

ACADEMIC YEAR 2019-2020

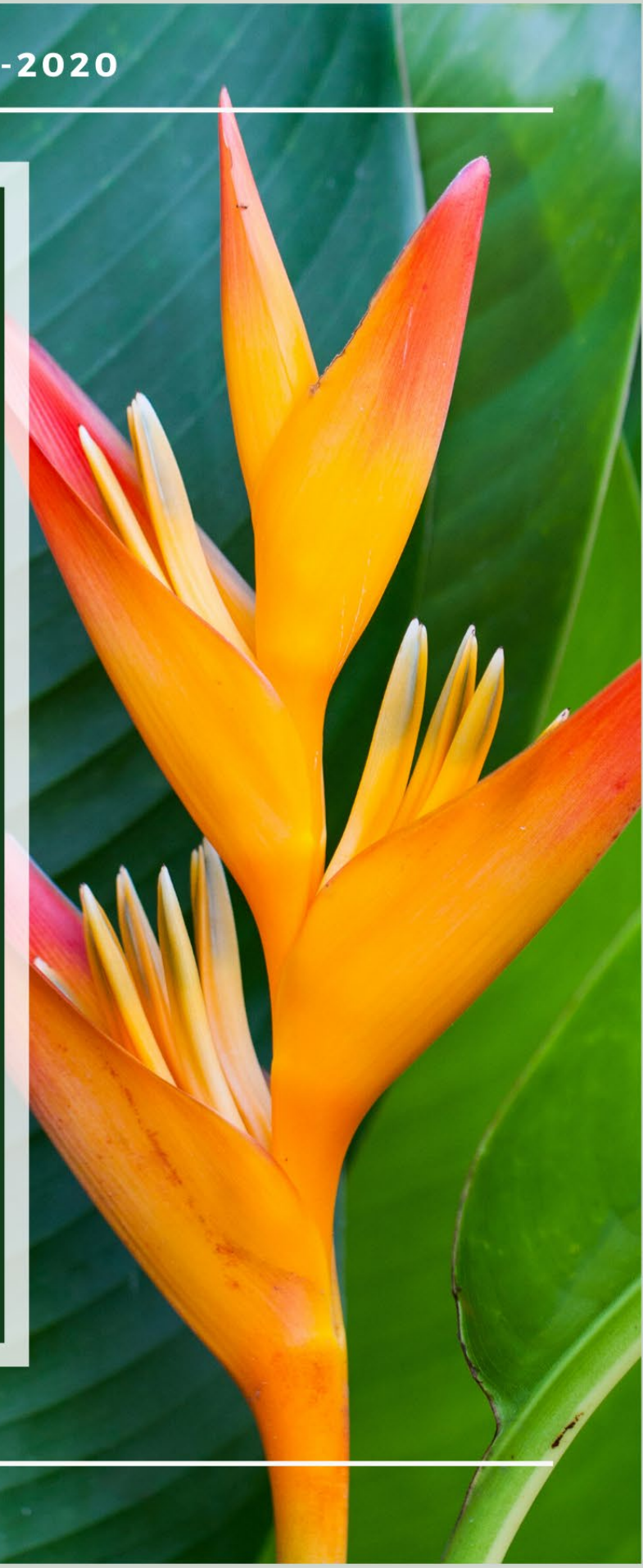
HAWAI'I STATE NURSE EDUCATION CAPACITY REPORT



HAWAI'I STATE
CENTER FOR
NURSING

Connecting Nurses.
Transforming Healthcare.

JULY 2021



Hawai'i State Nurse Education Capacity Report

Academic Year 2019-2020

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The Hawai'i State Center for Nursing monitors the state of the nursing workforce in Hawai'i through the collection and reporting of workforce supply, education capacity, and employer demand data. These three research activities assist entities in the public and private sectors with the development and implementation of initiatives intended to develop a robust nursing workforce that meets the needs of Hawai'i's residents now and in the future.

