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WASHINGTON CENTER FOR NURSING

Washington State Nursing Education Trend Report

Academic Years 2014-2020

April 2022

Washington State Nursing Education Trend Report

Academic Years 2014-2020

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Acknowledgements

Summary of Key Findings

Pre-Licensure Programs (PN, ADN-RN, BSN) from 2014 to 2020 academic years:

- 54% decline in the number of students admitted into PN programs

- The acceptance rate for qualified applicants ADN-RN (43%) and BSN applicants (65%)

- Average of 3,200 qualified RN applicants turned away each year from RN programs

- 22% increase in racial and ethnic minorities and 14% increase in males for pre-licensure students

- Decrease in attrition rates across programs PN attrition rate (53% decline); ADN-RN rates decreasing 42%, and BSN attrition decreasing 54%

- Average of 2,600 initial licensure RN graduates every year from RN programs

Post-licensure Programs (RNB, MN, Doctoral) 2014-2020 academic years:

- New programs added from 2014 to 2020: 9 RNB programs, 6 master's (non-ARNP), and 3 DNP programs added

- The number of RNB students admitted more than doubled from 620 to 1253 students

- Average of 225 students admitted every year into MN-ARNP programs with an average acceptance rate of 50%

- DNP programs: admissions increased 49% from 2015-2020; an average of 410 students admitted every year and an average acceptance rate of 65% for students who met program requirements

- ARNP specialties: largest specialty is family practice with an average of 670 students enrolled every year; 24% increase in mental health specialty and a 300% increased enrollment in gerontology specialty in recent three years

- The number of RNB graduates increased 68% from 2015 to the 2020 year

- The number of DNP graduates more than doubled from 2015 to 2020 (from 121 to 351 graduates)

Nurse faculty data 2014-2020 academic years:

- More part-time faculty (724 average) compared with full-time faculty (610 average)

- The majority of full-time faculty have either a master's degree (50%) or a PhD in nursing (32%) as their highest level of education.

- Faculty salary for a 9-month contract at a university decreased 13% over six years while the 9-month salary for a community college faculty increased 48% during the same time

- The majority of full-time faculty are younger than 50 years old (55%); 18% of full-time faculty are older than 61-65 years; 10% of full-time faculty are older than 66 years

- Washington has a higher average faculty vacancy rate (13%) compared with national faculty vacancy rates (8%) over the last 3 years

- The most critical issue regarding faculty recruitment was noncompetitive salaries (42%)

Table of Contents

Background

The United States is confronting a nationwide nursing shortage, and according to the Bureau of Labor Statistics (2021), registered nurse jobs are projected to grow faster than average occupations. One of the solutions frequently cited to address the nursing shortage is to graduate more students from schools of nursing to join the profession. While the American Association of Colleges of Nursing (AACN, 2021) reports a 5.6% increase in enrollment into baccalaureate programs in 2020, this increase does not meet the projected demand for nurses and does not consider the rising need for nurse faculty, researchers, and the role of nurse practitioners as primary care providers. Beyond a doubt, nursing programs have a significant role in educating a new generation of nurses to meet complex health needs and adapt to an evolving healthcare environment.

The recent impact of the COVID-19 pandemic underscores the demand for nurses in all health settings. As a result, nursing education programs face increased pressure to produce more graduates to meet the nursing workforce needs. Programs have been forced to quickly pivot and adapt to emerging challenges while delivering high-quality education for nursing students. Nursing programs across the U.S. experienced longstanding challenges prior to the pandemic attributing to the nursing shortage. For example, a national faculty shortage results in schools turning away over 80,000 qualified applicants from baccalaureate and graduate nursing programs (AACN, 2021). Locally, interested parties are interested in nursing education data to meet current demands and plan for future needs for the state of Washington.

Introduction

This report was developed by the Washington Center for Nursing in collaboration with the Nursing Care Quality Assurance Commission (NCQAC). The report was designed to analyze existing education data to determine 1) what information is already available about nursing students and nurse faculty. In particular, the diversity of nursing students and faculty 2) identify gaps for future education research at the Washington Center for Nursing. This report has been informed by a survey of nursing workforce interested parties in the Spring of 2021.

The report provides a trend summary across pre-licensure programs, post-licensure programs, and nurse faculty over six academic years starting in 2014 to the 2019-2020 year. Data includes trends in the number of applicants by program and provides demographic and diversity data of students and faculty. While the NCQAC delivers an annual nursing program report every year, this report provides additional nursing education data and provides six-year trends across programs, students, and faculty. The main source of data was from the annual education survey collected by the NCQAC from Washington State-approved nursing programs, includes supporting data from NCQAC resources, and the National Council of State Boards of Nursing (NCSBN) with more details described in the Methodology and Limitations section later in the report.

The report is organized into three sections:

- Pre-Licensure Programs: PN, ADN-RN, and BSN/GE
- Post-Licensure Programs: RNB, MN (ARNP and non-ARNP), DNP, and doctoral
- Nurse Faculty

Pre-Licensure Programs

Pre-licensure programs are designed for students to complete requirements to obtain eligibility for initial licensure as a Licensed Practical Nurse or a Registered Nurse. This includes practical nursing programs, associate degree programs, and bachelor programs for RNs. It includes those who obtain a nursing degree through a graduate program before applying for initial licensure. These programs do not include any post-licensure students.

The number of pre-licensure programs has remained relatively the same, with 55 programs in 2014 and 55 programs in 2020. There are two fewer PN programs and a gain of two BSN programs from 2014 to 2020. There is variance in the number of programs across the years due to annual survey changes in how the program data is collected and how programs completed the survey.

Table 1. WA Pre-licensure Programs 2014-2020

Pre-licensure Program	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020*
PN	9	7	7	5	5	7
PN to ADN	8	1	1	1	1	8
ADN-RN	25	27	26	27	24	25
PN to BSN	2	1	0	0	0	3
GE	2	2	2	2	1	2
BSN	9	8	8	9	9	10
Totals	55	46	44	44	40	55

Sources: 1) NCQAC Annual Education Survey 2014-2020 2) *Washington Department of Health Approved Nursing Programs October 2021.

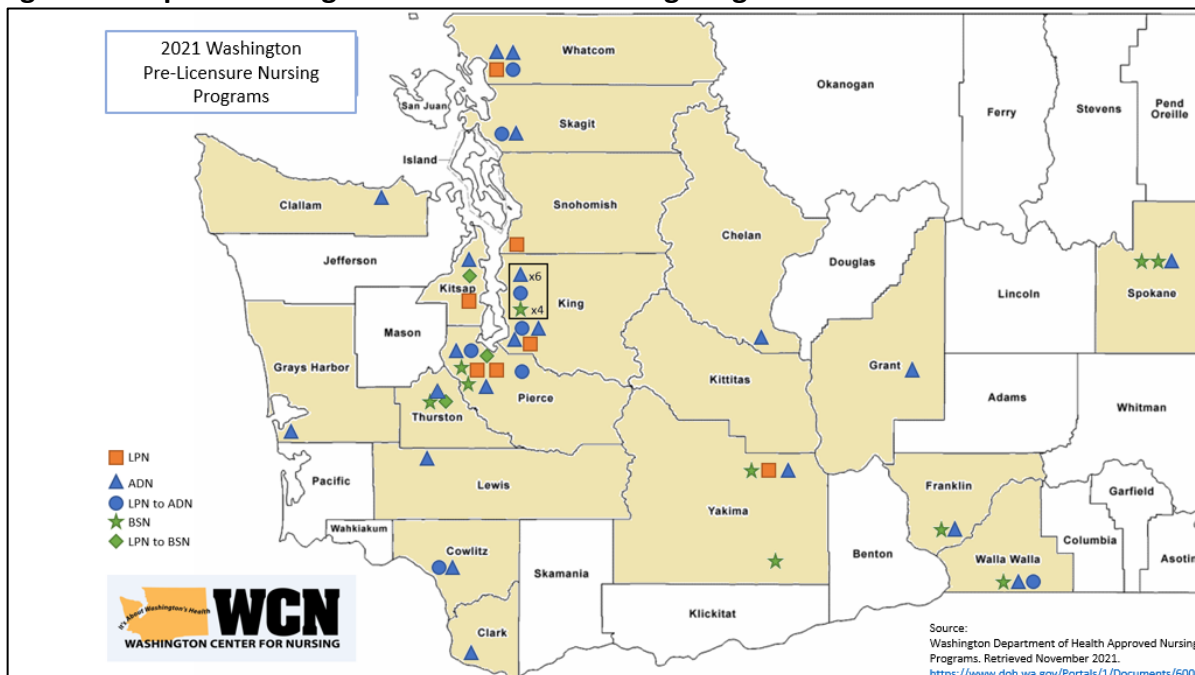**Figure 1. Map of Washington Pre-Licensure Nursing Programs 2021**

Table 2. Pre-Licensure Accreditation Status

Pre-licensure Program Type	2021 Accreditation status (October 2021)
7 **PN programs**	3 - NLN/CNEA Accredited 1 - CCNE Accredited 3 - Not yet Accredited
25 **AD-RN programs**	19 - ACEN Accredited 1 - CCNE Accredited 3 - NLN/CNEA Accredited 2 - Not yet Accredited
12 **BSN and 2 GE programs**	1 - ACEN Accredited 12 - CCNE Accredited 1 - Not yet Accredited

Source: 1) Approved Nursing Programs in the State of Washington (2021)

Applicants

Figures 2 through 5 display details on pre-licensure applicants from the academic years 2014 to 2020. The first column shows the number of students who applied to the program, the second is the number of applicants who met program requirements (also referred to as a qualified applicant), and the third is the number of applicants admitted into the program. Students can apply to multiple programs and therefore results are with limitations.

Figure 2. Practical Nurse Applicants 2014-2020
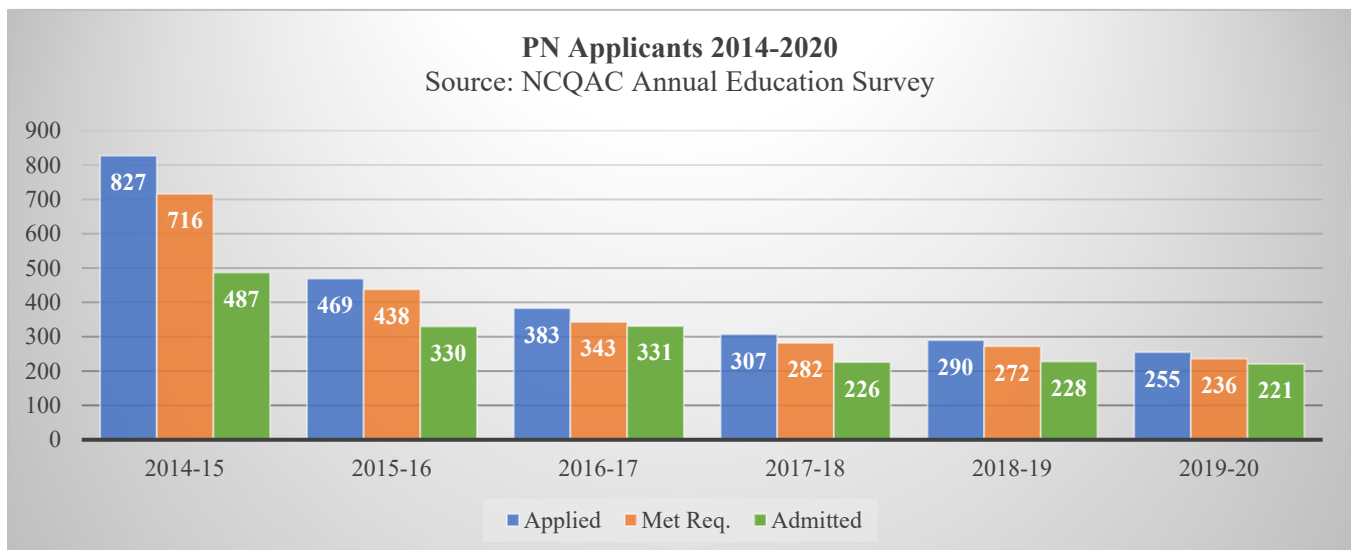
*Note: Data limitation does not account for duplicate applicants, potentially inflating applicant numbers.

There was a 69% decline in the number of PN applicants from 827 in 2014 to 255 in 2019 and a 54% decline in the number of students admitted into PN programs over six years. The average acceptance rate for a qualified applicant into a PN program during these six years was 80%.

Figure 3. Associate Degree RN Applicants 2014-2020
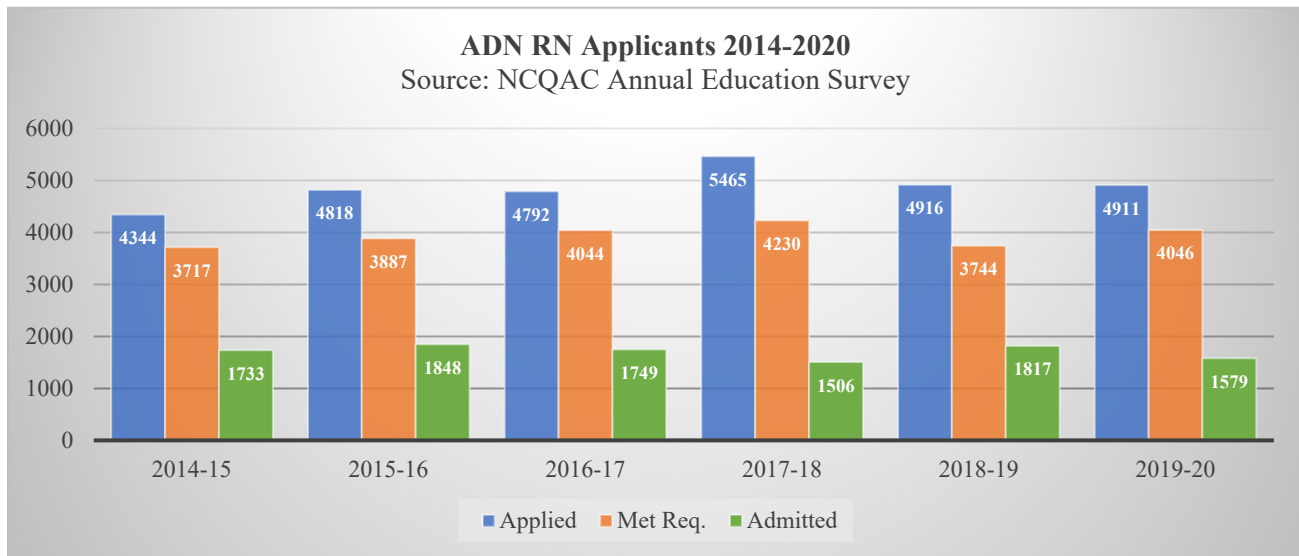
ADN RN Applicants 2014-2020
Source: NCQAC Annual Education Survey

*Note: Data limitation does not account for duplicate applicants, potentially inflating applicant numbers.

An average of 4,000 ADN-RN applicants met requirements every year from 2014-2020. Approximately 1,700 students were admitted every year, with an average acceptance rate of 43% for qualified applicants.

There was a 9% increase in qualified ADN-RN applicants from the academic year of 2014 year to 2019.

Figure 4. Bachelor of Science RN Applicants 2014-2020

BSN Applicants 2014-2020
Source: NCQAC Annual Education Survey

*Note: Data limitation does not account for duplicate applicants, potentially inflating applicant numbers.

The average number of BSN applicants who met program requirements from 2014-2020 was 2,700, with an average acceptance rate of 65% for qualified applicants. An average of 1,572 students were admitted into BSN programs every year over the last five years. There was a 29% decline in the number of students admitted into BSN programs from the years 2014 to 2020.

Figure 5. Graduate Entry Initial Licensure RN Applicants 2014-2020
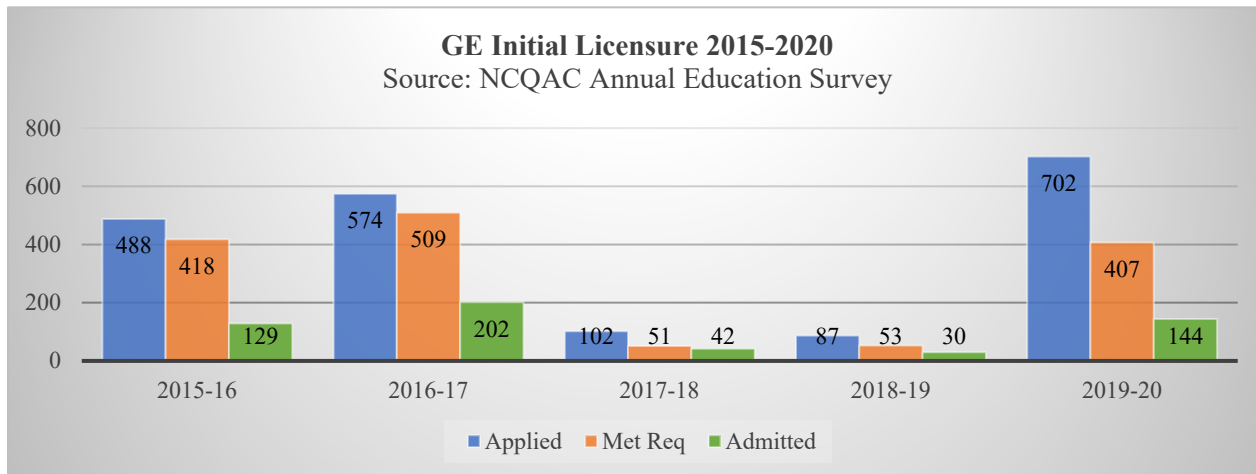
GE Initial Licensure 2015-2020
Source: NCQAC Annual Education Survey
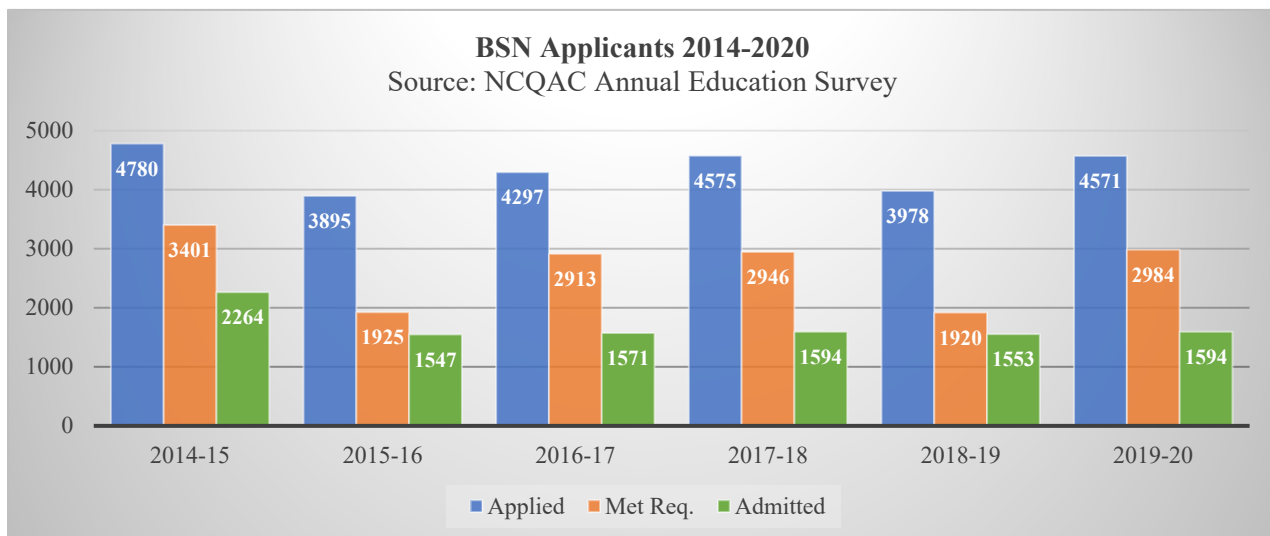
*Note: Data limitation does not account for duplicate applicants, potentially inflating applicant numbers.

The number of Graduate Entry initial licensure applicants is lower than other pre-licensure programs, with 547 students admitted into this program over five years. Only 35% of students who met the requirements for this program were accepted in the most recent year.

Qualified Applicants Turned Away From AD-RN and BSN Nursing Programs
Figure 6 displays the total number of qualified RN applicants turned away from programs in the academic years 2014-2020. A *qualified RN applicant turned away* is an applicant who meets the ADN-RN or BSN program requirements and is not admitted into the program due to limited capacity. The applicant data results are with limitations with no ability to account for duplicate applicants and thus potentially inflating number of applicants across programs.

Nationally, AACN reports over 80 thousand qualified applicants were turned away from baccalaureate and graduate nursing programs in 2019 (AACN, 2020). Qualified applicants are turned away for several reasons including: insufficient number of faculty, limited clinical site availability, classroom space capacity, insufficient number of clinical preceptors, and budget constraints (AACN, 2020).

