse Anesthesia Transition to Doctoral Education

PROGRAMS' TRANSITION TO AWARD DOCTORAL DEGREES

Nurse Anesthesia Programs Awarding Master's and Doctoral Degrees for Entry Into Practice



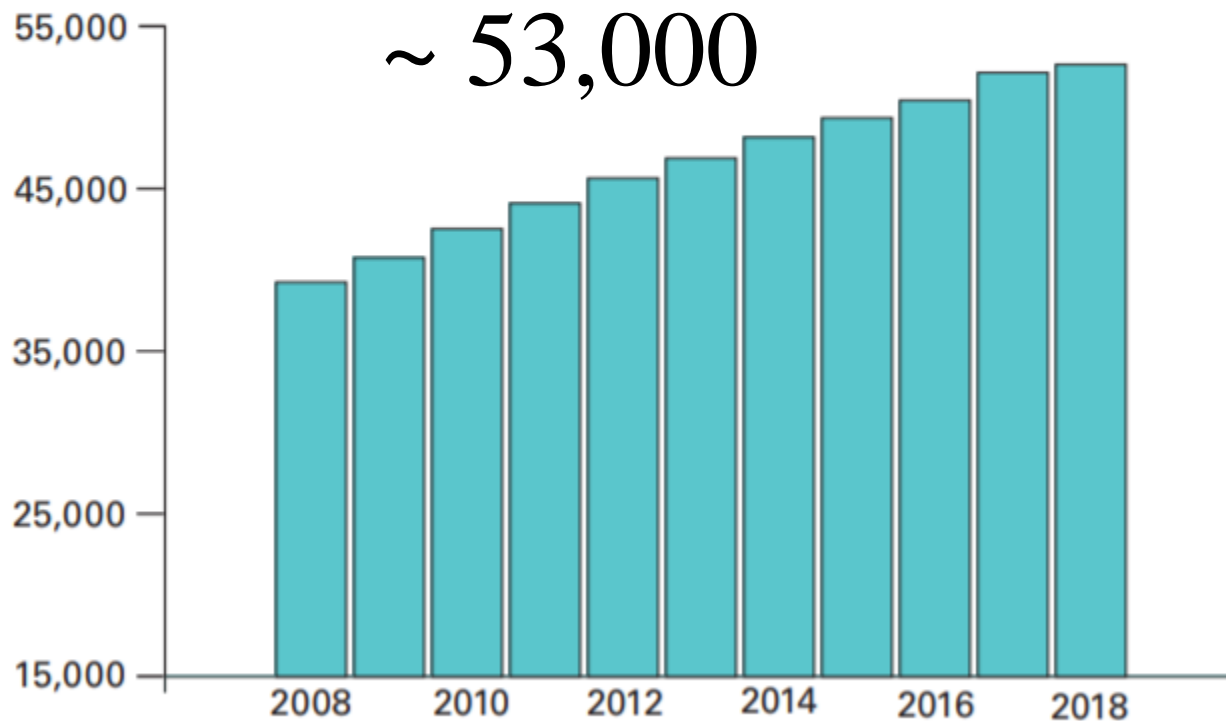
CRNA Education Programs

- 1976 ----- 194 programs---Hospital Based
- 1980 ----- 161 programs
 - same number of graduates
 - big drop in CRNA programs vs. big increases in MD residencies
- 1990 ----- 82 programs
 - **DHHS study: need to AT LEAST triple CRNA grads by 2010**
- 1995 ----- 87 programs
- 1998 ----- 82 programs (619 clinical sites)---**MSN**
- 2004 -----88 programs (1016 clinical sites)
- 2009----- 108 programs (> 2000 clinical sites)
- **2019**----- 121 programs (> 3000 clinical sites)
- **2025**----- **DNP required of ALL graduates**