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National Forum of State Nursing Workforce Centers

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List of Abbreviations

Abbreviation	Definition
AACN	American Association of Colleges of Nursing
ACS	American Community Survey Program of the U.S. Census Bureau
ADN	associate degree program in nursing
AGPCNP	adult-gerontology primary care nurse practitioner
APRN	advanced practice registered nurse
AY	academic year
AY 17-18	academic year 2017-2018
AY 18-19	academic year 2018-2019
AY 19-20	academic year 2019-2020
BLS	U.S. Bureau of Labor Statistics
BSN	baccalaureate degree program in nursing
CNM	certified nurse midwife
CNS	clinical nurse specialist
CRNA	certified registered nurse anesthetist
DLIR	Hawai'i Department of Labor and Industrial Relations
DNP	Doctor of Nursing Practice
FNP	family nurse practitioner
GEPN	graduate entry program in nursing
HAH	Healthcare Association of Hawai'i
HBON	Hawai'i Board of Nursing
HSCN or The Center	Hawai'i State Center for Nursing
HWI	Healthcare Workforce Initiative
IOM	Institute of Medicine
LPN	licensed practical nurse
MSN	master's degree program in nursing
NAM	National Academy of Medicine
NCLEX-PN	National Council Licensure Examination for Practical Nurses
NCLEX-RN	National Council Licensure Examination for Registered Nurses
NCSBN	National Council of State Boards of Nursing
NP	nurse practitioner
PCNP	primary care nurse practitioner
PNP	pediatric primary care nurse practitioner
RN	registered nurse
The Forum	National Forum of State Nursing Workforce Centers

Executive Summary

COVID-19

The onset of the COVID-19 pandemic affected the end of the academic year 2019-2020. Schools had to adapt instructional delivery from in-person to online and ensure that students could complete required clinical education. However, the student application and enrollment period for AY 19-20 was complete prior to the onset of the pandemic. As such, fluctuations in student data between AY 18-19 and AY 19-20 are due to factors that are likely unrelated to COVID-19. Any changes in enrollment demand, admissions, enrollments, or faculty vacancy rates that are attributable to COVID-19 will be evident in the report for academic year 2020-2021 which we expect to release in the summer of 2022.

Though this year's report does not include data that would be affected by the COVID-19 pandemic, AY 19-20 marked the beginning of schools' rapid response and adaptation to the impacts of the pandemic on educational delivery and graduates' ability to become licensed and enter practice. Schools of nursing, alone and in partnership with one another and the Center, responded to COVID-19 by:

- ensuring that faculty and the HBON had the best evidence on the effective use of virtual simulation for the delivery of clinical education,
- advocating for license waivers for new graduate nurses to prevent their delayed entry into practice, and

- collectively adopting of a series of instructional modules on nursing during pandemics to ensure that all students were prepared to safely enter clinical settings.

Pre-License Programs

Enrollment capacity in nearly all pre-license programs (LPN, ADN, BSN, GEPN) decreased in AY 19-20 as compared to the previous year. The total number of applications to pre-license programs also decreased in AY 19-20. However, enrollment demand exceeded capacity in all pre-license programs, sometimes by substantial amounts. The worst case of insufficient capacity occurred in ADN programs which received a total of 3.9 applications for every opening for new students. As a result, 75% of fully qualified applicants were denied admission.

Despite decreases in both capacity and enrollment demand across pre-license programs, the total number of students enrolled in LPN, ADN, BSN, and GEPN programs increased by 241 students over AY 18-19 to 1,495.

Across all pre-license programs, 499 students graduated in AY 19-20. Of these 80% were academically prepared for practice as RNs. LPNs comprise 13% of all pre-license graduates, and GEPN graduates account for the remaining 6%.

Post-License Programs

Post-license programs (RN-to-BSN, MSN, DNP, PhD) largely experienced increases in enrollment capacity, demand, and enrollments in

AY 19-20 as compared to the previous academic year. RN-to-BSN programs experienced the greatest increase in enrollment demand which is in opposition to a recent national trend of declining demand for post-license BSN programs.

In contrast to national trends, Hawai'i's MSN programs also experienced significant growth in new admissions and enrollments. Nationally, there is discussion and debate about establishing the DNP as the minimum education for advanced practice nursing. However, significant demand continues to exist for master's programs that provide specialty education for RNs (e.g., population health).

A total of 99 students graduated from post-license programs in AY 19-20. Of them, 50% completed RN-to-BSN programs which contributes to Hawai'i's high BSN-preparedness rate. Additionally, 3% graduated from the state's only PhD program. Given the glaring theme of post-pandemic faculty losses that permeates this report, these graduates could potentially reduce the high full-time faculty vacancy rate.