Figure 6. Qualified RN Applicants Turned Away 2014-2020

Qualified RN Applicants Turned Away 2014-2020
Source: NCQAC Annual Education Survey

*Note: Data limitation does not account for duplicate applicants, potentially inflating applicant numbers.

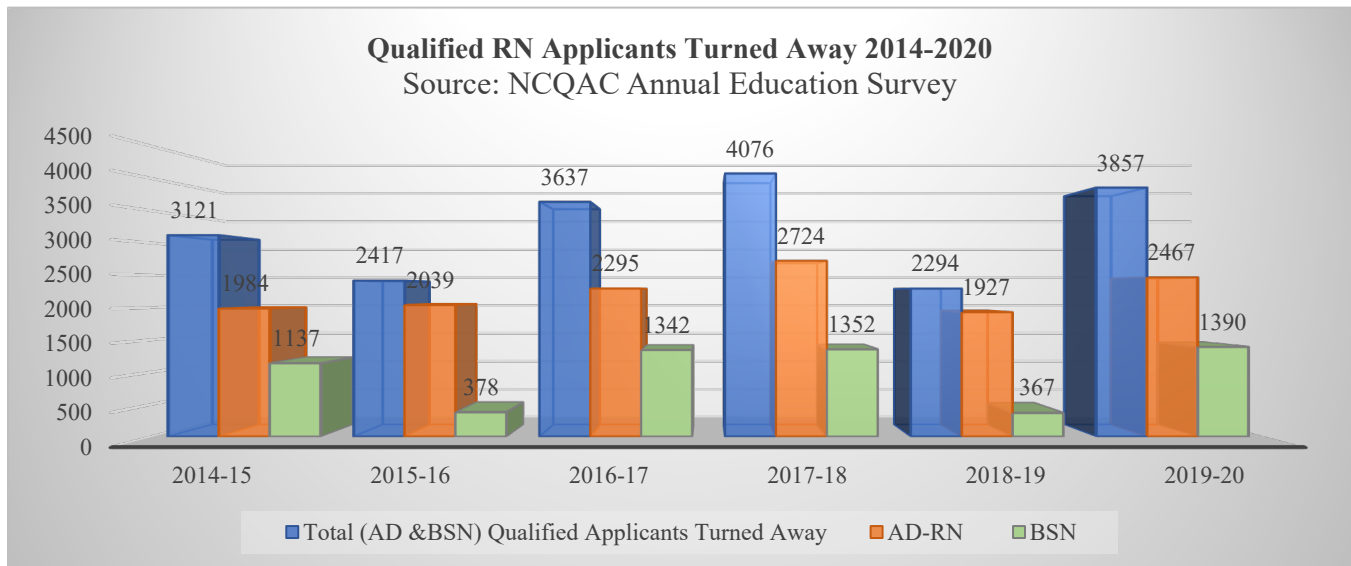From 2014-2020 there were a total of 19,402 qualified RN applicants turned away from RN programs in Washington (an overall 50% acceptance rate).

On average, 3,200 qualified RN applicants turned away every year, with fewer BSN qualified applicants turned away (994) compared with ADN-RN applicants (1,906).

Student Demographics and Diversity
Figure 7. Pre-Licensure Student Age: 2014-2019

Pre-Licensure Student Age 2014-2019
Source: NCQAC Annual Education Survey
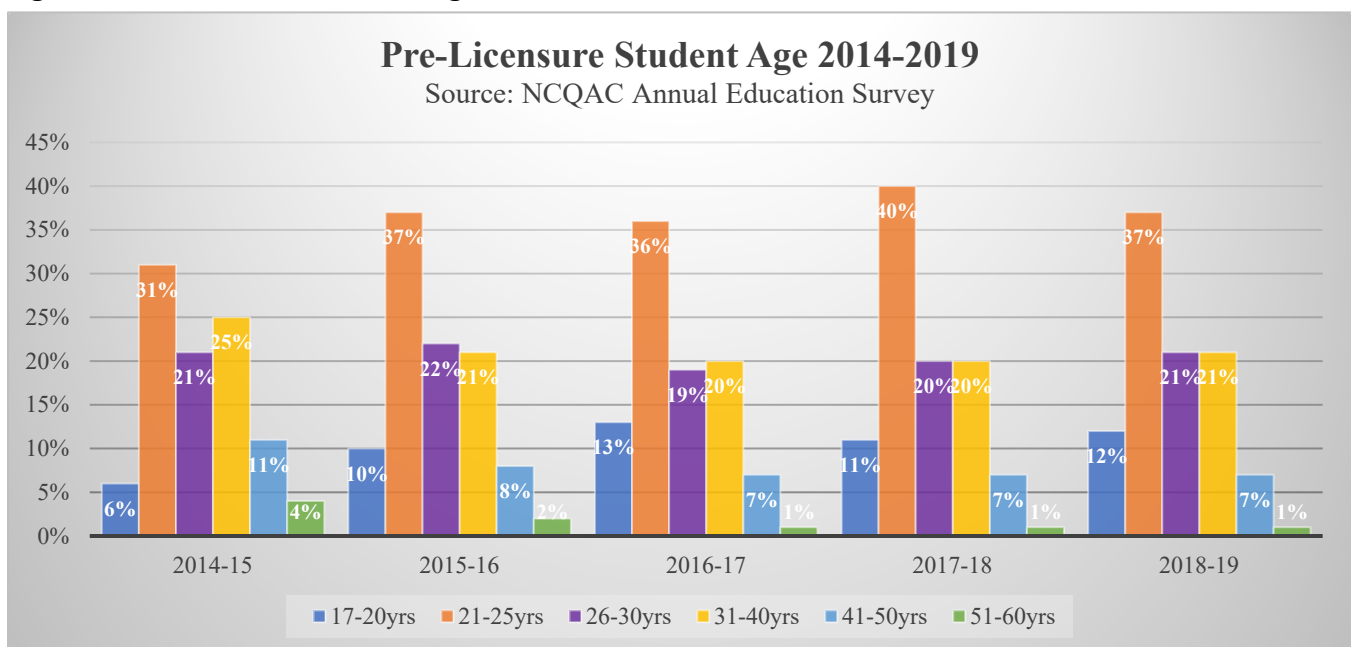
On average, 78% of pre-licensure students are between the ages of 21 and 40 years old.
The largest age group in pre-licensure students are those who are 21-25 years old (36% average), followed by those who are 26-30 years (21%) and 31-40 years old (21%).

Figure 8. Average Age: ADN-RN, BSN, and RNB Students 2014-2020

Average Student Age of RN Students 2014-2020
Source: NCQAC Annual Education Survey
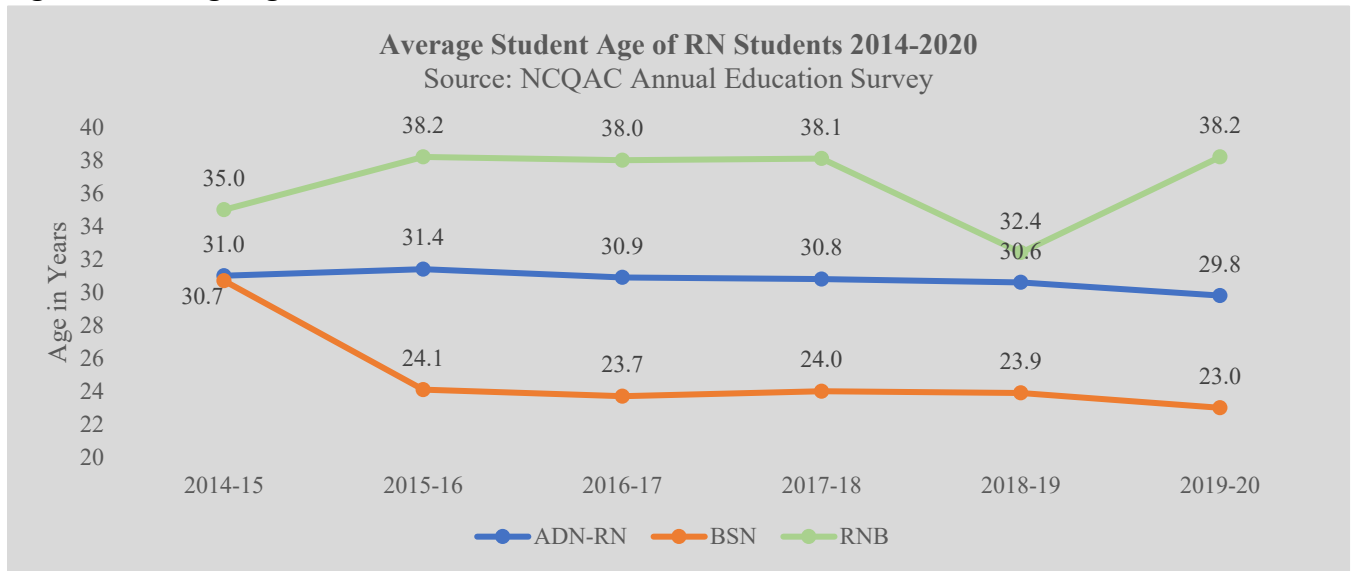
On average, BSN students are the youngest among the three groups of RN students, and the RN to BSN students are older.

Across six years, the average age of a BSN student was 25, the ADN-RN student was 31, and the RN to BSN student was 37 years old.

Figure 9. Pre-Licensure Student Diversity 2014- 2020

Pre-Licensure Student Diversity 2014-2020
Source: NCQAC Annual Education Survey
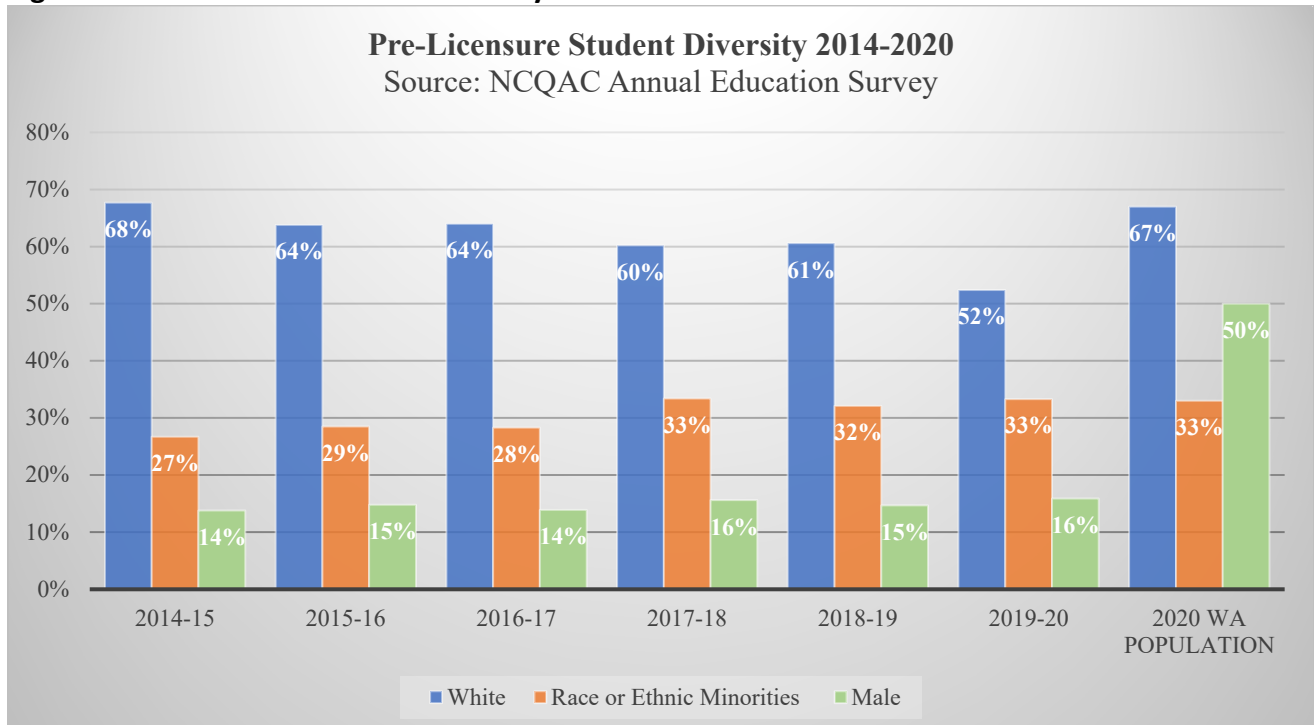
*Note: Totals for White and racial and ethnic minorities may not add up to 100 with missing/unknown race and ethnicity data. Racial and ethnic minority categories include all non-White categories, including Mixed Race and excluding any missing or unknown data.

On average, pre-licensure students were 52% White or Caucasian, 30% from an ethnic or minority group, and 15% male. There was a 22% increase in ethnic or minority pre-licensure students over the last six years and a 14% increase in males.

Figure 10. PN Student Race or Ethnicity 2014-2020
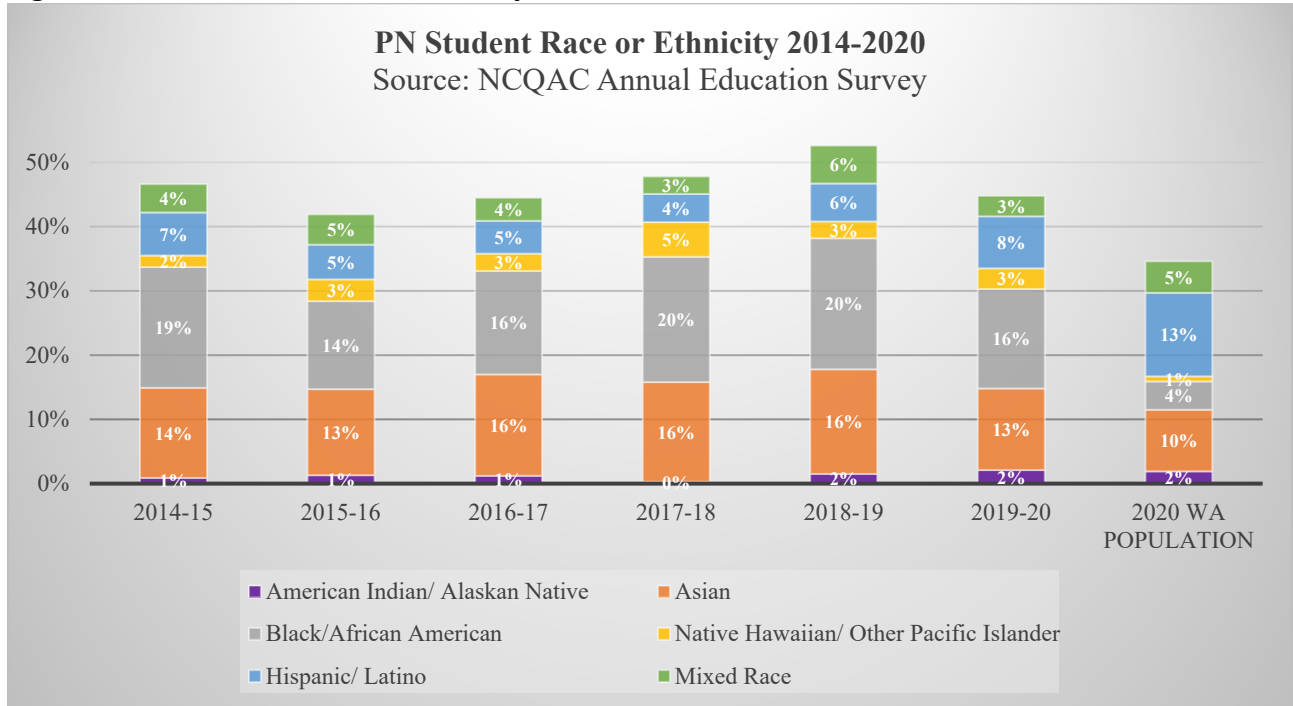
PN Student Race or Ethnicity 2014-2020
Source: NCQAC Annual Education Survey

Legend:
- American Indian/ Alaskan Native
- Asian
- Black/African American
- Native Hawaiian/ Other Pacific Islander
- Hispanic/ Latino
- Mixed Race

*Note: Totals may not add up to 100 with missing/unknown data for race or ethnicity and excludes White/Caucasian category. Sources: 1) NCQAC 2014 – 2020 Annual Education Survey. 2) 2021 U.S. Census Bureau

On average, 47% of PN students identified as one or more race and ethnicity category. The largest racial or ethnic group in PN students was Black/African American students (17% average), followed by Asian students (15% average).

Figure 11. ADN-RN Student Race or Ethnicity 2014-2020
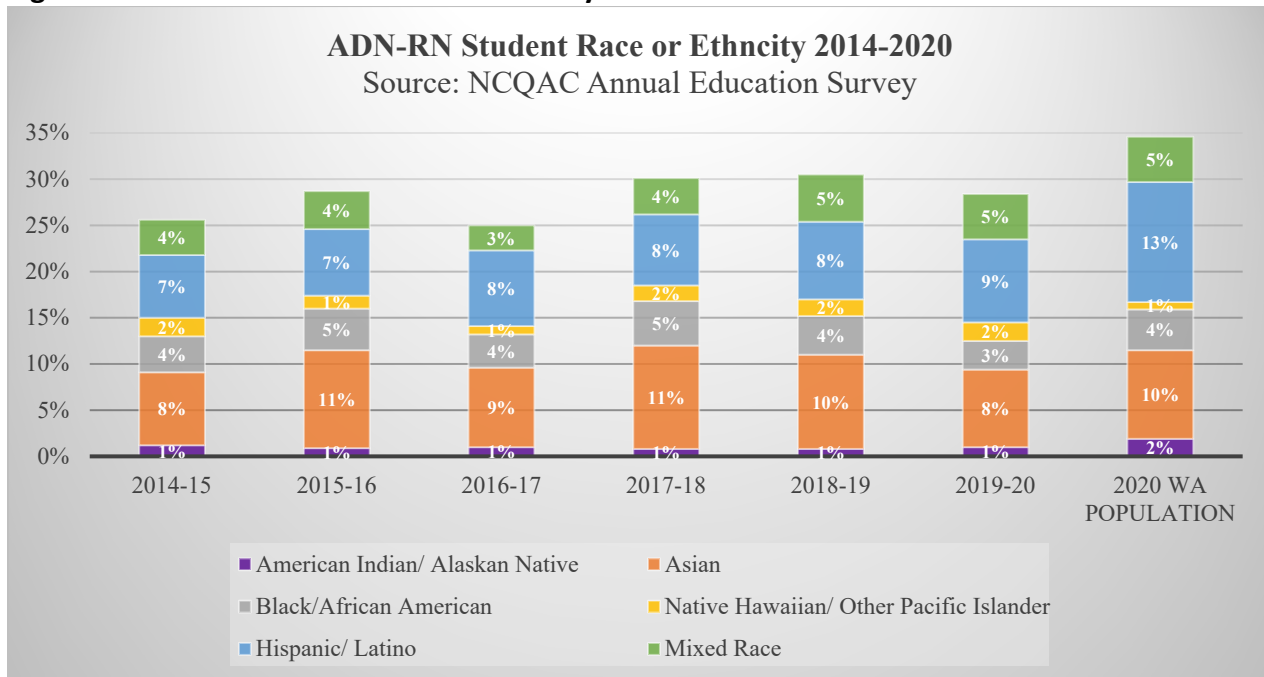
*Note: Totals may not add up to 100 with missing/unknown data for race or ethnicity and excludes White/Caucasian category. Sources: 1) NCQAC 2014 – 2020 Annual Education Survey. 2) 2021 U.S. Census Bureau

On average, 28% of ADN-RN students identified as a racial or ethnic minority. There was a 4% increase in racial and ethnic groups from 2014 to 2019.

The largest group was Asian students (10% average), followed by Hispanic/Latino students (8% average) from 2014-2020.