Total Membership: 2018

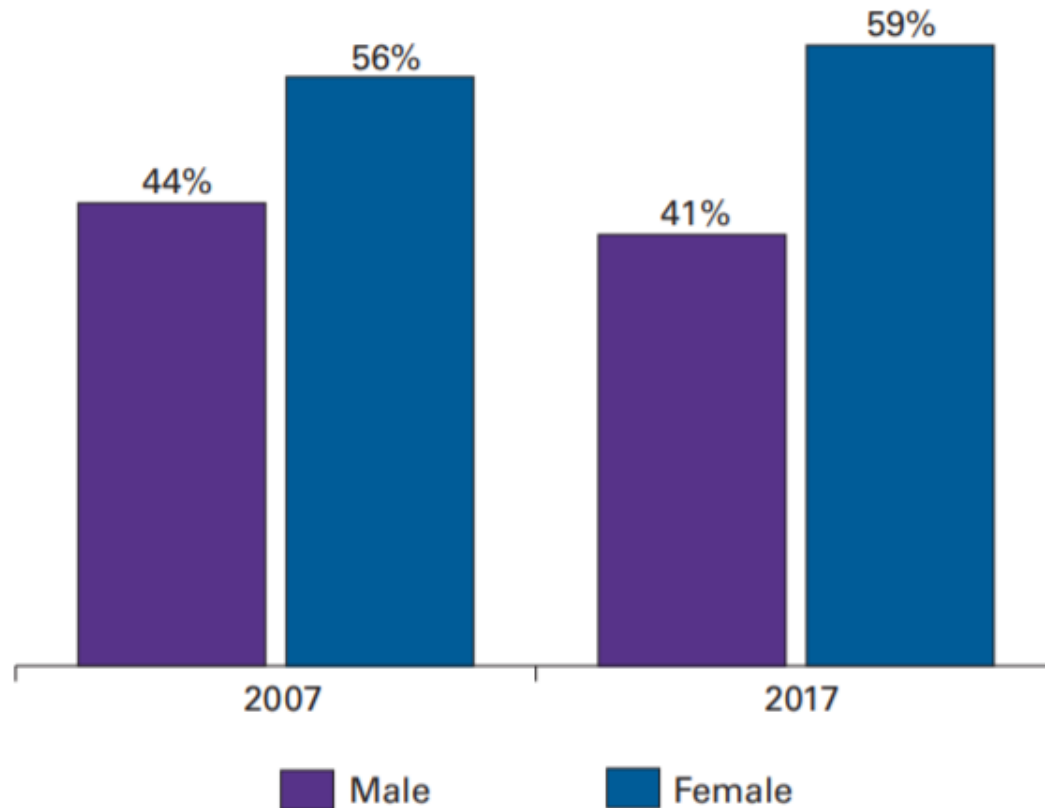
Total Membership 2008-2018

AANA membership has grown 34% since 2008



Gender Trends

Gender Trends 2007 vs. 2017

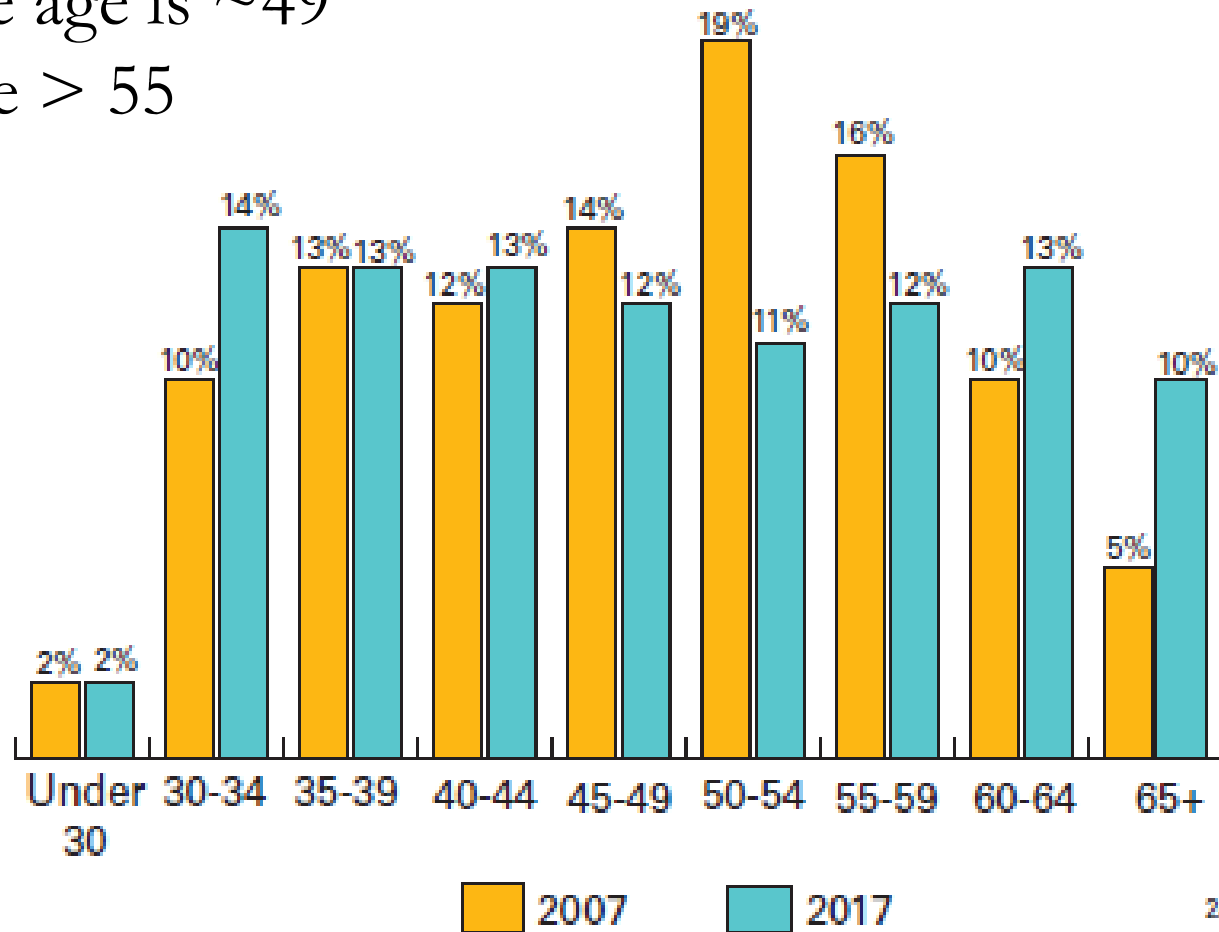