Nurse Faculty

The most critical finding related to nurse faculty is that 16% of funded full-time faculty

positions were reported to be vacant at the time of the survey. The number of funded but vacant full-time positions more than doubled from 10 in AY 18-19 to 23 in AY 19-20. Simultaneously, the proportion of occupied positions accounted for by part-time faculty was 57% in AY 19-20. Together, these data point to an alarming loss of full-time faculty that only serves to further exacerbate ongoing challenges associated with the recruitment and retention of nurses into academic positions.

Challenges Facing Nursing Programs

Insufficient resources for faculty compensation (i.e., new lines and salary raises) is the single most difficult challenge affecting Hawai'i's schools of nursing. Nearly 40% of all schools reported that lack of funds for faculty compensation is the challenge that has the greatest impact on their programs, and 88% of schools reported that it adversely impacted the functioning of their existing programs. This problem is notable given the significant loss of full-time faculty members reported by schools. The inability to compensate faculty to degree that is competitive with clinical practice impedes schools' ability to recruit younger nurses into academic positions to better balance the age composition of the faculty workforce.

Introduction to the 2019-2020 Hawai'i State Nurse Education Capacity Report

Purpose of the Report

The annual Hawai'i State Nurse Education Capacity Report summarizes data about the extent to which local schools of nursing have the capacity to prepare a nursing workforce that meets in-state employment demand for nurses at all levels of practice.

This report provides information about schools' capacity to enroll new students, the number of graduates their programs contribute to the nursing workforce, and factors that adversely impact their programs. Because academic programs are the beginning of the workforce pipeline, a reduction in their capacity to enroll new students and retain them through graduation will result in an eventual decrease in the number of new nurses entering the workforce. In turn, employers will have trouble filling vacant or new positions. A persistent inability for employers to fill open nursing positions could adversely impact both the population's access to nursing care and the safety and quality of the care the workforce is able to provide.

By producing this report annually, the Hawai'i State Center for Nursing can make schools, employers, and workforce planners aware of changes in the demand for nurse education, schools' enrollment caps or graduation rates, and the availability of academic programs that support the stability of the statewide nursing workforce.

Theme of This Year's Report

Ordinarily, the narrative in this report focuses on a discussion of the alignment between the state's capacity to educate nurses and employer demand for nurses throughout the state. This year's report takes a departure from this objective for two reasons, both of which stem from the COVID-19 pandemic.

First, the primary source of employer demand for nurses is a comprehensive study conducted by the Healthcare Association of Hawai'i (HAH). HAH intended to conduct their second round of their healthcare demand study in 2019 for release in 2020. However, COVID-19 required HAH to shift its priorities and resources, and they were unable to conduct their demand study as scheduled. Because we provided a review of employment demand based on HAH's most recent data in our AY 17-18 report, we have opted not to repeat that discussion here.

Instead, we decided to focus this year's intentionally short narrative on schools' early responses to the COVID-19 pandemic. We expect that next year's report, which will cover academic year 2020-2021 which was fully impacted by the pandemic, will include a lengthier discussion of any major impacts from COVID-19 on Hawai'i's nurse education capacity. The data in this year's report will provide the crucial pre-COVID baseline data to which next year's data will be compared.

Important Notes about the Nurse Education Capacity Survey and this Report

Regarding Institutions Included in this Report

All institutions whose data are included in this report (1) have a physical campus in Hawai'i, (2) offered at least one nurse education program at their physical campus during AY 19-20, and (3) are recognized by the Hawai'i Board of Nursing as qualified to provide nursing education. In total, eight schools met these criteria.

Regarding the Terms "School of Nursing" and "Nursing Program"

All academic institutions included in this report are referred to as "schools of nursing" regardless of their formal designation (i.e., school, college, department, or program). The terms "school of nursing" and "school" are used interchangeably throughout the report.

The term "nursing program" refers to an academic program or track offered by a school of nursing that provides preparation for a specific type of nursing practice (e.g., LPN, FNP, etc.). The term "program" and "school" are not used interchangeably.

Regarding the Age of Data in this Report

The data in this report represent the in-state nurse education environment as it existed two academic years ago. To obtain accurate

information especially about graduates from in-state nursing schools, the Center cannot begin data collection until after the completion of an academic year. Data collection for any given academic year begins near the start of the spring semester of the subsequent academic year and continues until all schools have responded. Data in this year's report were collected between February and May of 2021.