Figure 12. BSN/GE Student Race or Ethnicity 2014-2020
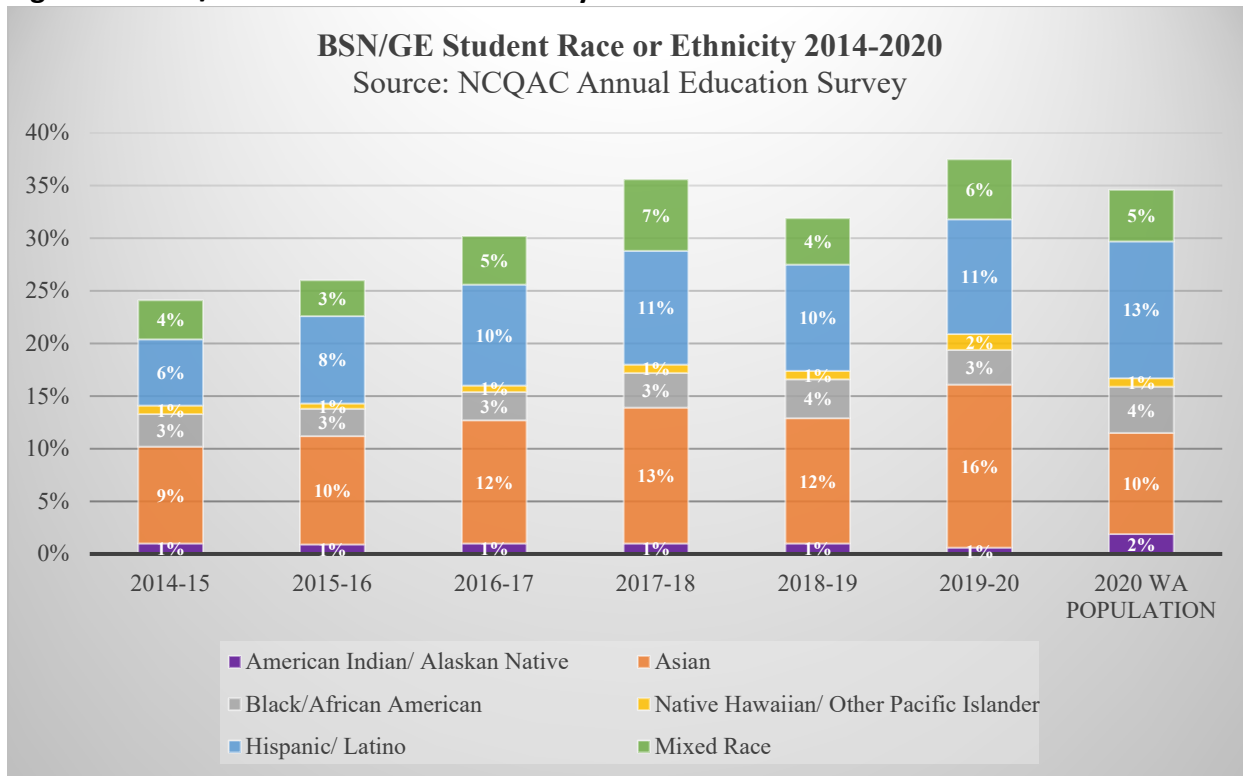
BSN/GE Student Race or Ethnicity 2014-2020
Source: NCQAC Annual Education Survey

*Note: Totals may not add up to 100 with missing/unknown data for race or ethnicity and excludes White/Caucasian category. Sources: 1) NCQAC 2014 – 2020 Annual Education Survey. 2) 2021 U.S. Census Bureau

On average, 32% of BSN/GE students identified as a racial or ethnic minority, with the largest race/ethnic group in Asian students (12% average) followed by Hispanic/ Latino students (9% average).

Since 2014, there has been a 27% increase in racial and ethnic minority students in the BSN/GE students from 24% to 39% in the most recent year.

Attrition

Attrition is the number of students who leave the program of study before they have completed the program. The two reasons identified for students leaving a program include 1) students who voluntarily withdrew for any reason and 2) students who did not pass the program for any reason.

Figure 13. Pre-Licensure Attrition 2014-2020

Pre-Licensure Attrition 2014-2020
Source: NCQAC Annual Education Survey

PN: 28%, 29%, 27%, 15%, 8%, 13%
AD-RN: 14%, 16%, 16%, 21%, 15%, 8%
BSN: 11%, 5%, 7%, 10%, 10%, 5%
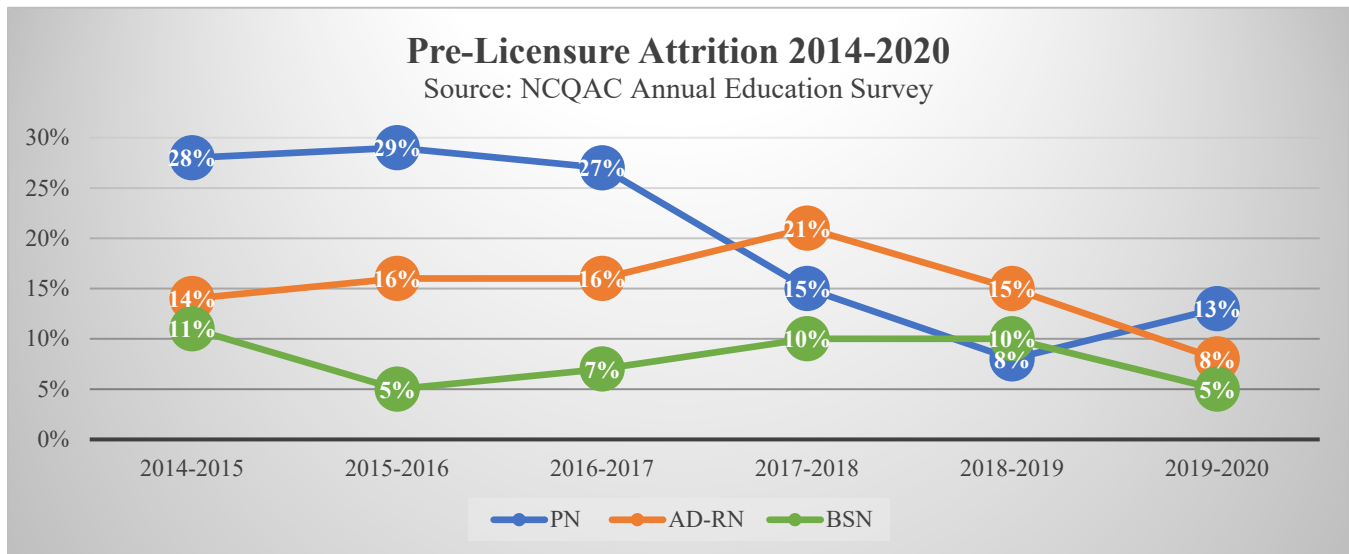
The median attrition rate for the PN program was 21% over six years. The median attrition rate for the ADN-RN and BSN programs were 15% and 8%, respectively.

There is a notable decrease in attrition rates across programs from 2014 to 2020, with the PN attrition rate decreasing 53%, ADN-RN rates decreasing 42%, and BSN attrition decreasing 54% over six years.

Graduates
Figure 14. Pre-Licensure Graduates 2014-2020

Pre-Licensure Graduates 2014-2020
Source: NCQAC Annual Education Survey

AD-RN: 1712, 1633, 1741, 1506, 1548, 1561
BSN/GE: 1283, 967, 937, 978, 892, 872
PN: 352, 293, 264, 226, 232, 238
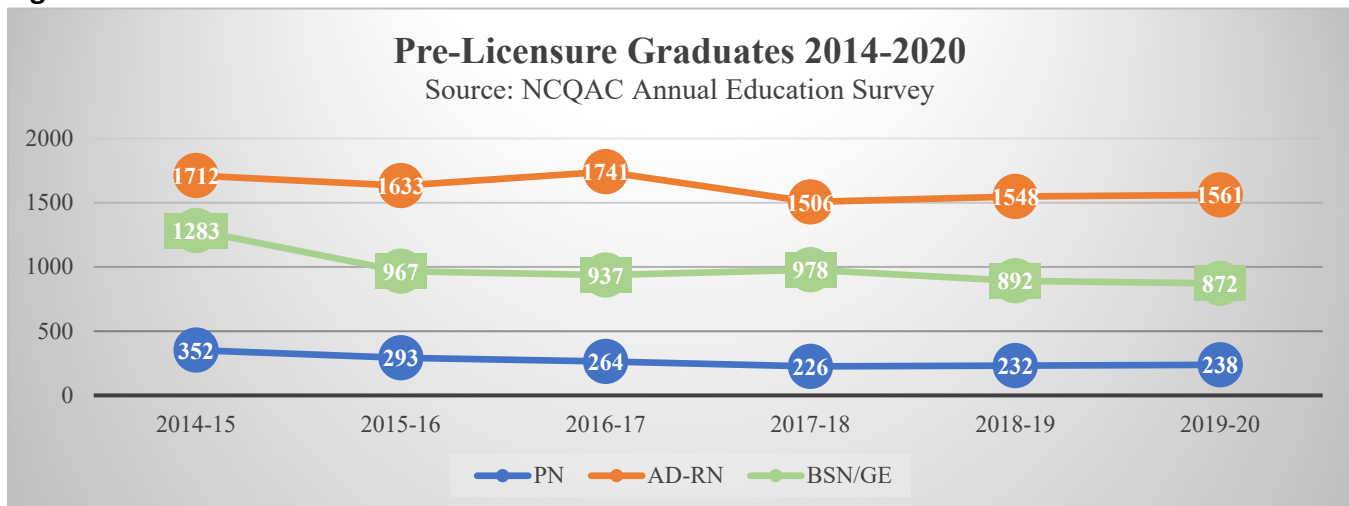
There was an average of 2,600 RN graduates from ADN-RN and BSN programs across six years.

The largest number of pre-licensure graduates are the ADN-RN graduates, with an average of 1,600 graduates every year.

There were an average of 990 BSN graduates every year. The number of ADN-RN graduates has slightly declined from 2014 to 2020, with an 8% decrease in the number of graduates. Both the BSN program and PN program had a 32% decrease in the number of graduates from 2014 to 2020.

2016-2020 NCLEX Pass Rates

The NCLEX pass rates for pre-licensure programs are displayed in Figures 15-17. Washington pre-licensure programs consistently have a higher NCLEX pass rate when compared with National pass rates. The five-year average pass rates in Washington are 96% for PN programs, 91% for ADN-RN programs, and 91% for BSN programs. Of note, limitation in pass rates data may be attributed to changes to the NCLEX tests over the years.

Figure 15. PN NCELX Pass Rates 2016-2020
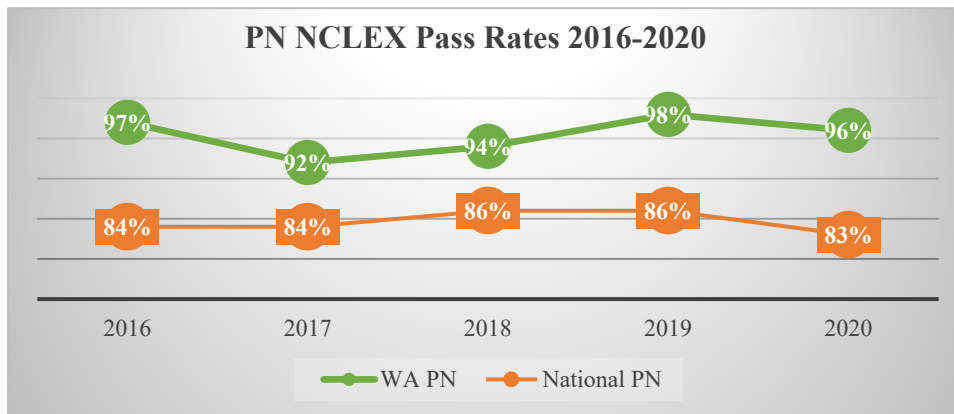
Sources: 1) WA DOH NCLEX School Reports (2021)
2) NCSBN NCLEX Pass Rates 2016-2020 publications

Figure 16. Associate Degree Nursing-RN NCLEX Pass Rates 2016-2020
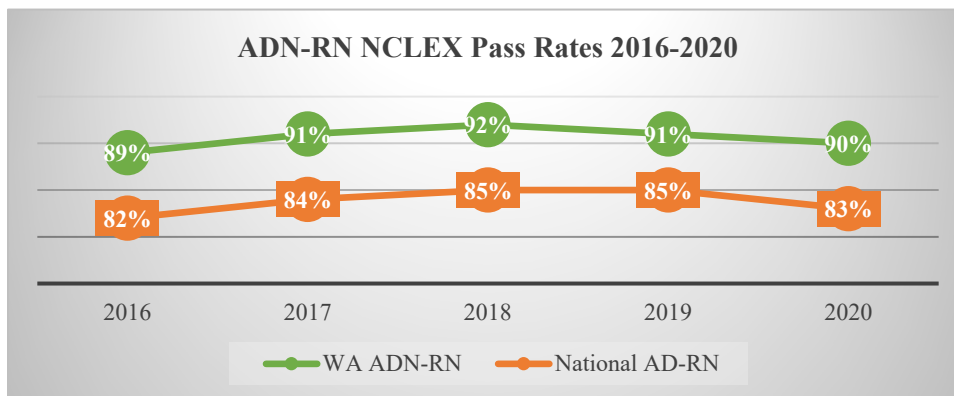
Sources: 1) WA DOH NCLEX School Reports (2021)
2) NCSBN NCLEX Pass Rates 2016-2020 publications

Figure 17. BSN NCLEX Pass Rates 2016-2020
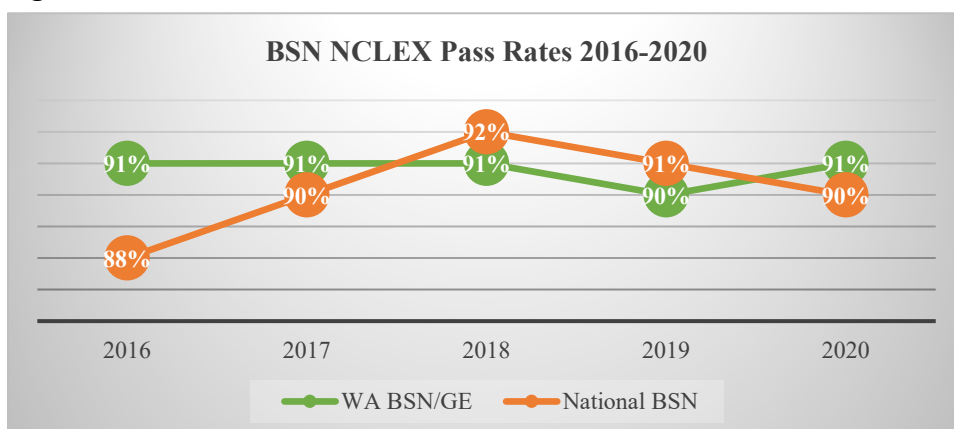
Sources: 1) WA DOH NCLEX School Reports (2021)
2) NCSBN NCLEX Pass Rates 2016-2020 publications

Post-Licensure Programs

Post licensure programs are for students who are already licensed as RNs. This includes licensed RNs whose highest degree is a diploma or associate degree and who are working toward a bachelor's degree, also known as RN to BSN programs. Post-licensure programs also include graduate-level programs such as master's degrees and doctorate degrees. These programs do not include any pre-licensure students.

The number of post-licensure programs in Washington (and those who completed the annual survey) has increased over six years ranging from 33 programs in the 2014-2015 academic year to 53 programs in the most recent year.

There was notable growth in two specific programs, the RNB program, which grew from 8 to 17 programs, and the master's (non-ARNP) program, which increased from 7 to 13 programs. There were three DNP programs added during this period. There are three fewer master's ARNP programs from 2014 to 2019.

Table 3. WA Post-Licensure Programs 2014–2020

Post-Licensure Program Type	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20*
RNB	8	7	8	9	8	17
AD to MN	4	3	3	3	2	5
Master's (ARNP)	4	5	2	3	3	1
Master's (non-ARNP)	7	7	6	7	6	13
Post Master's Certificate	3	3	3	2	3	7
DNP	5	5	5	6	6	8
Doctoral (non-DNP)	2	2	2	2	2	2
Totals	33	32	29	32	30	53

Sources: 1) NCQAC Annual Education Survey 2014-2020, 2) Washington Department of Health Approved Nursing Programs October 2021*

Program Location

Figure 18. Map of Washington Post-Licensure Nursing Programs 2021

Applicants

Figure 19. RN to BSN Applicants 2014-2020
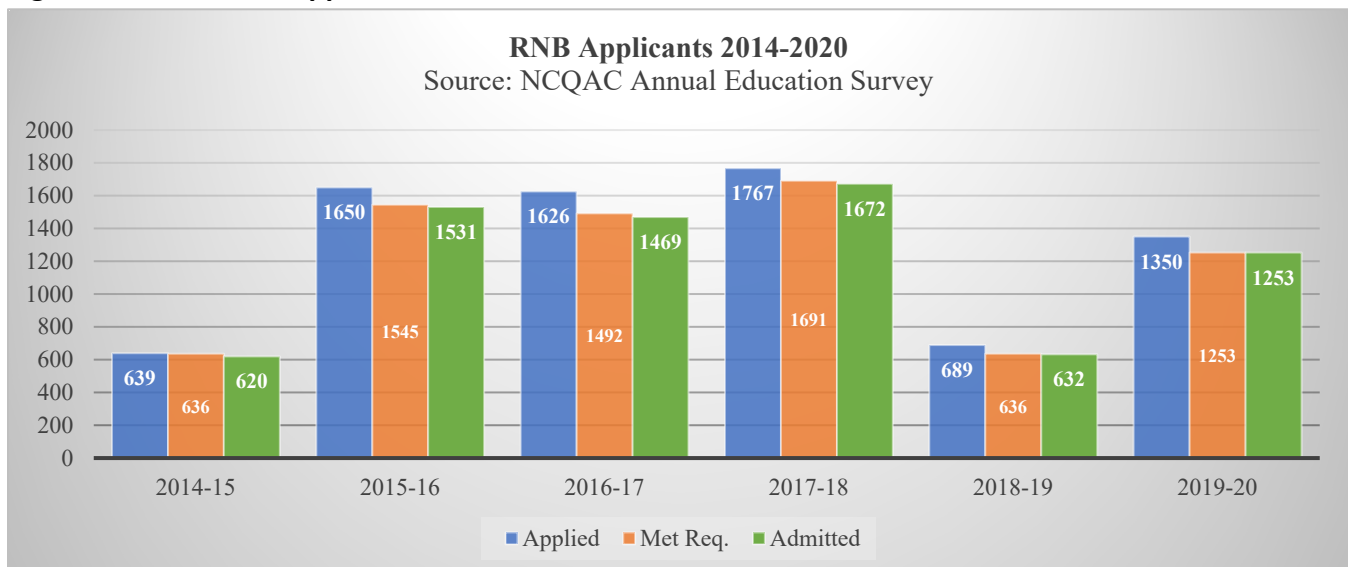
*Note: Data limitation does not account for duplicate applicants, potentially inflating applicant numbers.

The number of students admitted into RN to BSN programs more than doubled from 2014 to 2019. On average, 1,200 students were admitted into RN to BSN programs every year with a 99% acceptance rate for applicants who met requirements.

Figure 20. Associate Degree RN to Master's Degree Applicants 2015-2020
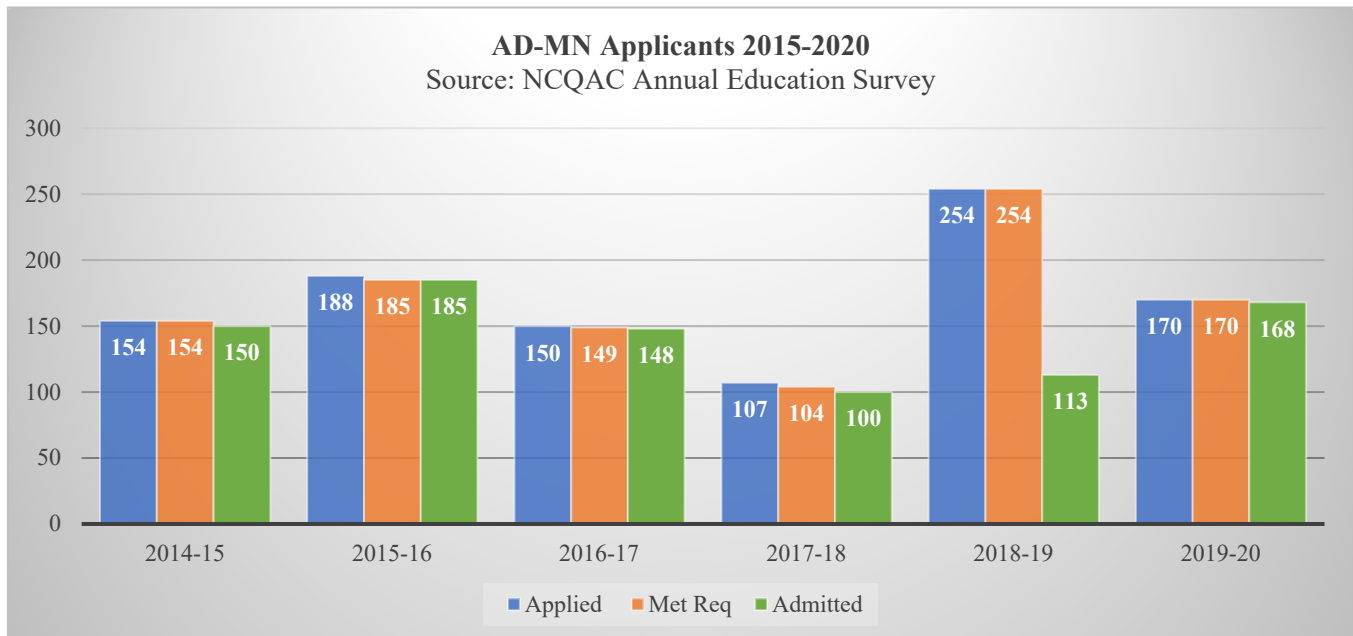
AD-MN Applicants 2015-2020
Source: NCQAC Annual Education Survey

*Note: Data limitation does not account for duplicate applicants, potentially inflating applicant numbers.