2017 Member Data: Age

Age Trends 2007 vs. 2017

Average age is ~49

35% are > 55

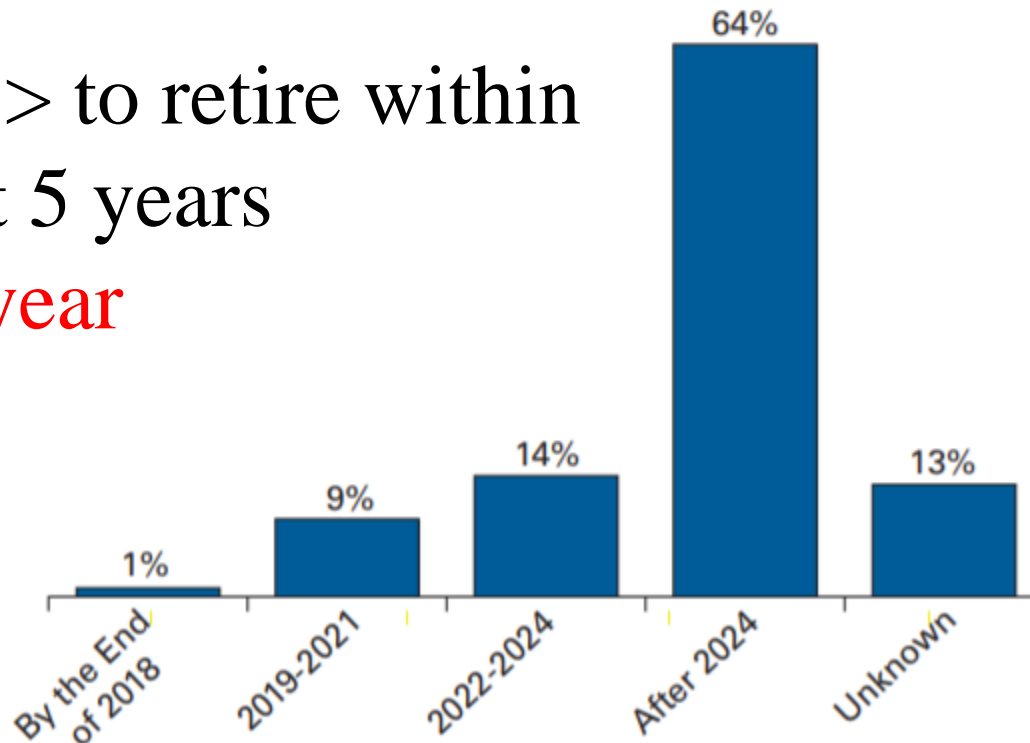


2018 Member Data: Retirement

When Do You Expect to Retire
from Anesthesia Practice?
(*n=2,817, Full-time CRNAs only*)