Regarding Inclusion and Accessibility

Throughout this report, the term "Filipinx" refers to persons of any gender who have ethnic ancestry originating in the Philippine Islands. The term "Latinx" refers to persons of any gender with ethnic ancestry originating in Latin America.

The Center has made a concerted effort to make this document compliant with guidelines for producing accessible electronic documents as provided by the U.S. Department of Health and Human Services. There may, however, be tables in the report that are difficult to interpret using screen readers or other assistive technology. If you have difficulty accessing any of the content of this report, please contact the Hawai'i State Center for Nursing at hscndata@hawaii.edu to request the content of this report in an alternate format.

Impact and Early Responses to the COVID-19 Pandemic

Rapid Pivot to Distance Education

Across the country, schools of nursing needed to quickly adapt to the onset of the COVID-19 pandemic. Prior to the pandemic being declared an emergency in Hawai'i, local schools of nursing were anticipating the possible impacts of the pandemic on their ability to deliver nursing education. Early on, schools of nursing started the planning to convert any live didactic instruction to delivery via distance education. This permitted students to complete their didactic courses with minor disruptions. Clinical education was nearly entirely suspended due to uncertainty about how COVID-19 was spread and nationwide shortages of personal protective equipment. In large part, schools reported that clinical hours were mostly complete by the time live clinical experiences terminated for the summer, and the loss of clinical education was mostly a concern for students who were graduating in May 2020. Schools made every effort to ensure that students completed their required clinical hours and graduated on time.

Once plans were in place to reduce disruptions to students' education and on-time graduation, Hawai'i's schools of nursing in collaboration with healthcare employers and the Center, focused on addressing three other issues that would impact their students' education, safety, and licensure.

Evidence for the Efficacy of Virtual Simulation

The first issue that schools collaborated to address was to develop a review of literature

related to the efficacy of virtual simulation for the delivery of clinical education. Because the trajectory of the pandemic was uncertain, it was not immediately clear whether students would be able to access live clinical experiences in Fall 2020. In anticipation of the continued unavailability of clinical placements, schools expected to deliver clinical education via distance education. While live, high-fidelity simulation has long been considered an effective method of delivering clinical nursing instruction, questions arose among some educators and the HBON about whether simulation delivered via distance education (or "virtual simulation") would provide sufficiently realistic clinical experiences that would contribute to nursing students' clinical competence.

In response to this concern, representatives from several schools of nursing and facilitated by the Center, did a literature review of scholarly work that evaluated the instructional efficacy of virtual simulation. The findings, most of which supported the effectiveness of virtual simulation as a means of delivering clinical education, were compiled into an annotated bibliography (Hawai'i State Center for Nursing, 2021) which was shared among all schools and with the HBON.

Continuing Nursing Education Regarding Nursing During Pandemics

In further support of developing nurses' and nursing students' competence and safety, the faculty at the University of Hawai'i at Mānoa developed series of four educational modules that reviewed basic principles of nursing during pandemics. The content of the modules addressed

a range of topics including pandemic response and recovery, working within the Federal Emergency Management Agency (FEMA) Incident Command System, nursing roles in pandemics, and legal and ethical principles of nursing in pandemics. The Center provided continuing nursing education for the modules so that nurses would have certificates of completion demonstrating that they had taken the content. Subsequently, the schools of nursing in all four counties collectively agreed that they would require or strongly encourage their students to complete the modules to support their safe return to live clinical experiences whenever they resumed. Further, HAH requested all statewide health professions education programs require students to complete Module 2 prior to entering clinical facilities.

Emergency License Waivers for New Graduate Nurses

Finally, representatives from schools worked with the Center to ensure that Governor David Ige's Emergency Proclamations related to COVID-19 (Office of the Governor of the State of Hawai'i, 2020) allowed new graduate nurses to be employed in limited, supervised roles prior to receiving their nursing licenses. The need to ensure that new graduate nurses could enter the workforce quickly following graduation stemmed largely from the unavailability of NCLEX testing. There is one Pearson-Vue testing center in the entire state which is located on O'ahu. During the early stages of the pandemic, the testing Center stopped operating because testing centers were not

classified as essential businesses. When testing centers could resume operation under revised emergency proclamations, capacity remained limited due to testing centers' inability to reconfigure their facilities to meet social distancing requirements. This resulted in a period of time when no testing was conducted, scheduled tests were canceled, and new graduates could not make appointments. Once testing resumed, Neighbor Island new graduates continued to be unable to access testing because they were not determined to be part of the essential workforce. As non-essential workforce travelers, they could not receive quarantine waiver, so their access to the NCLEX examination required them to be subject to up to 14 days of quarantine upon arrival on O'ahu or traveling to the continental United States, and then another period of quarantine upon returning to their home islands.