An average of 130 students were admitted into associate degree to Master's in Nursing programs every year with a 90% acceptance rate for applicants who met program requirements.

Figure 21. Master's Degree (non-ARNP) Applicants 2015-2020
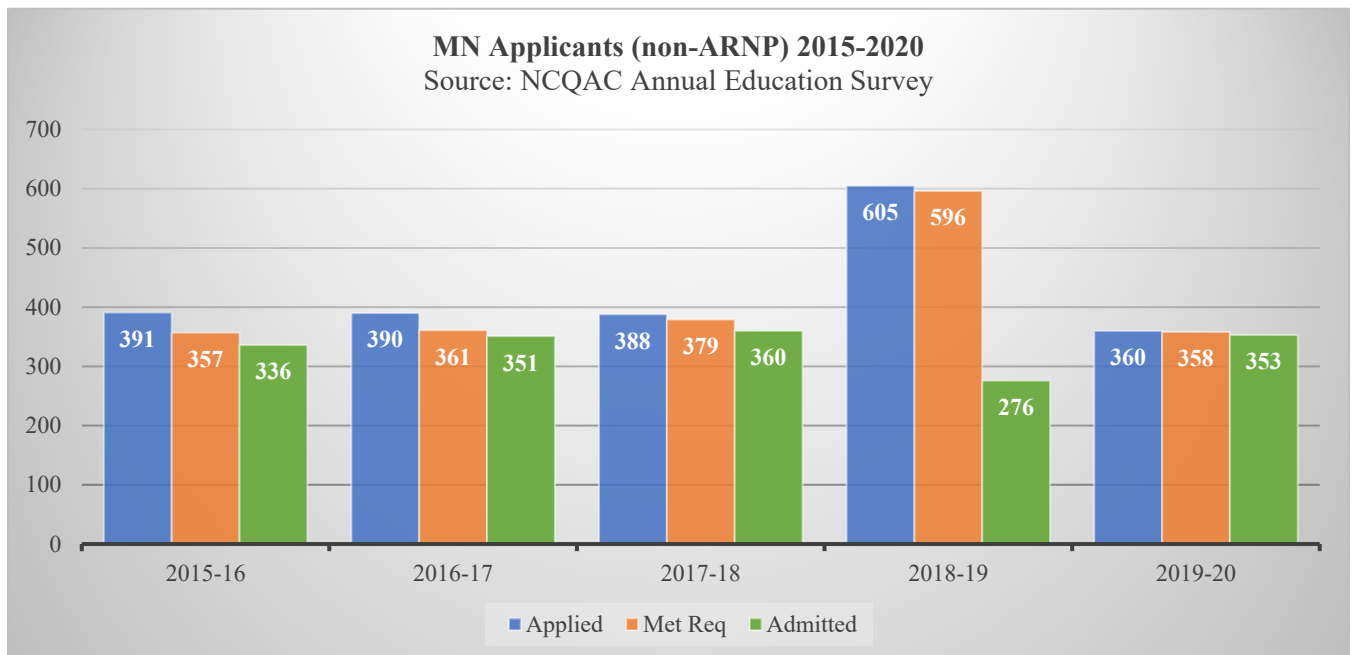
MN Applicants (non-ARNP) 2015-2020
Source: NCQAC Annual Education Survey

*Note: Data limitation does not account for duplicate applicants, potentially inflating applicant numbers.
An average of 335 students were admitted into Master's in Nursing and Master's of Science programs (non-ARNP) over five years, with an average acceptance rate of 86% for students who met program requirements.

Figure 22. Master's Degree (ARNP) Applicants 2015-2020
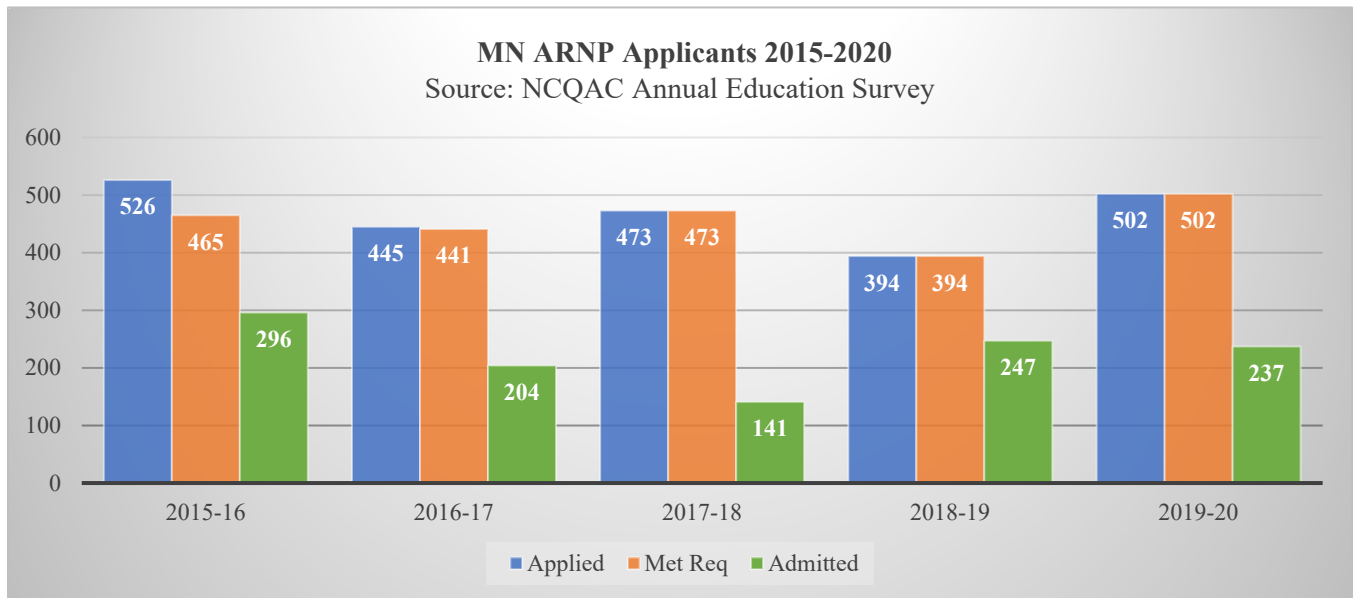
MN ARNP Applicants 2015-2020
Source: NCQAC Annual Education Survey

Year	Applied	Met Req	Admitted
2015-16	526	465	296
2016-17	445	441	204
2017-18	473	473	141
2018-19	394	394	247
2019-20	502	502	237

*Note: Data limitation does not account for duplicate applicants, potentially inflating applicant numbers.

An average of 225 students a year were admitted into Master's in Nursing programs with an ARNP focus. There was an average acceptance rate of 50% for students who met program requirements over the last five academic years for the MN-ARNP programs.

Figure 23. DNP Applicants 2015-2020
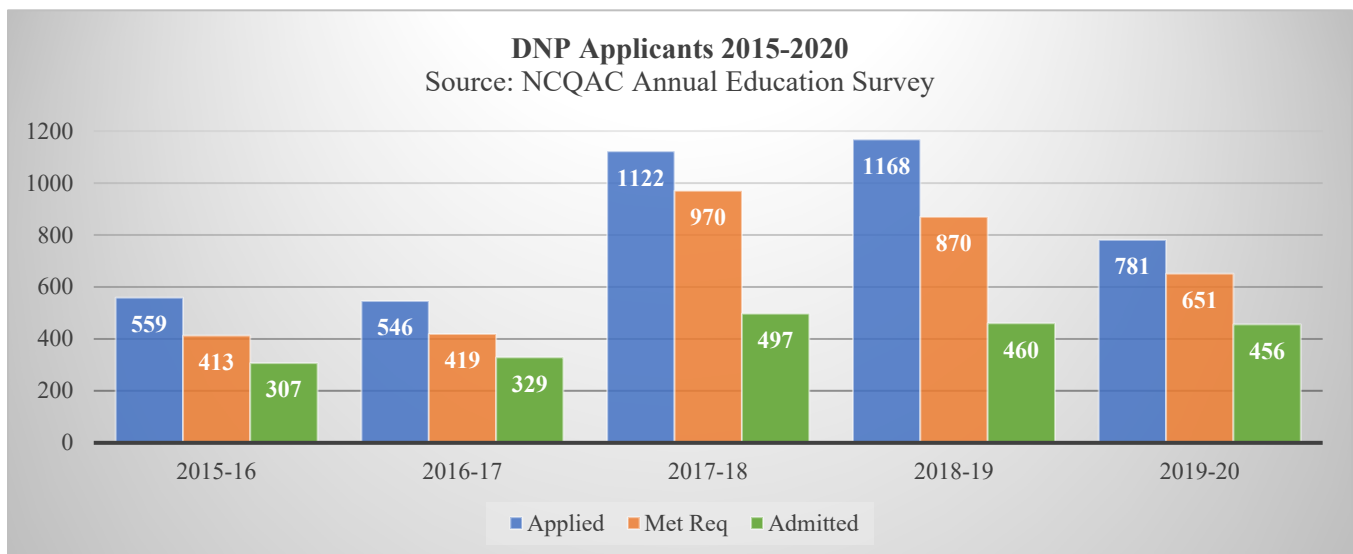
DNP Applicants 2015-2020
Source: NCQAC Annual Education Survey

Year	Applied	Met Req	Admitted
2015-16	559	413	307
2016-17	546	419	329
2017-18	1122	970	497
2018-19	1168	870	460
2019-20	781	651	456

*Note: Data limitation does not account for duplicate applicants, potentially inflating applicant numbers.

The number of students admitted into DNP programs increased 49% during these five years. Several ARNP programs moved from a Master's program to a DNP ARNP program and numbers admitted reflect these changes in Figure 22 and Figure 23. The number of applicants also increased 40%, with an average of 410 students admitted into DNP programs every year and an average acceptance rate of 65% for students who meet program requirements.

Figure 24. Doctoral (PHD) Applicants 2015-2020
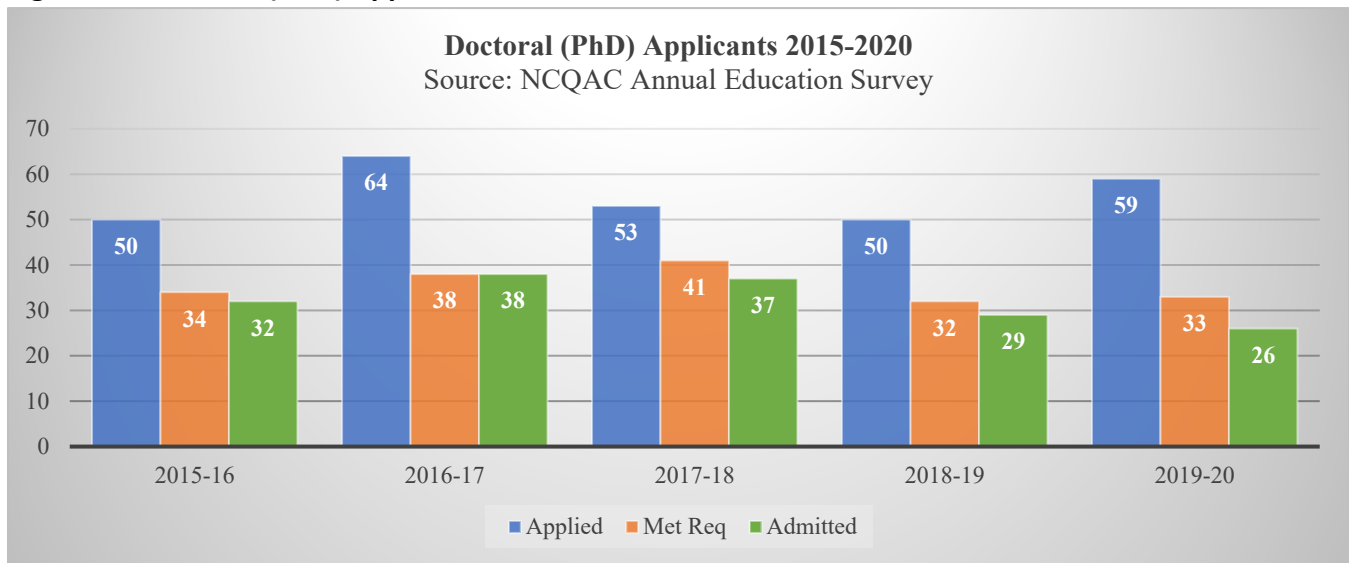
Doctoral (PhD) Applicants 2015-2020
Source: NCQAC Annual Education Survey

*Note: Data limitation does not account for duplicate applicants, potentially inflating applicant numbers.

The number of students admitted into research doctorate programs decreased by 18% from the academic years of 2015 to 2019. An average of 32 students were admitted into research doctorate programs every year in the last five years, with an acceptance rate of 91% for those who met program requirements.

Qualified Applicants Turned Away

Figure 25. Post-Licensure Qualified Applicants Turned Away 2015-2020
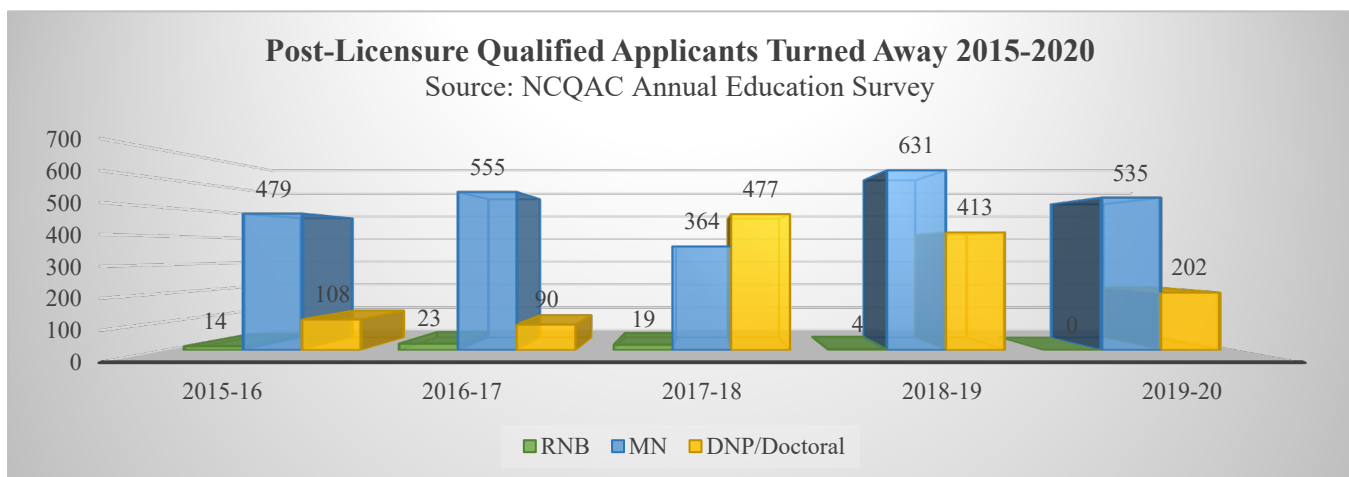
Post-Licensure Qualified Applicants Turned Away 2015-2020
Source: NCQAC Annual Education Survey

*Note: Data limitation does not account for duplicate applicants, potentially inflating applicant numbers.

A *qualified applicant turned away* is an applicant who met program requirements and was not admitted due to limited program capacity. The largest group of qualified applicants turned away in a post-licensure program are the master's program applicants with most from the MN-ARNP programs as noted in Figure 22. There is a growing increase in DNP qualified applicants turned away. The applicant data results are with limitations with no ability to account for duplicate applicants and thus potentially inflating number of applicants across programs.

Student Demographics and Diversity

Figure 26. Post-Licensure Student Age 2014-2020

Post-Licensure Student Age 2014-2020
Source: NCQAC Annual Education Survey
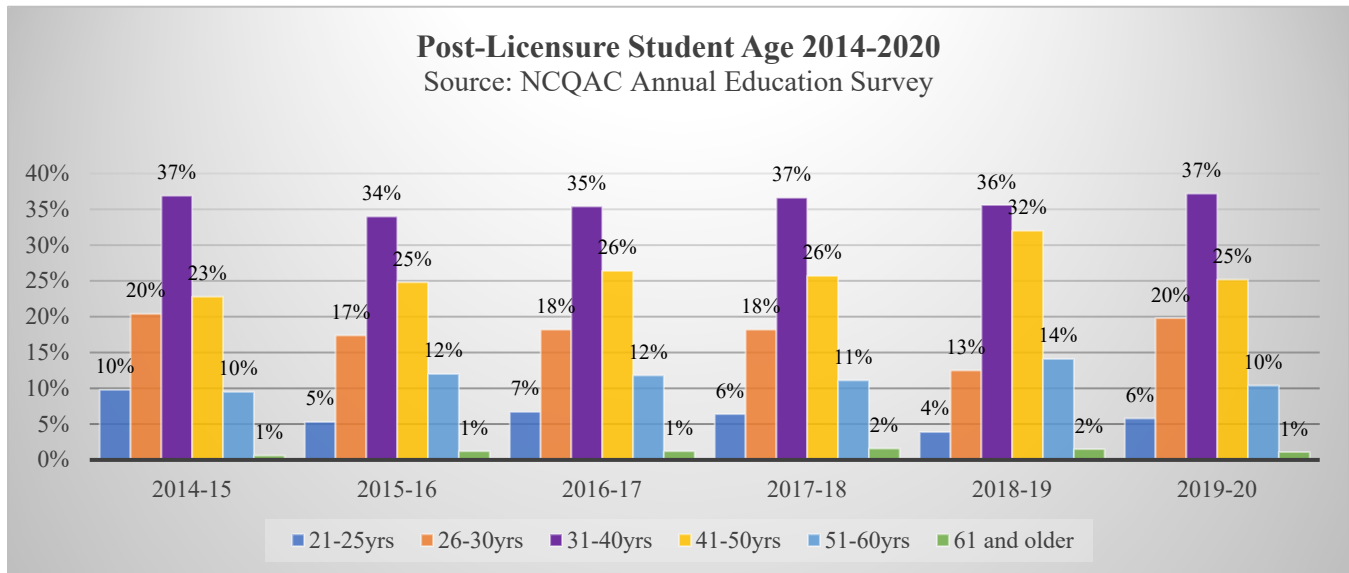
Most post-licensure students are between the ages of 3l-40 years (36%). The next largest groups are between the age of 41-50 years old (26%) and 26-30 years old (18%). Age for post-licensure students is relatively consistent over six years.

Figure 27. Post-Licensure Student Diversity 2014-2020
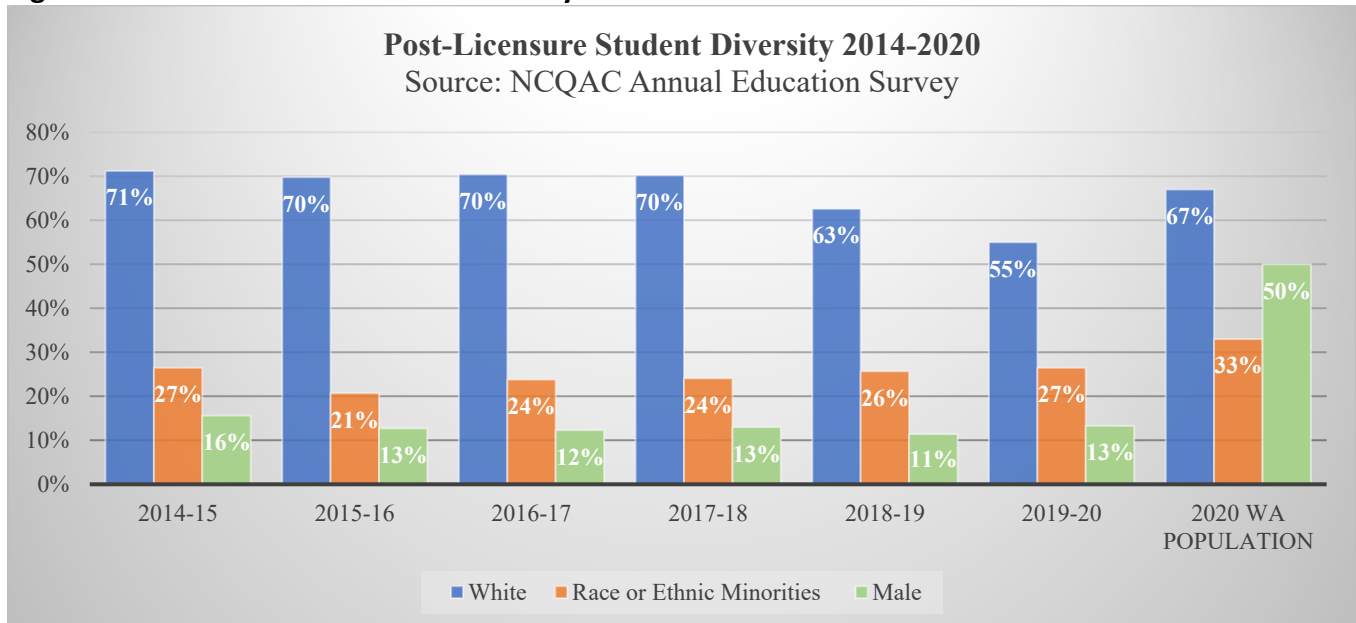
Post-Licensure Student Diversity 2014-2020
Source: NCQAC Annual Education Survey

*Note: Totals for White and racial and ethnic minority may not add up to 100 with missing/unknown data for race or ethnicity. 2014-2015 results include RNB and AD-MN data only. Sources: 1) NCQAC 2014 – 2020 Annual Education Survey. 2) 2021 U.S. Census Bureau

Over six years, post-licensure students were 67% White or Caucasian and 25% were from an ethnic or racial minority group, and 13% male. The percent of racial or ethnic minorities among post-licensure students remained at 27% through the academic years of 2014 to 2019. There was a 4% decrease in male students from the 2015 year to the recent 2019 year.