24% or > to retire within
the next 5 years

~2500/year



CRNA Students in Programs

of Students Enrolled for Each Fiscal Year

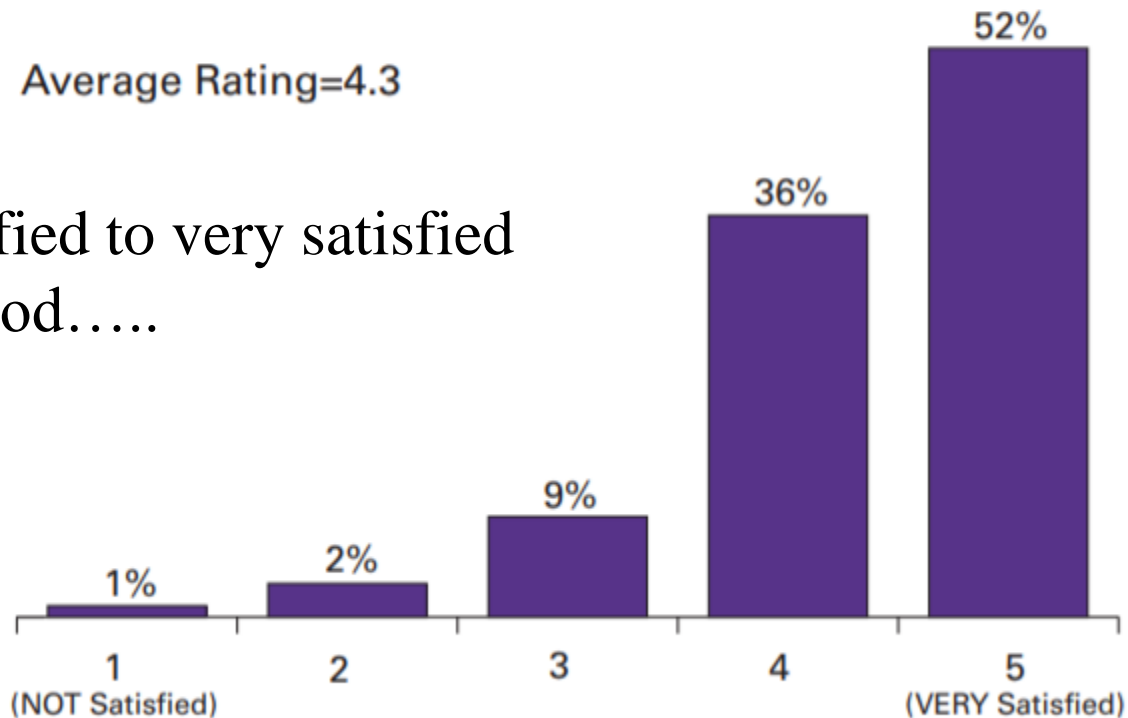


Satisfaction: 2018

How Satisfied are You with Your Career as a Nurse Anesthetist?
(*n=2,570, Full-time CRNAs only*)

Average Rating=4.3

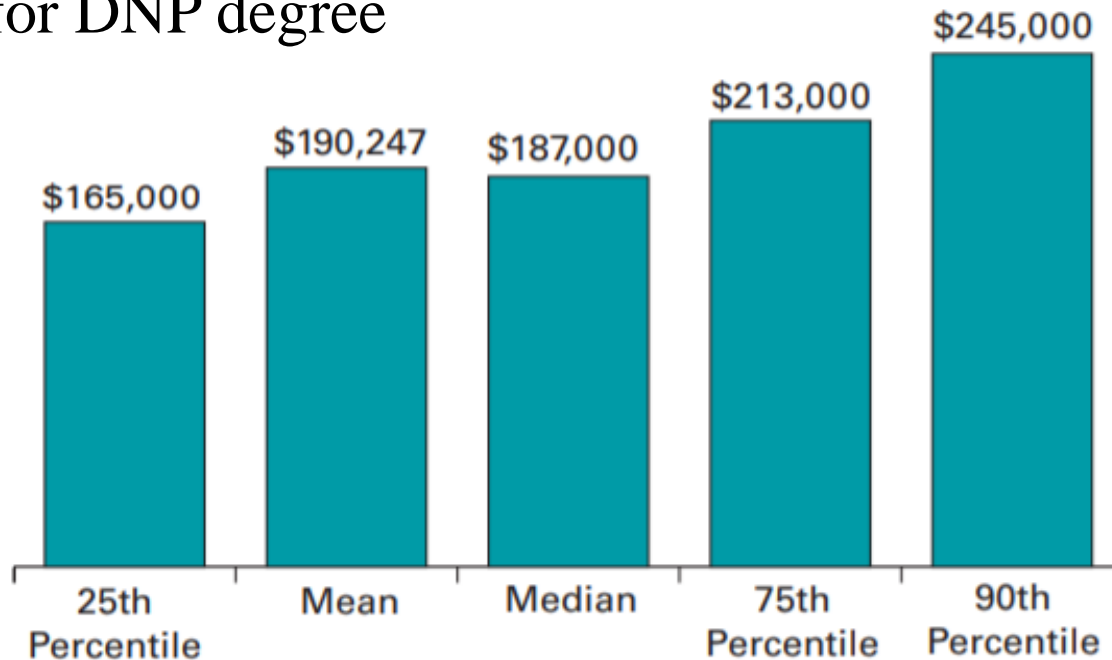
88% satisfied to very satisfied
50% is good.....



Compensation 2017

2017 Total Compensation for Full-Time Employee CRNAs (*n=3,265*)

No increase for DNP degree



Key Take Home Points

- Nurse Anesthetists have been providing safe, high-quality and efficient anesthesia care for 150 years
- Administer more than 45 million anesthetics a year
- Nearly 100% of providers in rural USA
- Anesthesia care today is 50 X safer than in the 1980's
 - **Malpractice rates have fallen ~ 70% since the 1980s**
- Practice in every setting
- Independent practitioners in US military
- CRNA education will be completely doctoral in the US by 2022



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