Figure 28. RN to BSN Student Race or Ethnicity 2014-2020
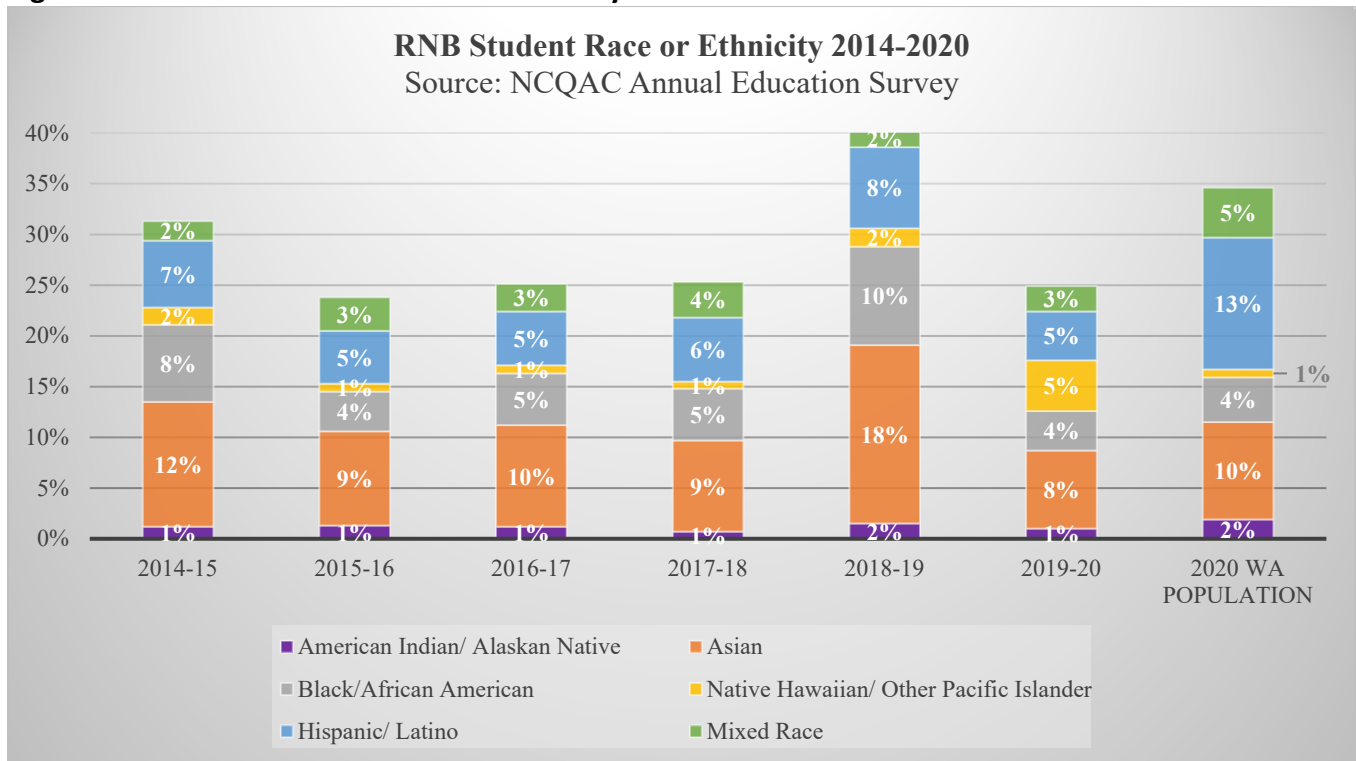
RNB Student Race or Ethnicity 2014-2020
Source: NCQAC Annual Education Survey

*Note: Totals may not add up to 100 with missing/unknown data for race or ethnicity and excludes White/Caucasian category. 2014-2015 results include RNB and AD-MN data only. Sources: 1) NCQAC 2014 – 2020 Annual Education Survey. 2) 2021 U.S. Census Bureau

On average, 29% of RN to BSN students identified as one of the six race or ethnicity categories listed including, Mixed Race. The largest group identified as Asian (11%) with the second largest groups equally at 6% for Black/ African American and Hispanic/Latino students as the six-year average.

Figure 29. Master's in Nursing and Master of Science Student Race or Ethnicity 2014-2020
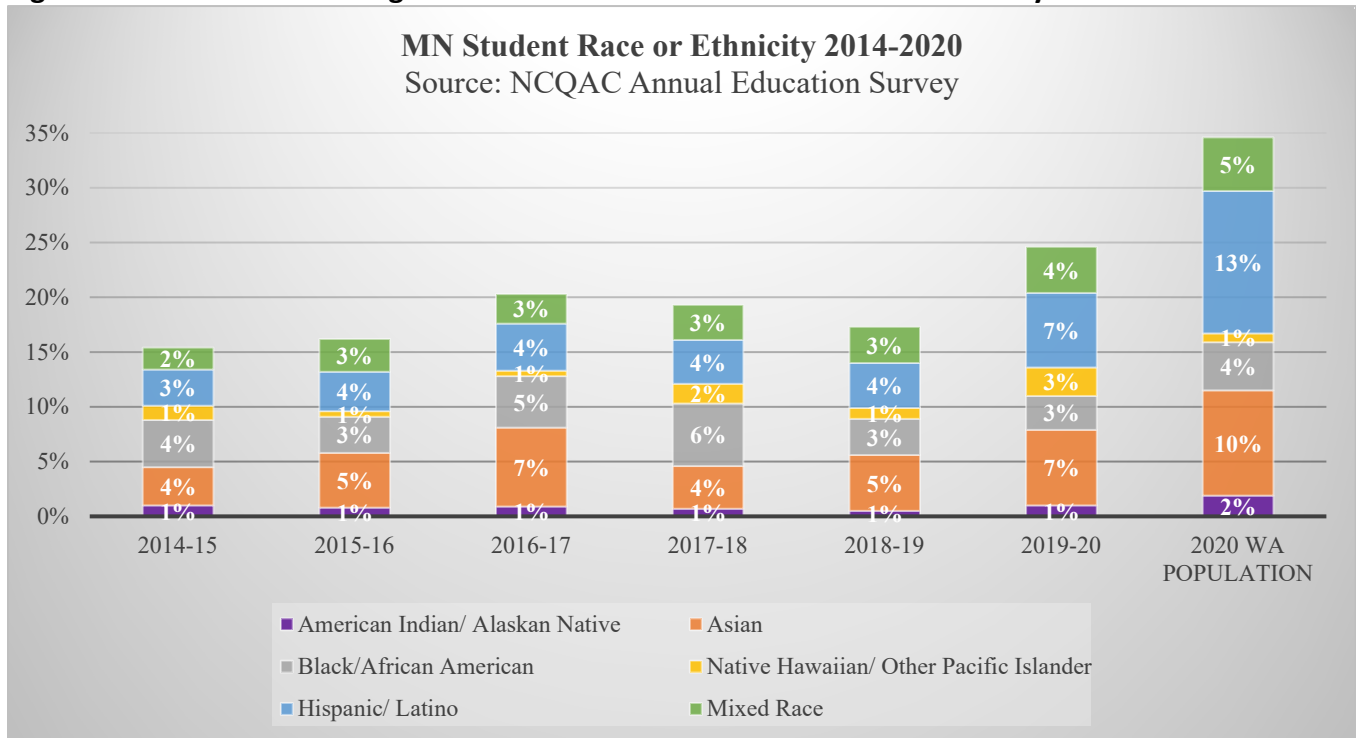
*Note: Totals may not add up to 100 with missing/unknown data for race or ethnicity and excludes White/Caucasian category. 2014-2015 results include RNB and AD-MN data only. Sources: 1) NCQAC 2014 – 2020 Annual Education Survey. 2) 2021 U.S. Census Bureau

On average, 19% of master's students were from a racial and ethnic minority group over six years. The largest group was Asian, and the second largest group was Hispanic/Latino, with an average of 5% and 4%, respectively.

Figure 30. DNP/Doctoral Student Race or Ethnicity 2014-2020
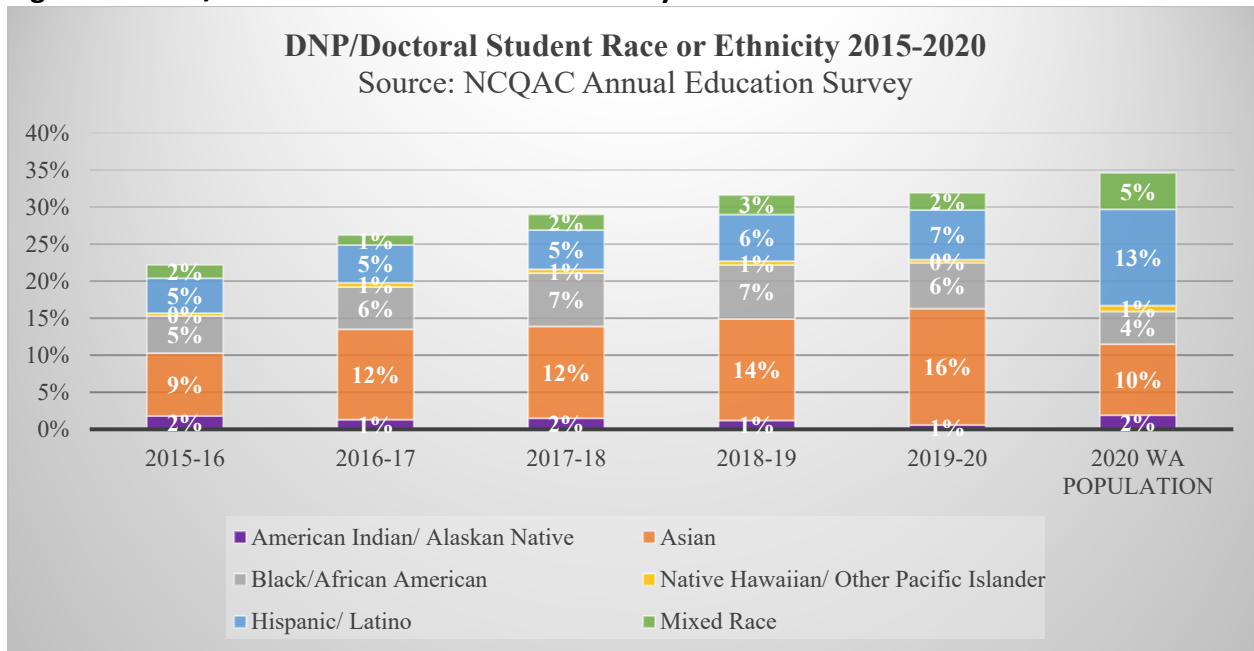
DNP/Doctoral Student Race or Ethnicity 2015-2020
Source: NCQAC Annual Education Survey

*Note: Totals may not add up to 100 with missing/unknown data for race or ethnicity and excludes White/Caucasian category. 2014-2015 results include RNB and AD-MN data only. Sources: 1) NCQAC 2014 – 2020 Annual Education Survey. 2) 2021 U.S. Census Bureau

There was a 32% increase in racial and ethnic minority students in DNP/doctoral programs from 2015 to the recent 2019 academic year. On average, 24% of DNP/doctoral students identified as racial/ethnic minorities over five years. The largest group is Asian, with an average of 13%, and the second largest is Black/African American at 6%.

ARNP Specialty Areas
Figure 31. Enrolled Students ARNP Specialty Areas 2015-2020
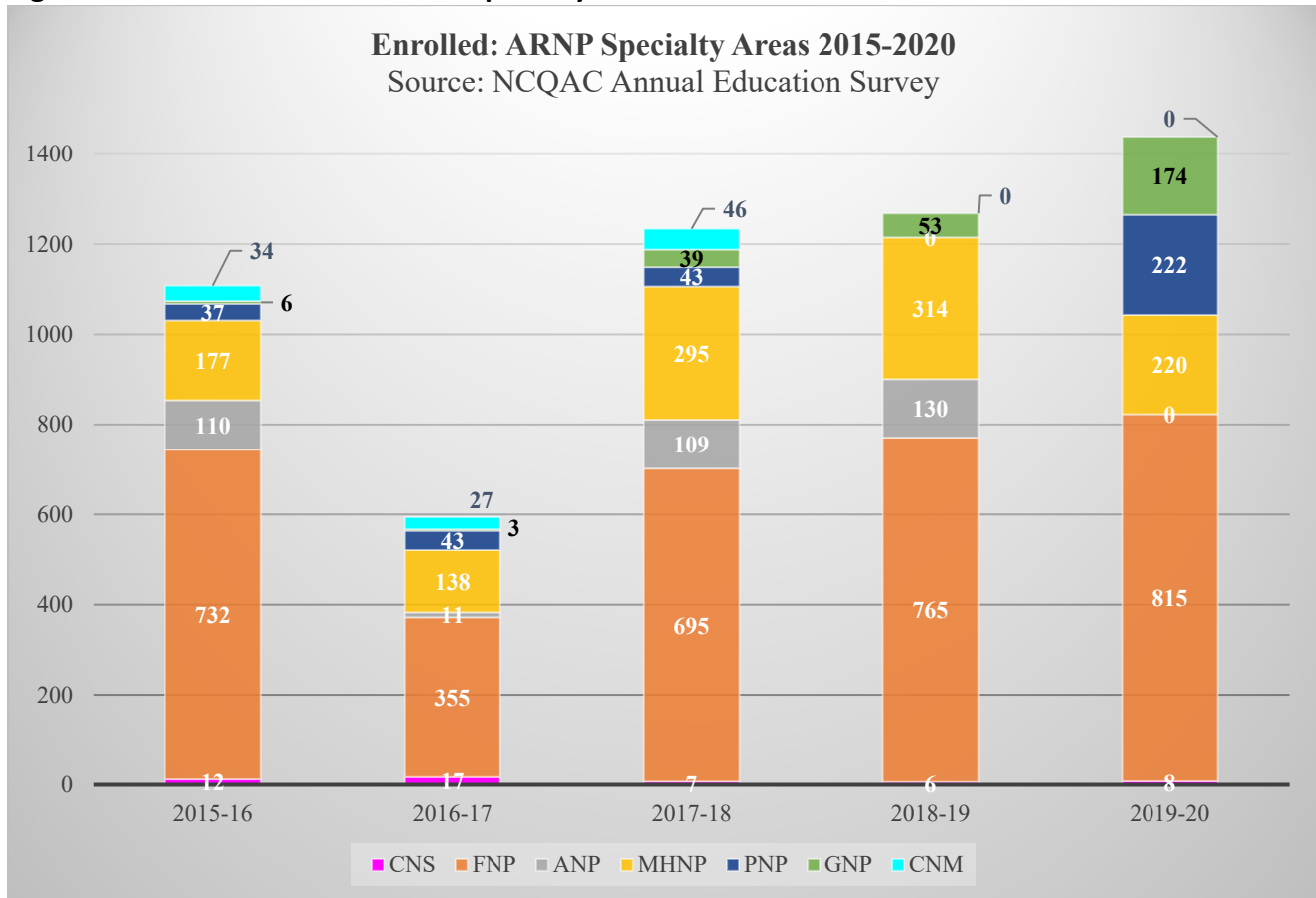
*Note: Includes initial licensure ARNP programs (Graduate Entry, Master's, Post Master's Certificates, and Doctoral of Nursing Practice programs). CNS=Clinical Nurse Specialist, FNP=Family Nurse Practitioner, ANP= Adult Nurse Practitioner, MHNP=Mental Health Nurse Practitioner, PNP=Pediatric Nurse Practitioner, GNP=Geriatric Nurse Practitioner. No nurse anesthetist data available from the one program in WA. Program changes affect the specialties offered and numbers enrolled in programs.

The largest specialty area for students enrolled in an initial ARNP program is the Family Nurse Practitioner (FNP), with an average of 670 students enrolled in this specialty every year. FNPs may enroll in this specialty during their education, however FNPs are able to practice in a variety of clinical specialties and settings after graduation.

There was a significant increase (>300%) in the number of enrolled ARNP students with a gerontology (GNP) specialty from 39 in 2017 to 174 in 2019. Those enrolled in mental health (MHNP) specialty rose 24% from 2015 to 2019.

Attrition
Attrition is the number of students who leave the program before they have completed the program. The two reasons listed in the annual survey for students leaving a program include: 1) students who voluntarily withdrew for any reason and 2) students who did not pass the program for any reason.

Figure 32. Post-Licensure Attrition 2014-2020

Post-Licensure Attrition 2014 - 2020
Source: NCQAC Annual Education Survey

[Line chart showing attrition percentages by year and program type]

- 2015-2016: RNB 10%, MN 16%, DNP 7%
- 2016-2017: RNB 13%, MN 13%, DNP 4%
- 2017-2018: RNB 26%, MN 28%, DNP 6%
- 2018-2019: RNB 7%, MN 24%, DNP 10%
- 2019-2020: RNB 21%, MN 11%, DNP 5%

Legend: RNB, MN, DNP
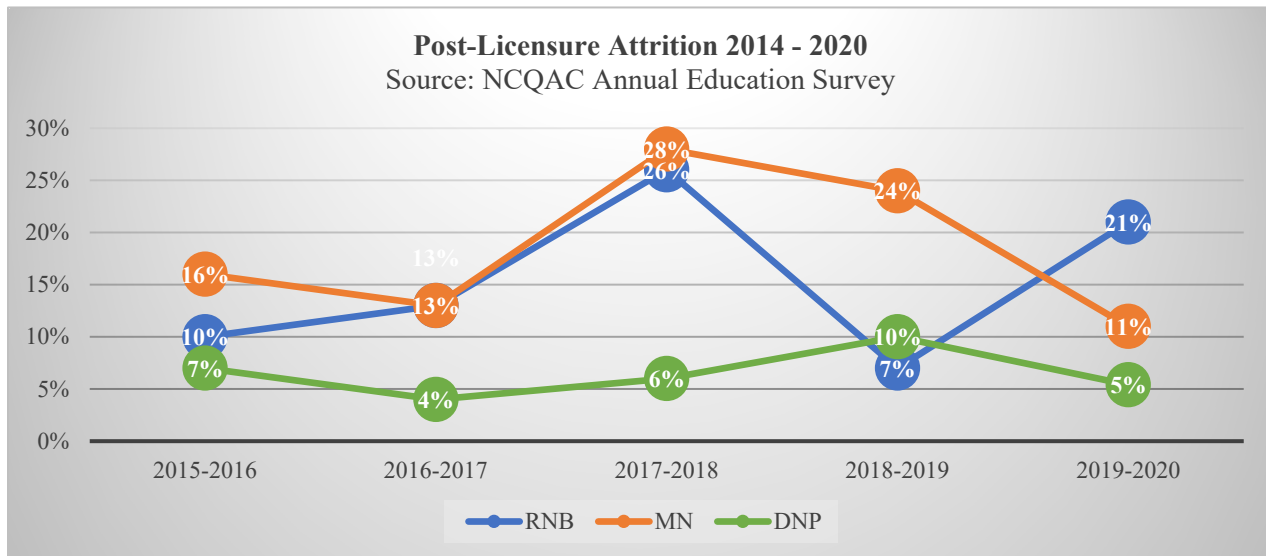
Post-licensure attrition is highest among master's level students, with an average of 18% attrition rate over five years. RNB programs have an average 15% attrition rate, and DNP programs have an average attrition rate of 6%.

Graduates

Figure 33. Post-Licensure Graduates 2015-2020

Post-Licensure Graduates 2015 - 2020
Source: NCQAC Annual Education Survey

[Line chart showing graduate numbers by year and program type]

- 2015-16: RNB 718, MN 421, MN-ARNP 141, DNP/Doctoral 145
- 2016-17: RNB 937, MN 401, MN-ARNP 162, DNP/Doctoral 168
- 2017-18: RNB 1319, MN 329, MN-ARNP 162, DNP/Doctoral 191
- 2018-19: RNB 1191, MN 550, MN-ARNP 163, DNP/Doctoral 257
- 2019-20: RNB 1209, MN 264, MN-ARNP 101, DNP/Doctoral 382

Legend: RNB, MN, MN-ARNP, DNP/Doctoral

*Note: DNP graduates includes initial licensure ARNP graduates and licensed ARNP graduates.

RN to BSN graduates increased 68% from 2015 to 2020. DNP graduates more than doubled over five years with more programs available. The number of master's ARNP students declined as a result of fewer programs due to recommended changes to entry-level nurse practitioner education movement to DNP preparation by 2025 (NONPF, 2018).

Nurse Faculty

To prepare more nurses for the future, nursing students require both didactic and practical application learning via clinical education provided by *nurse faculty.* A recent AACN report cited faculty shortages as the top reason for not accepting qualified applicants into their nursing programs (AACN, 2020). Schools also reported the need to add more faculty positions to meet student demand with most faculty vacancies requiring or preferring a doctoral degree (AACN, 2020).

Reasons for faculty shortages include (AACN, 2020; National Advisory Council on Nursing Education and Practice, 2020):
1) projected faculty retirements for 2025 are approximately 30% of total faculty in 2015 (Fang & Kesten, 2017)
2) higher compensation in clinical settings compared with a teaching salary
3) high faculty workloads leading to stress and burnout
4) poor understanding of the faculty role and contribution to the development of the next generation of nurses
5) lack of diversity among nurse faculty workforce
6) an insufficient pool of nurse educators who are master's or doctorate prepared to meet the growing demand

Nursing programs require academically qualified registered nurses with an active unencumbered Washington license to teach in nursing education programs. Specifically, faculty in a Practical Nursing or Associate Degree program are required to have a Bachelor of Science in Nursing (BSN) or a graduate degree (Washington Administrative Codes [WAC], 2021). To teach in baccalaureate and graduate nursing programs, faculty require a minimum of a graduate or a doctoral degree-level education. In addition to minimum education requirements, programs prefer preparation in teaching, and some require at least two years of experience in nursing (WAC, 2021).

Faculty Counts
Figure 34. Nurse Faculty Part-Time and Full-Time Counts 2014-2020

Faculty Counts 2014-2020
Source: NCQAC Annual Education Survey
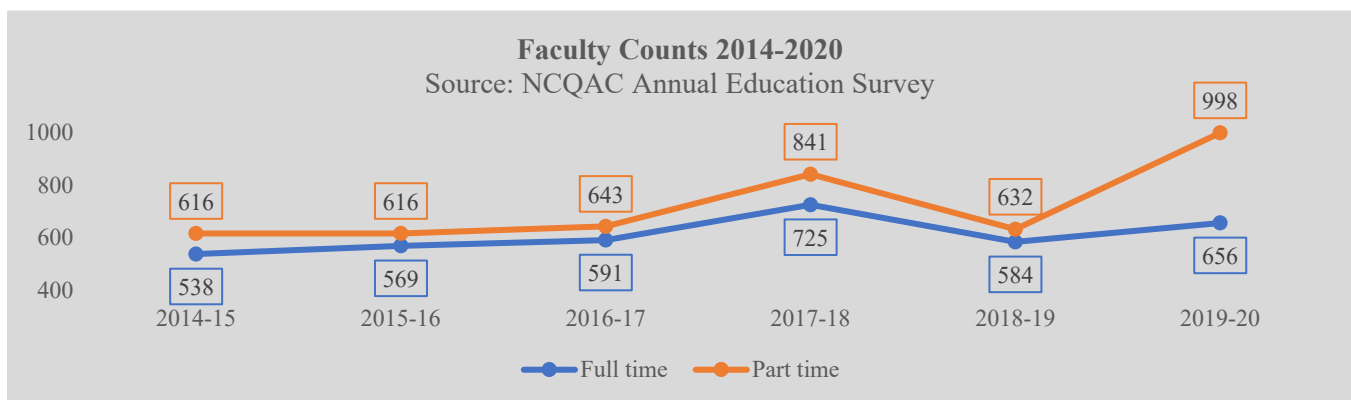
There is a higher average of part-time faculty (724) than full-time faculty (510).
There was a 21% increase in full-time faculty and a 62% increase in part-time faculty from 2014 to the recent 2019 year.

Faculty Education
Figure 35. Full-Time Nurse Faculty Highest Education 2014-2020
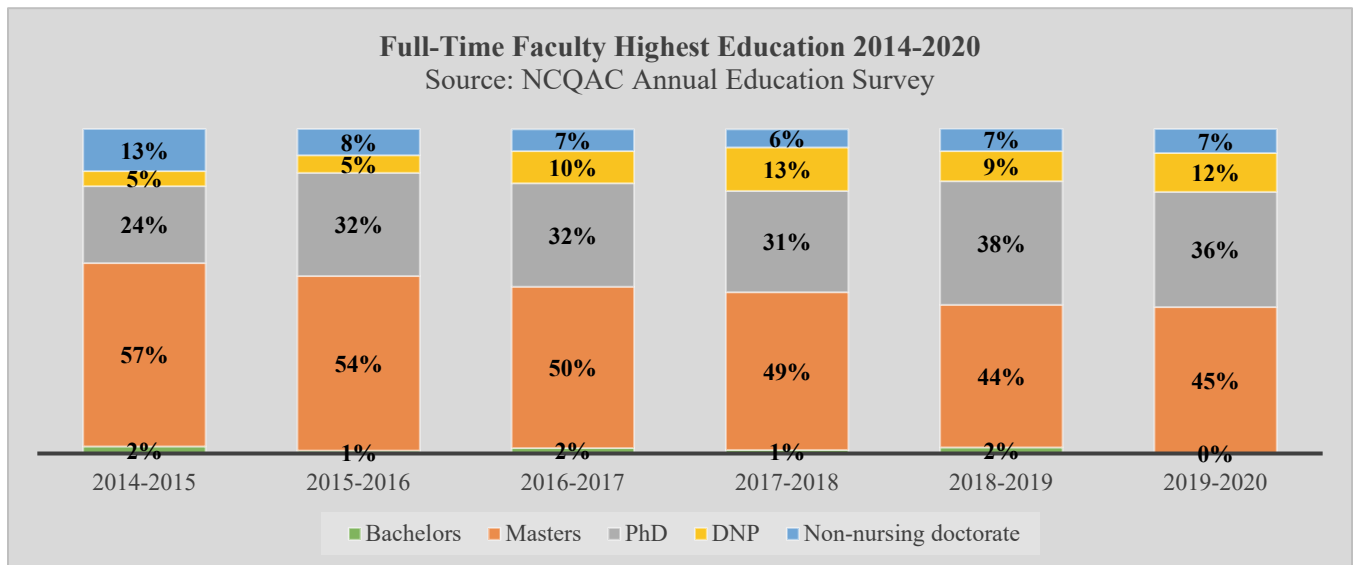
Full-Time Faculty Highest Education 2014-2020
Source: NCQAC Annual Education Survey

	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Non-nursing doctorate	13%	8%	7%	6%	7%	7%
DNP	5%	5%	10%	13%	9%	12%
PhD	24%	32%	32%	31%	38%	36%
Masters	57%	54%	50%	49%	44%	45%
Bachelors	2%	1%	2%	1%	2%	0%

*Note: The 2019-2020 pre-licensure education survey did not offer an option to select a bachelor's level education for faculty. Thus, the variation from previous years.

The majority of full-time faculty have either a master's degree (50%) or a PhD in nursing (32%) as their highest level of education. The percent of faculty with a DNP more than doubled from 2014 to 2019. An average of 50% of full-time faculty have a doctorate degree, with a 31% increase in doctorate-prepared faculty from 2014 to 2019.

Figure 36. Part-Time Nurse Faculty Highest Education 2014-2020
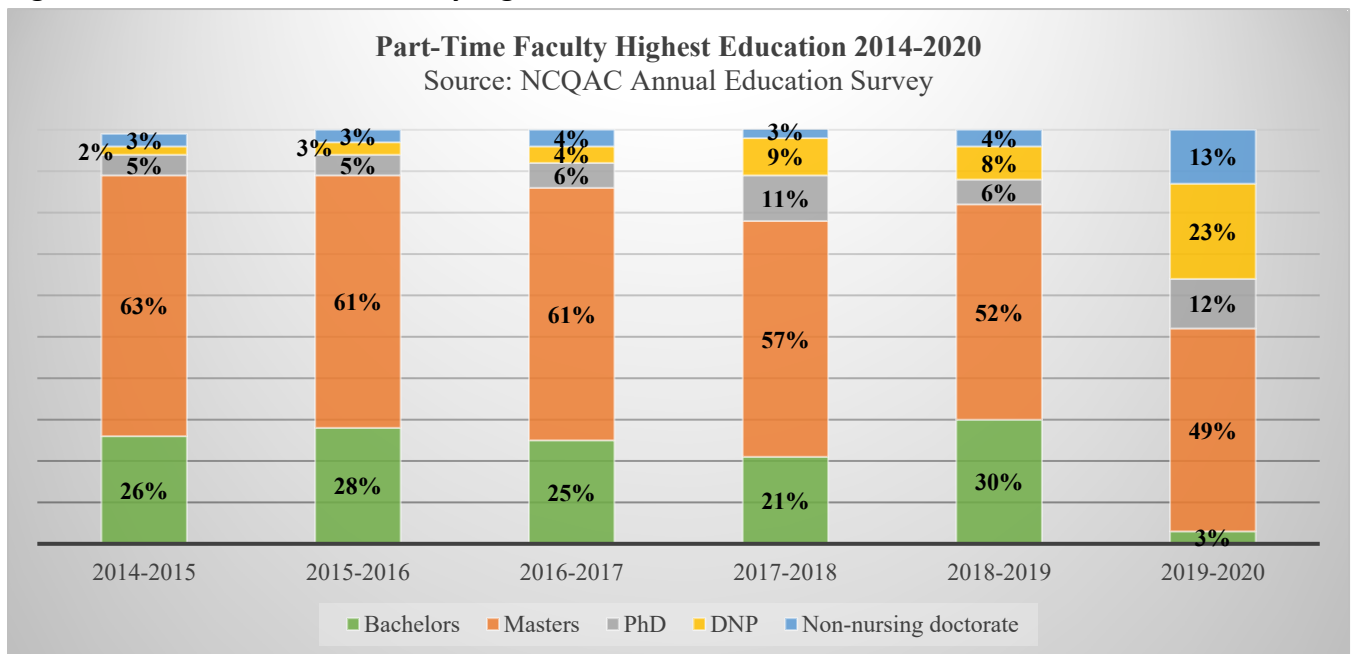
Part-Time Faculty Highest Education 2014-2020
Source: NCQAC Annual Education Survey

	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Non-nursing doctorate	3%	3%	4%	3%	4%	13%
DNP	2%	3%	4%	9%	8%	23%
PhD	5%	5%	6%	11%	6%	12%
Masters	63%	61%	61%	57%	52%	49%
Bachelors	26%	28%	25%	21%	30%	3%

*Note: The 2019-2020 pre-licensure education survey did not offer an option to select a bachelor's level education for faculty. Thus, the lower value compared with previous years.

The majority of part-time faculty have a master's degree as their highest level of education (57%). A higher number of part-time faculty have a bachelor's degrees (26%) when compared with full-time faculty (2%).

Faculty Demographics and Diversity
Figure 37. Full-Time Nurse Faculty Age Trends 2014-2020

Full-Time Faculty Age Trends 2014-2020
Source: NCQAC Annual Education Survey

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
< 50 yrs	34%	37%	36%	39%	37%	39%
51-60 yrs	38%	37%	35%	35%	35%	32%
61-65 yrs	18%	17%	21%	16%	17%	18%
> 65 yrs	10%	9%	8%	10%	10%	11%
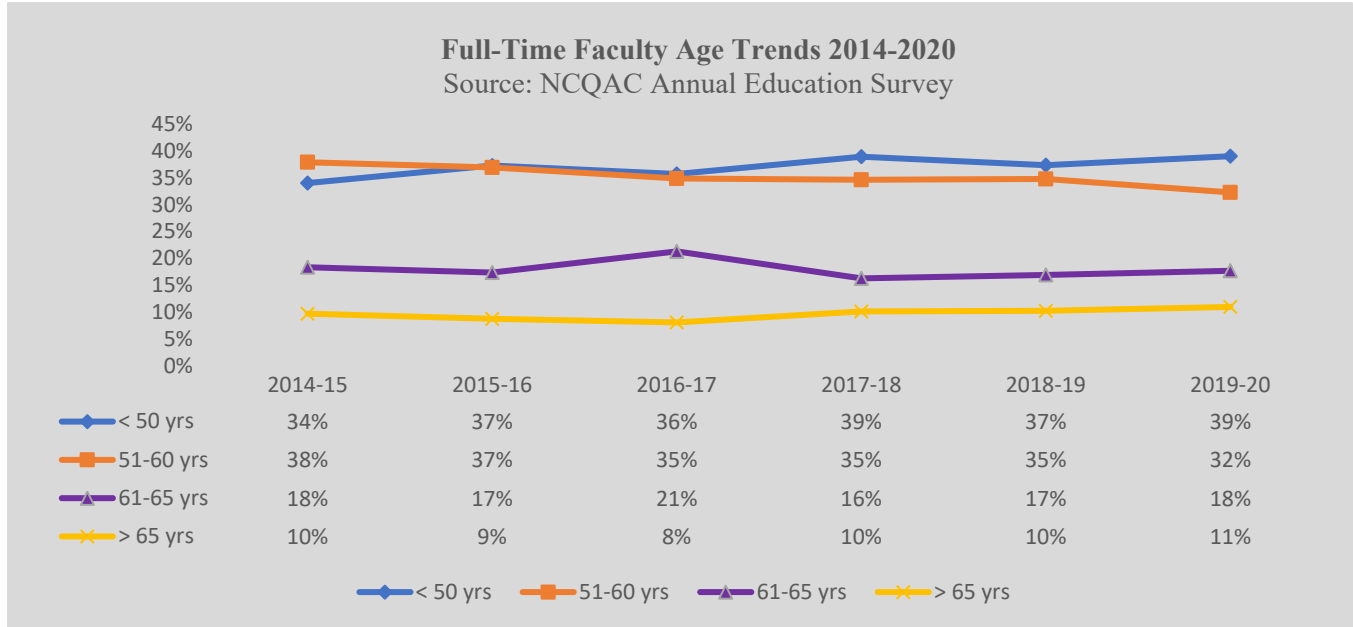
Full-time faculty age remained consistent these six years for those 61 years and older.

Figure 38. Part-Time Nurse Faculty Age Trends 2014-2020

Part-Time Faculty Age Trends 2014-2020
Source: NCQAC Annual Education Survey

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
< 50 yrs	49%	53%	52%	59%	58%	58%
51-60 yrs	33%	28%	26%	24%	20%	24%
61-65 yrs	12%	12%	13%	10%	8%	10%
> 65 yrs	6%	7%	9%	7%	9%	8%
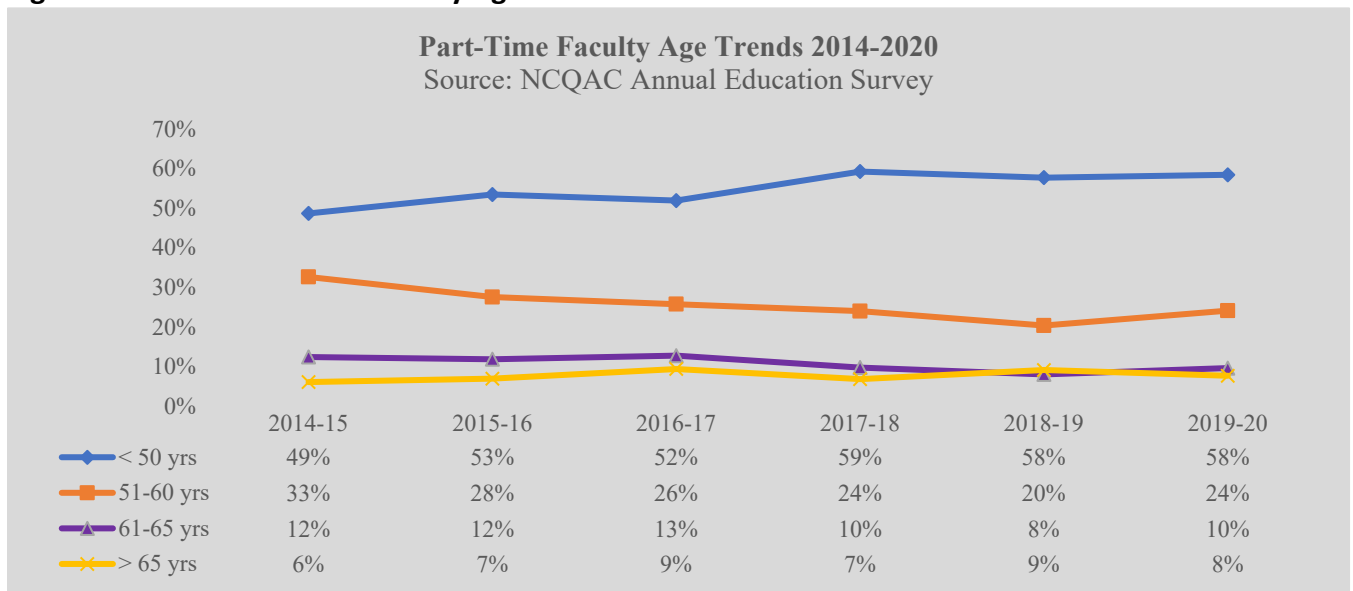
The largest age group for part-time faculty over six years is 50 or younger.

Figure 39. Full-Time Nurse Faculty Age 2014-2020

Age: Full-Time Faculty 2014-2020
Source: NCQAC Annual Education Survey

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
71 yrs and older	3%	2%	2%	1%	2%	2%
66-70 yrs	7%	7%	6%	9%	8%	9%
61-65 yrs	18%	17%	21%	16%	17%	18%
51-60 yrs	38%	37%	35%	35%	35%	32%
41-50 yrs	22%	23%	21%	21%	23%	26%
40 yrs and younger	12%	14%	14%	17%	14%	13%
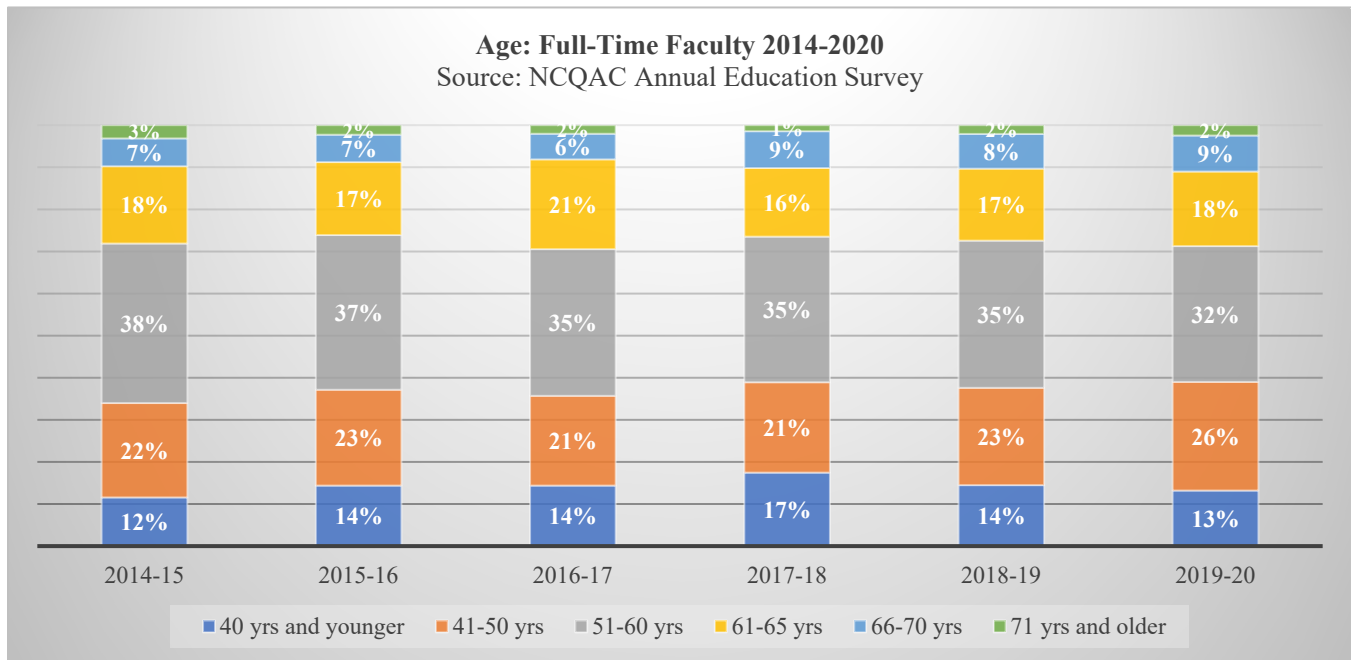
The largest age group for full-time faculty are those in the 51 to 60 years old category (36%). Those 50 years and younger make up 37% of full-time faculty, with a 14% increase in this age group from 2014 to 2019.

On average, 17% of full-time faculty are 61-65 years of age and within five years of targeted retirement age of 65. And 10% of full-time faculty are over 66 years and passed the target retirement age.

Figure 40. Part-Time Nurse Faculty Age 2014-2020

Age: Part-Time Faculty 2014-2020
Source: NCQAC Annual Education Survey

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
71 yrs and older	1%	2%	2%	2%	4%	3%
66-70 yrs	5%	5%	8%	5%	6%	5%
61-65 yrs	12%	12%	13%	10%	8%	10%
51-60 yrs	33%	28%	26%	24%	20%	24%
41-50 yrs	22%	25%	23%	26%	25%	28%
40 yrs and younger	27%	28%	29%	33%	33%	31%
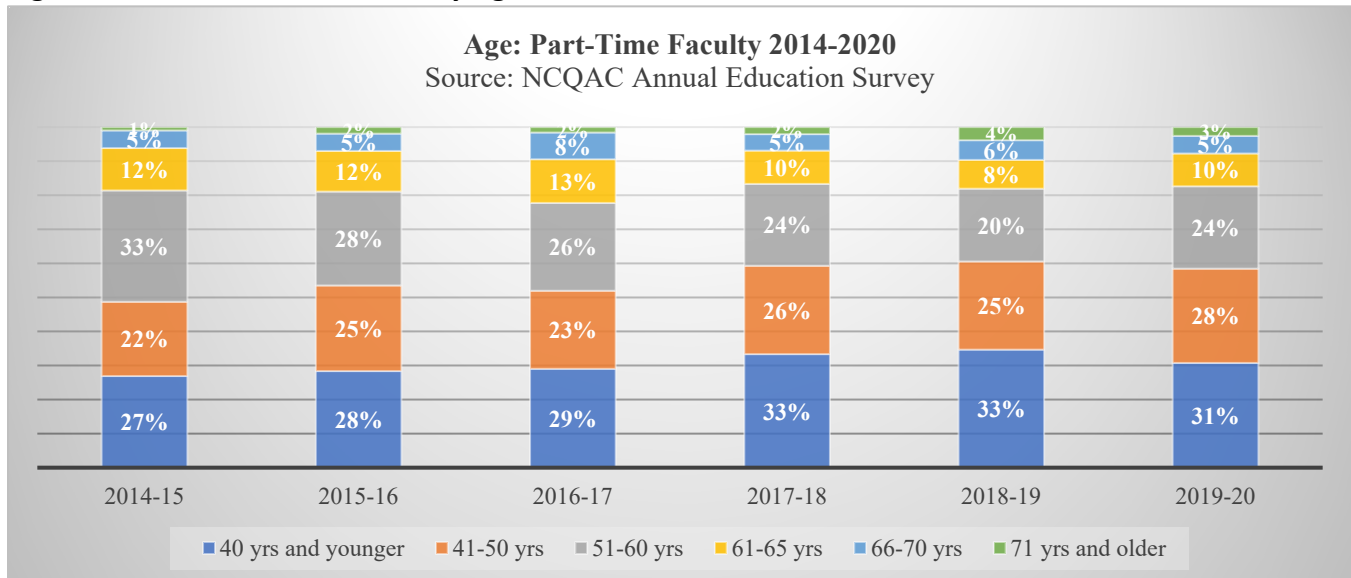
The largest age category for part-time faculty is those 40 years or younger (30%), followed by those 41 to 50 years (25%). Overall, part-time faculty are younger than full-time faculty.
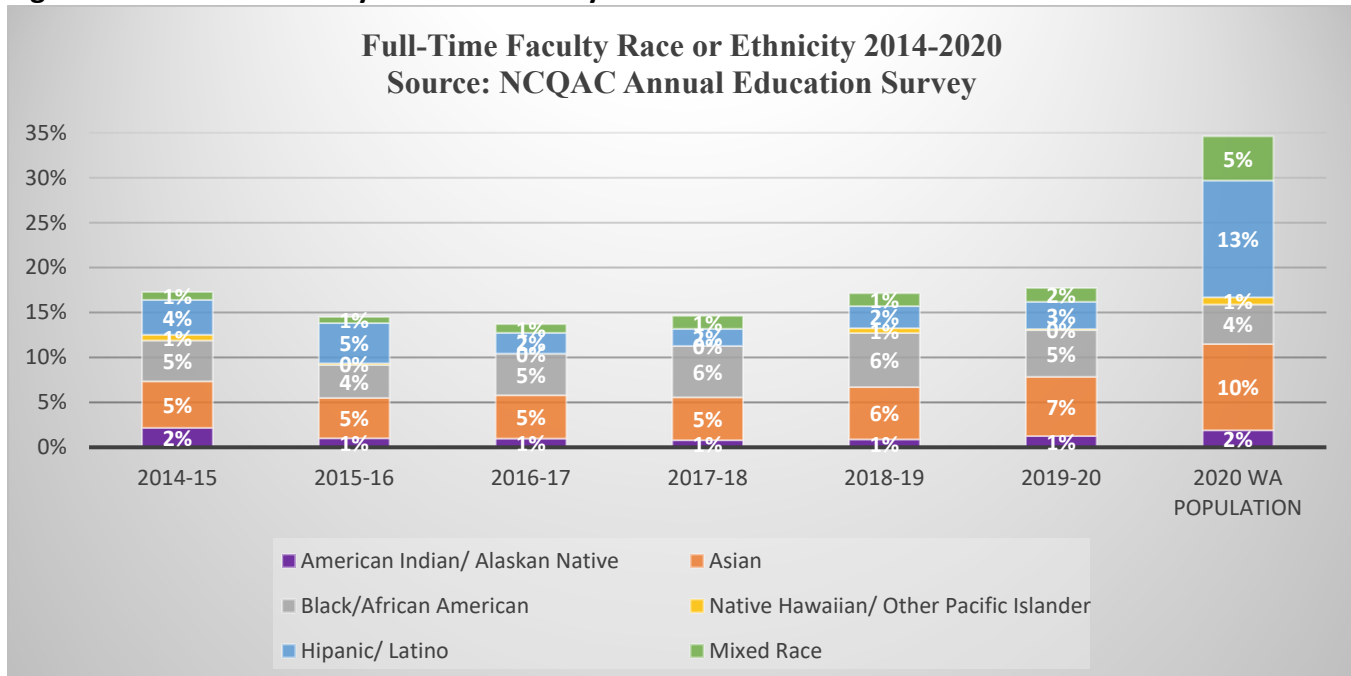
Figure 41. Full-Time Faculty Diversity 2014-2020
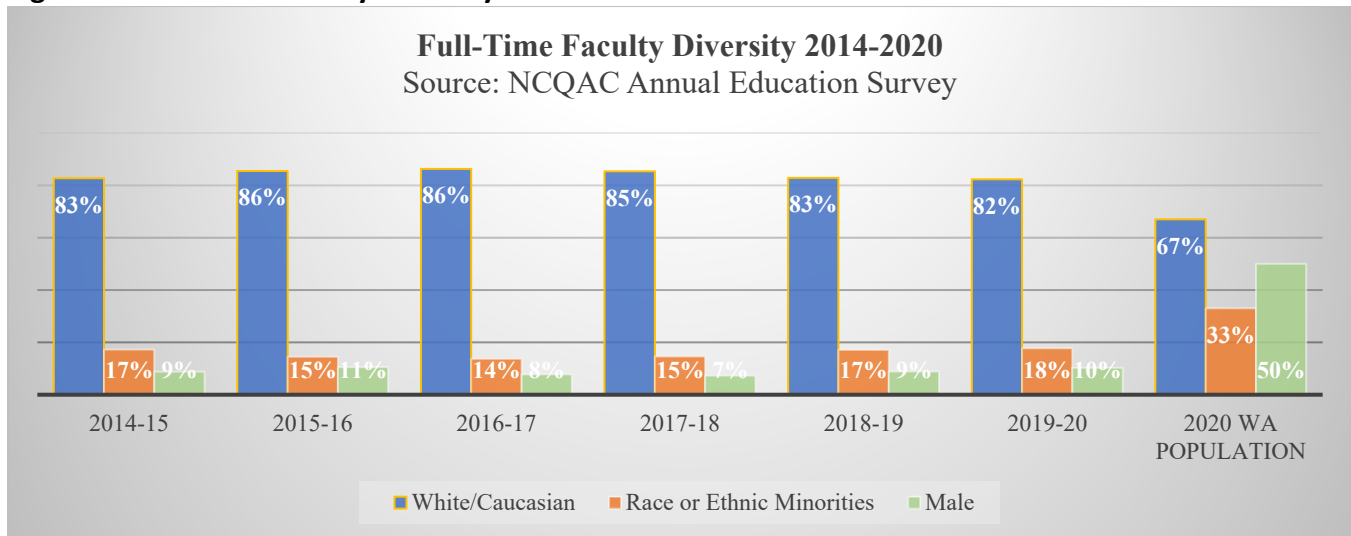
Full-Time Faculty Diversity 2014-2020
Source: NCQAC Annual Education Survey

Legend: ■ White/Caucasian ■ Race or Ethnic Minorities ■ Male

*Note: Totals for White and racial or ethnic minority may not add up to 100 with missing or unknown race or ethnicity data. Racial or ethnic minority categories include all non-White categories, including Mixed Race and exclude any missing or unknown data. Sources: 1) 2014-2020 NCQAC Education Survey 2) U.S. Census 2020

Full-time faculty are, on average, 85% White or Caucasian and 16% are from an ethnic or minority group including Mixed Race, and 9% are male.
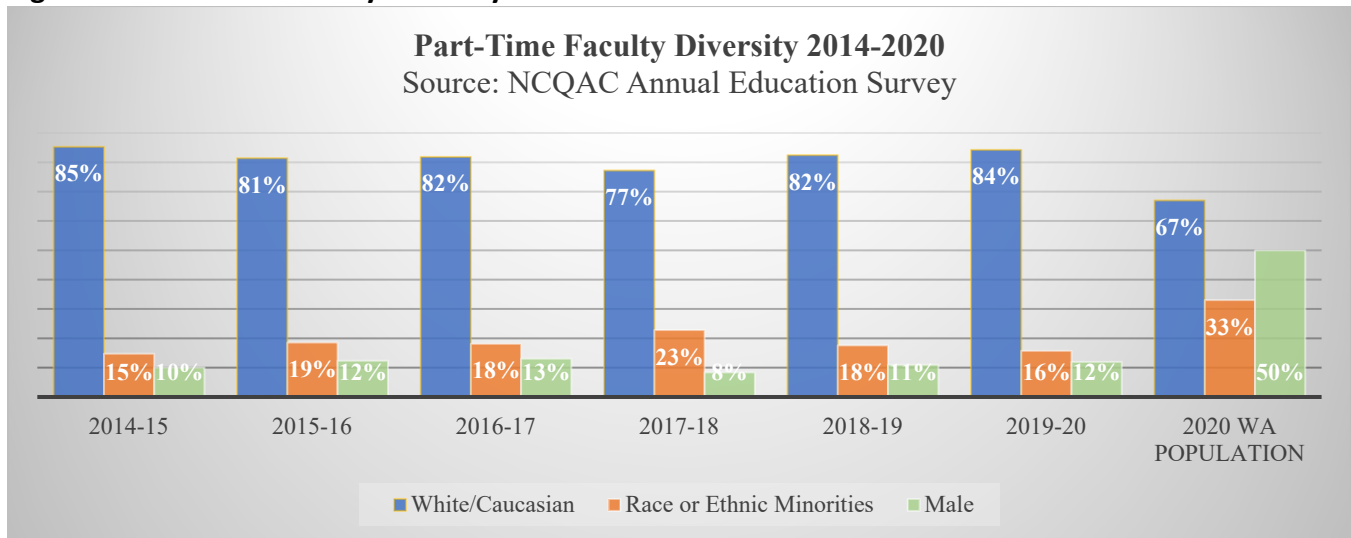
Figure 42. Full-Time Faculty Race or Ethnicity 2014-2020

Full-Time Faculty Race or Ethnicity 2014-2020
Source: NCQAC Annual Education Survey

Legend: ■ American Indian/ Alaskan Native ■ Asian ■ Black/African American ■ Native Hawaiian/ Other Pacific Islander ■ Hispanic/ Latino ■ Mixed Race

*Note: Totals for White and racial or ethnic minority may not add up to 100 with missing or unknown race or ethnicity data. Sources: 1) 2014-2020 NCQAC Education Survey 2) U.S. Census 2021

Excluding White or Caucasian faculty, the largest race or ethnicity category in full-time faculty is Asian faculty (6%), followed by Black or African American faculty (5%).
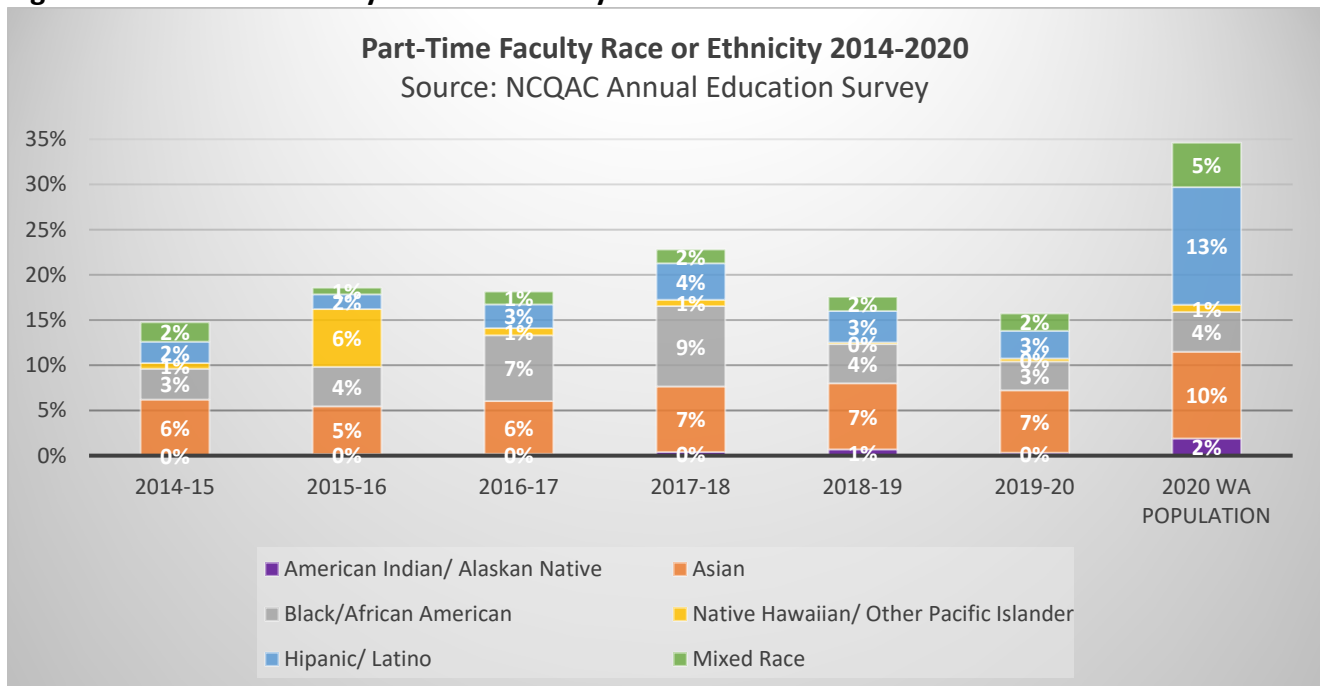
Figure 43. Part-Time Faculty Diversity 2014-2020

Part-Time Faculty Diversity 2014-2020
Source: NCQAC Annual Education Survey

	White/Caucasian	Race or Ethnic Minorities	Male
2014-15	85%	15%	10%
2015-16	81%	19%	12%
2016-17	82%	18%	13%
2017-18	77%	23%	8%
2018-19	82%	18%	11%
2019-20	84%	16%	12%
2020 WA POPULATION	67%	33%	50%

*Note: Totals for White and racial and ethnic minority may not add up to 100 with missing or unknown race or ethnicity data. racial and ethnic minority categories include all non-White categories, including Mixed Race and exclude any missing or unknown data. Sources: 1) 2014-2020 NCQAC Education Survey 2) U.S. Census 2020

On average, 82% of part-time faculty are White or Caucasian, 18% are from an ethnic or minority group, and 11% are male.

Figure 44. Part-Time Faculty Race or Ethnicity 2014-2020

Part-Time Faculty Race or Ethnicity 2014-2020
Source: NCQAC Annual Education Survey

Legend: American Indian/ Alaskan Native, Asian, Black/African American, Native Hawaiian/ Other Pacific Islander, Hispanic/ Latino, Mixed Race

*Note: Totals may not add up to 100 with missing or unknown race or ethnicity data. Sources: 1) 2014-2020 NCQAC Education Survey 2) U.S. Census 2021

Excluding White/Caucasian faculty, the largest race or ethnicity category in part-time faculty is Asian faculty (6%), followed by Black or African American faculty (5%).
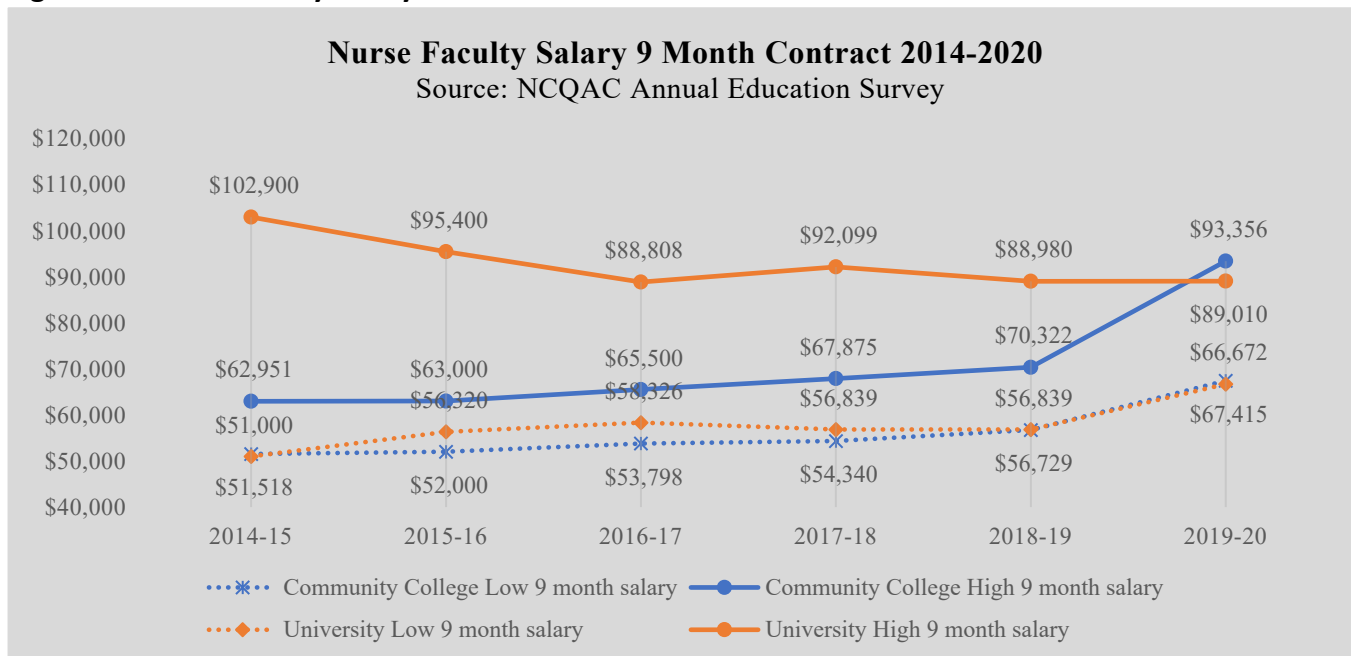
Faculty Salary

The median high salary for faculty with a 9-month contract at a university decreased 13% over six years, while the 9-month salary for a community college faculty increased 48% during the same time. The 9-month low salaries for community colleges and universities were relatively the same during this time.

The 12-month contracts show a 3.5% increase for university faculty and a 39.5% increase for community college faculty. The university salaries were consistently higher than community college salaries for 12-month contracts.

The most notable increase for community college faculty is from 2018 to 2019, a 39% increase in salary. In 2019, House Bill 2158 (the Workforce Education Investment Act) included $40 million designated to increase nurse faculty salaries at community and technical colleges (Washington State Nurses Association, 2020).

National average full-time salary for nurse faculty for a 12-month contract depends on the type of institution such as associate college versus doctoral/research university and Carnegie Classification or faculty rank such as Instructor or Professor and ranges from $70 thousand to $160 thousand (NLN, 2017).

Figure 45. Nurse Faculty Salary 9-Month Contract 2014-2020

Nurse Faculty Salary 9 Month Contract 2014-2020
Source: NCQAC Annual Education Survey

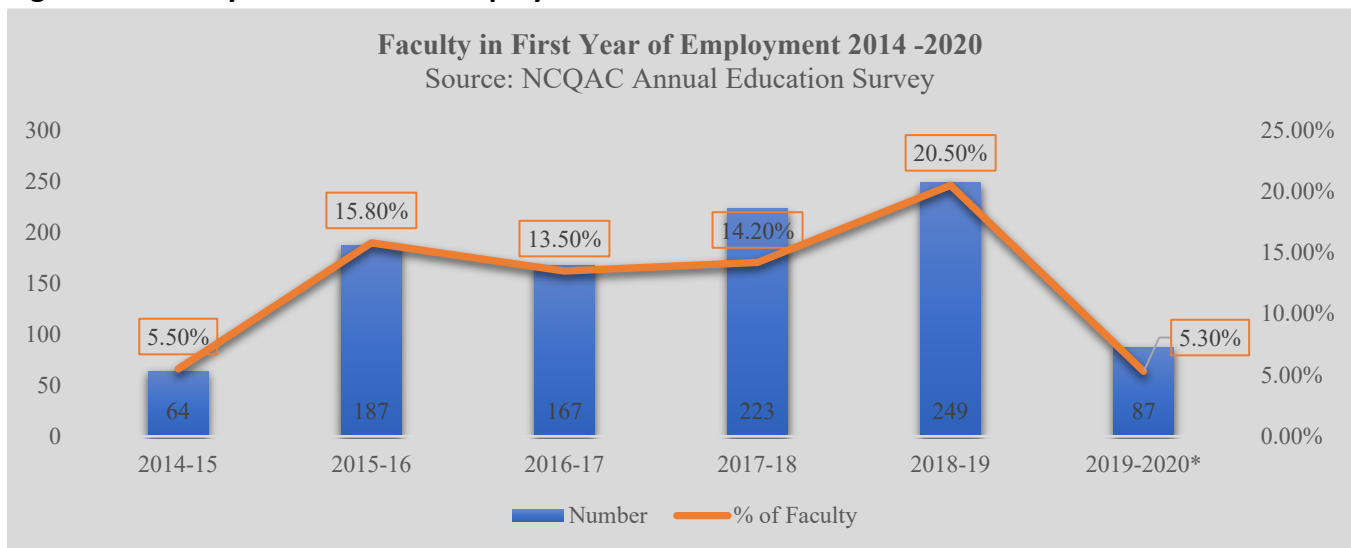*Note: Median salaries across pre-licensure and post-licensure faculty.

Figure 46. Nurse Faculty Salary 12-Month Contract 2014-202
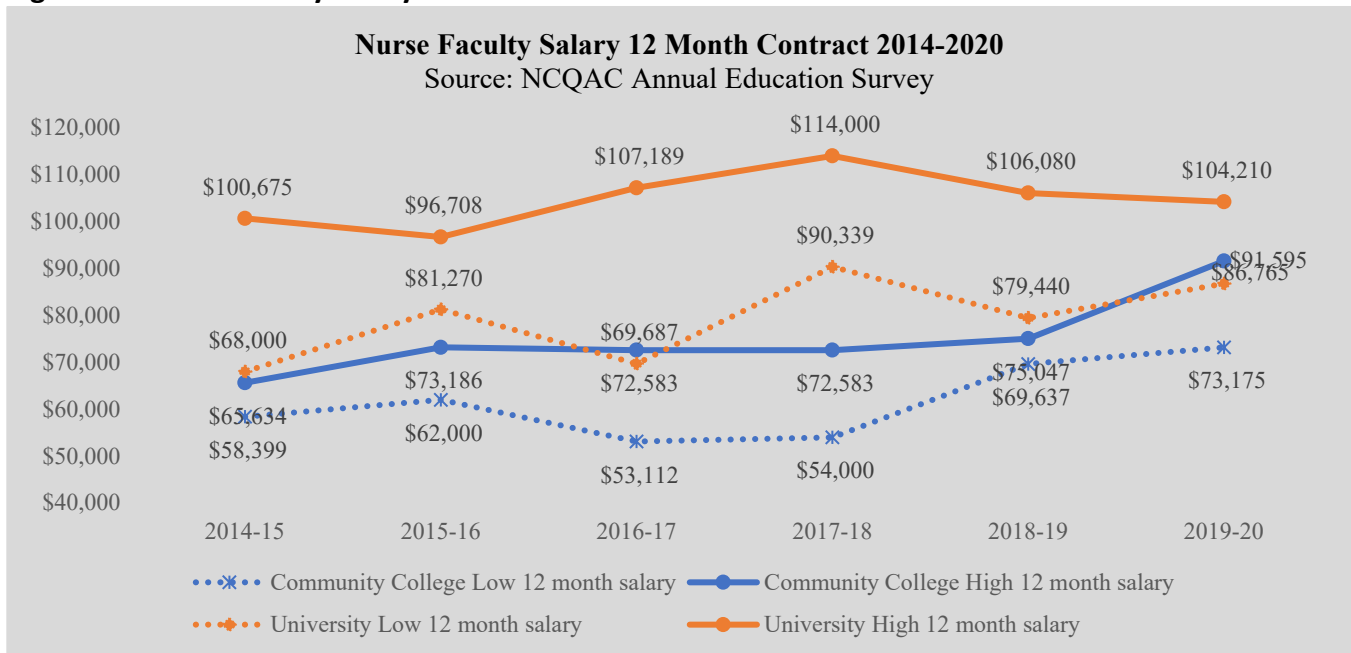
*Note: Median salaries across pre-licensure and post-licensure faculty.

Faculty Employment and Vacancies
**Figure 47. Faculty in First Year of Employment 2014-2020**

*Note: The 2019-2020 results include post-licensure faculty only, whereas previous years include pre- and post-licensure faculty. Source: NCQAC Annual Education Survey 2014-2020

Figure 48. Faculty and National Vacancy Rates 2017-2020

Faculty Vacancies 2017-2020
Source: NCQAC Annual Education Survey
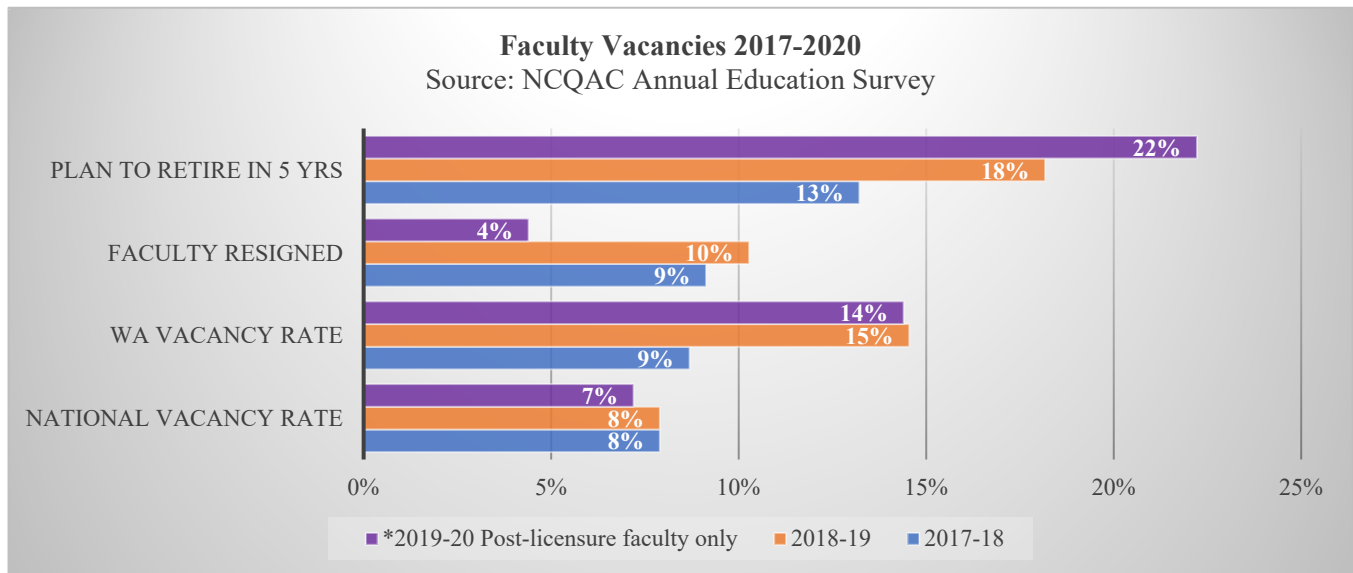
*Note: The 2019-2020 results include post-licensure full-time faculty only. The 2017-2019 results include full-time and part-time faculty across pre- and post-licensure programs. Sources: 1) NCQAC Education Survey 2017-2020. 2) National vacancy rates from 2018-2020 AACN Annual Reports https://www.aacnnursing.org/News-Information/Publications/Annual-Reports

Figure 49. Faculty Vacancies 2014-2020

Faculty Vacancies 2014-2020
Source: NCQAC Annual Education Survey
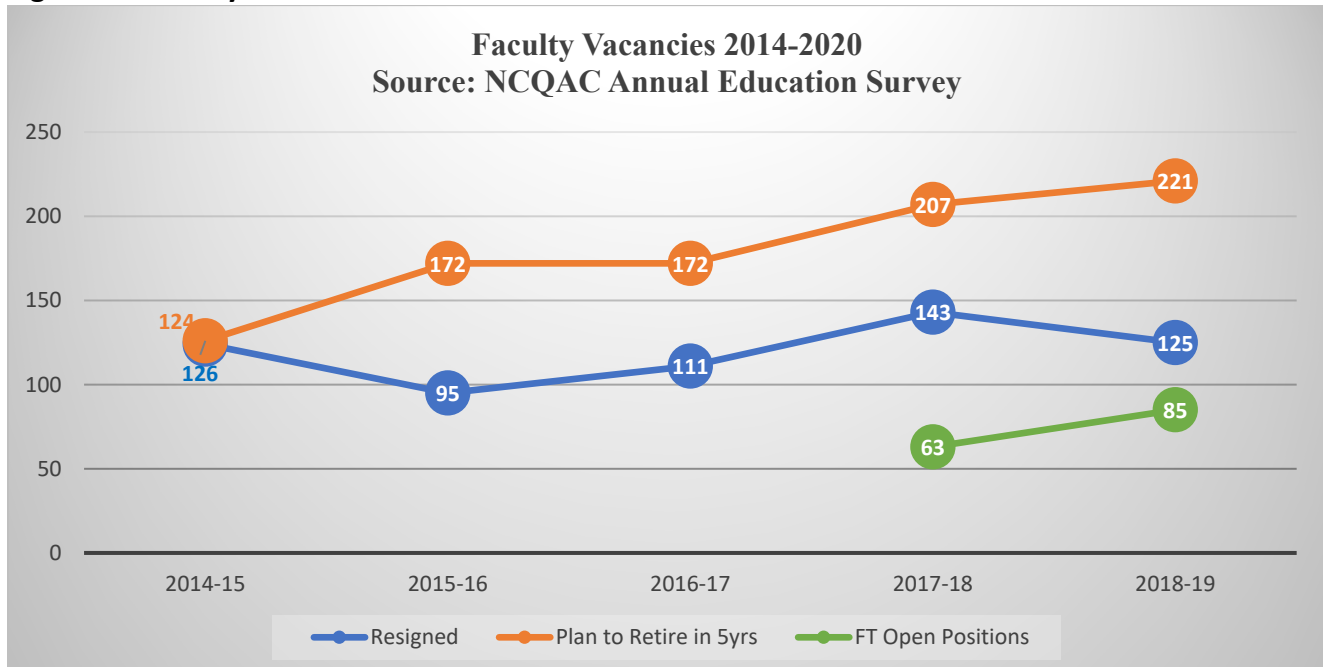
*Note: 2014-19 data includes full-time and part-time faculty with pre and post licensure faculty. No data was available for FT open positions from 2014-17 years.

From 2014 to 2018 there was an average of 120 faculty vacancies due to faculty resignations. In addition, an average of 180 faculty planning to retire in 5 years. The most recent 2019 year has lower numbers when compared with previous years due to missing pre-licensure data.

Methodology

A secondary data analysis was conducted using existing data from various sources. The majority of data for this analysis was derived from the Annual Education Survey collected by the NCQAC. The survey is based on the Minimum Nursing Dataset for Nurse Education from the National Forum of State Nursing Workforce Centers. Survey data is collected annually, and this analysis included data from the 2014-15 academic year to the 2019-20 academic year. A data request was submitted and approved to use for analysis by NCQAC. Survey data is collected annually. Data was downloaded in September 2021. Data was reviewed for accuracy and data that was duplicate or incorrect was not used in the analysis. Percentages were calculated by excluding missing cases for each variable.

Regulations regarding nursing education in the state of Washington require programs to submit an annual report via a survey provided by the NCQAC (WAC 246-840-520). The annual report covers data based on the academic year. The data is aggregated and reported in a summary form then shared publicly via the NCQAC website. The data is subject to public disclosure under RCW 42.56. The surveys include, on average, approximately 110-155 unique questions regarding programs, students, faculty, clinical hours, and other selected topics for the year. The survey design followed the National Nursing Workforce Minimum Datasets: Education (2020) and includes additional target information for Washington. During this six-year analysis, the survey questions were relatively consistent. However, there were some questions added or removed during this time. In the 2019-2020 year, two surveys were used to collect program data. The first was aimed at pre-licensure program data in collaboration with the National Council of State Boards of Nursing. This collaboration included most of the education questions used in previous annual surveys and focused on pre-licensure program data only. The second survey was the typical survey administered by the NCQAC and collected post-licensure data.

Limitations

The annual survey data is rich with information, however, there are limitations to its use.

1) Missing data. There was no entry for certain questions or entered as unknown. Missing data was omitted for analysis.
2) Errors in data entry. Data entry is manual, and numbers may be entered incorrectly or inaccurately. For example, one entry noted two thousand Hispanic students when this program only admitted a few hundred students in total. Therefore, this number was not congruent. When there was an obvious error like this, the data was omitted from the analysis. However, smaller errors may have gone undetected and used in the analysis.
3) Inconsistent interpretation of survey questions. It is evident in reviewing entries over several years that there is not a uniform interpretation of definitions or survey questions. For example, the person entering data one year may not be the same the following year, leading to inconsistent entry results.
4) Inconsistent survey questions. Specifically, the 2019-2020 year added a second NCSBN survey that focused only on pre-licensure data. The questions in this survey were asked differently or omitted and thus do not allow for comparison from previous years.
5) Data collected is for regulatory purposes, not for research purposes. Thus, does not address specific research questions or provide rationales for responses in the survey.

Other data sources were used throughout the report and referenced in the graphs and charts. For example, the number of programs, accreditation status, and program maps were derived from data using a NCQAC resource list, Approved Nursing Programs in Washington State. Summary data for Washington NCLEX pass rates used the 2017-2021 Annual School Report Pass Rates from a NCQAC resource and national NCSBN Pass Rates data was available via publicly available NCSBN publications. Each graph and chart references which data was used to represent the data visually throughout the report.

Ultimately, the accuracy of the report is dependent on the accuracy of the data submitted. The NCQAC provides technical assistance for programs to better understand the survey questions and support consistent data entry.

Future Studies

In March 2021, WCN conducted an interested parties survey to inform the WCN Research Agenda. The table below lists the results of their recommendations for education-related research topics in the first column. Education-related topics include information on programs, students, and faculty in Washington programs. The WCN Washington State Nursing Education Trend Report 2014-2020 summarizes results analyzed from annual survey data and fulfills 60% of the listed recommendations from interested parties. The Future Studies column lists recommendations where data was not readily available or recommendations beyond the scope of the Education report. For example, by expanding to post-graduation employer and employment-related topics.

2021 WCN Research Interested Parties Survey: Education Recommendations	Washington State Nursing Education Trend Report Academic Years 2014-2020	Potential Future Studies
1) Program success rates	NCLEX pass rates included	Post-graduation and employment study (eg. residency, specialties, preparation of student)

Impact of COVID to nursing programs

Preceptor and clinical sites study, including diversity and ARNPs preceptors

Nursing student study: Applicants, WA residency, prior education, prior healthcare related experience and type, specialty interests, etc.

Expanded faculty survey (including Community and Technical Colleges vs University) data

Challenges to entering nursing school |
2) Do employers feel that students are prepared coming out of programs currently after clinical rotations were almost non-existent due to the pandemic	Not available in annual survey data	
3) Nursing faculty data	Analyzed and included	
4) Nursing student demographics, enrollment changes, graduation rates	Analyzed and included student demographics: graduation rates, applicants, retention, race or ethnicity, age	
5) First employment. Use of residency programs and retention of residency programs.	Not available in annual survey data	
6) Trends in diversity of nursing students and nursing faculty	Analyzed and included	
7) Admission criteria that are predictive of successful matriculation, graduation and pass rates on NCLEX	Admission criteria data not available in annual survey every year	
8) Numbers of students in each type of program. Diversity statistics.	Analyzed and included	
9) Diversity of Preceptors for ARNP students	Not available in annual survey data	
10) Level of and type of any prior education whether nursing related or not for students	Not available in annual survey data	
11) Number of enrolled, average of enrolled completing program, average pass rate,	Number and average of admissions, average pass	

& average of those looking for secondary degrees	rate included. No available data in those looking for second degrees	(including socioeconomic status, race, ethnicity, prior experience, number of applications, etc.)
12) Interdisciplinary collaboration during nursing school	Not available in annual survey data	
13) Diversity of faculty	Analyzed and included in report	
14) Diversity statistics, legislation updates on SB 5044 - 2021-22 and similar efforts to increase and enhance diversity in public school system in WA nursing programs.	Analyzed and included diversity of students by program. Public school data not available in annual survey	
15) Disaggregated completion rates, degree pathways, and employment for ADN vs BSN students	Analyzed and included in report; employment data not available	
16) Follow up from current students when they get out into the workforce and the changes that had to be made to education programs due to COVID	Data not available in annual survey; Potential future study	
17) Data regarding challenges faced by nursing deans and directors - especially during COVID	Data available in annual survey, did not analyze as NCQAC focused on COVID related topics	
18) Faculty data that distinguishes a clinical education in practice, clinical vs tenure track faculty at CTCs and universities	Included salary by CTC vs university. Unable to distinguish #18 from annual survey data	
19) Dashboard for clinical placements, out of state programs, and enrollment/graduation that allows for tracking of the same elements over time.	Analyzed applicants and graduation rates over six years; out of state programs data in NCQAC report	
20) Concerned there are significant inconsistencies in NCQAC annual report of which data and in what format are presented each year making tracking trends difficult	Reported trends over six years in several categories; some data not collected annually	
21) Add a report on nursing education workforce similar to others.	Dedicated section to nurse faculty data	
22) Enrollment, capacity	Analyzed and included numbers of students admitted; program	

	capacity was inconsistent in survey data	
23) Refusal rates of qualified applicants across the state	Analyzed and included qualified applicant data by program	
24) Number of full-time faculty and staff	Analyzed and included in report	
25) Nursing specialty interests (eg. community health nursing, public health nursing, school nursing)	Analyzed specialties for ARNPs; data not available for pre-licensure students	
26) Diversity in the pipeline	Analyzed and included in report for student by program and faculty	
27) Faculty motivation for teaching, job satisfaction, pay rates, intention to leave, education levels	Analyzed and included faculty salaries and education levels	
28) Breakdown of ethnicity	Analyzed and included for students by program and faculty	
29) Specific age and diversity stats from 2- and 4-year schools of nursing & breakdown by education by County	Analyzed and included for AD-RN, BSN, and RNB students included. Map of programs by region included	
30) Demographics (including age, race and ethnicity) students from WA or other states/regions; motivation for nursing career, previous licensure/education (ie direct to nursing or, thru CNA for example - how easy is it to get nursing education and are there correlates to family income or race)	Analyzed and included age, race and ethnicity. Others not available via annual survey data.	
31) Dashboard elements on diversity	Available in the reports and working on how to create dashboard for data visibility via WCN website	

List of Abbreviations

ADN-RN…Associate Degree in Nursing-Registered Nurse

AD to MN…Associate Degree in Nursing to a Master of Nursing

ANP…Adult Nurse Practitioner

BSN…Bachelor of Science in Nursing-Registered Nurse

CCNE…Commission on Collegiate Nursing Education (American Association of Colleges of Nursing)

CNS…Clinical Nurse Specialist

DNP…Doctorate of Nursing Practice

FNP…Family Nurse Practitioner

GE…Graduate Entry Program- Registered Nurse

GNP…Geriatric Nurse Practitioner

MHNP…Mental Health Nurse Practitioner

MN…Master of Nursing or Master of Science in Nursing

MN-ARNP…Master of Nursing-Advanced Registered Nurse Practitioner

MW…Midwife

NCQAC…Nursing Care Quality Assurance Commission

NLN/CNEA…National League for Nursing Commission for Nursing Education Accreditation

PMC…Post Master's Certificate

PN…Practical Nursing

PN to ADN…Practical Nursing to Associate Degree in Nursing

PN to BSN…Practical Nursing to Bachelor of Science in Nursing

PNP…Pediatric Nurse Practitioner

RNB…Registered Nurse Bachelor (bachelor's degree programs for licensed RNs)

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