Delays in being able to take and pass the NCLEX meant that new graduates would be delayed in getting licensed and securing employment as nurses. New graduates benefit from relatively rapid attainment of their first post-graduation nursing roles. Delays in employment can cause a deterioration in new graduates' working knowledge and clinical competence making them less desirable to employers over time. Efforts by the schools and the Center to have new graduates' unlicensed practice be legally permissible under emergency proclamations was important to ensuring that new graduates had the opportunity to become employed and use their clinical skills quickly after graduation.

Overview of Nurse Education Programs Offered in Hawai'i

Accreditation, Board Approval, & Tax Classification of Schools of Nursing

There have been no changes in the number of schools of nursing in the state, their accreditation status, or their federal tax classifications as compared to AY 18-19 (Hawai'i

State Center for Nursing, 2020). All eight of Hawai'i's schools of nursing are accredited by either the Accreditation Commission for Education in Nursing or the Commission on Collegiate Nursing Education. There are no for-profit nursing schools located in Hawai'i.

Table 1. Accreditation Status and Federal Tax Classification of Hawai'i Schools of Nursing

School Name	Accreditation		Federal Tax Classification		
	ACEN	CCNE	Public	Not for Profit	For Profit
Number of Schools (State)	5	4	6	2	0
City & County of Honolulu					
Chaminade University		✓		✓	
Hawai'i Pacific University		✓		✓	
Kapi'olani Community College	✓		✓		
University of Hawai'i at Mānoa		✓	✓		
County of Hawai'i					
Hawai'i Community College	✓		✓		
University of Hawai'i at Hilo	✓	✓	✓		
County of Maui					
University of Hawai'i Maui College	✓		✓		
County of Kaua'i					
Kaua'i Community College	✓		✓		

Note. University of Hawai'i at Hilo's BSN program is accredited by ACEN and their DNP program is accredited by CCNE.

Types of Nursing Programs Available in Hawai'i

There has been no change between AY 18-19 and AY 19-20 in the number of schools offering each type of nursing degree in the state. The City & County of Honolulu (referred to as Honolulu County throughout this report for brevity) has at least one school offering every type of nursing degree or certificate. Hawai'i County schools collectively offer all nursing degrees except the MSN and PhD.

Maui and Kaua'i County residents only have access to pre-license LPN and ADN programs and must pursue BSN or graduate education either online or by relocating to either Honolulu or Hawai'i Counties. All schools offering post-license BSN or graduate programs indicated that instruction in those programs is offered at least partially via distance education. This provides residents of Maui and Kaua'i Counties the option to pursue post-license education via distance education from an in-state institution.

Table 2. Academic Awards in Nursing Offered by Institution

School Name	LPN. Cert.	ADN	BSN	MSN	DNP	PhD
Number of Schools (State)	4	4	4	2	3	1
City & County of Honolulu						
Chaminade University			✓			
Hawai'i Pacific University			✓	✓	✓	
Kapi'olani Community College	✓	✓				
University of Hawai'i at Mānoa			✓	✓	✓	✓
County of Hawai'i						
Hawai'i Community College	✓	✓				
University of Hawai'i at Hilo			✓		✓	
County of Maui						
University of Hawai'i Maui College	✓	✓				
County of Kaua'i						
Kaua'i Community College	✓	✓				

Graduate nursing education can prepare nurses for APRN practice or specialization in a variety of patient-facing or other nursing roles. Across Hawai'i's three graduate-degree granting schools of nursing, all of them provide at least one program track at either the master's or doctoral level that prepares students for certification and practice as advanced practice registered nurses. All of them offer at least one primary care NP track.

The University of Hawai'i at Hilo is the only graduate degree-granting school of nursing that provides preparation for nurse educator roles in their DNP program. The local availability of a program that prepares nurse educators is vitally important given that most schools report having difficulty recruiting and retaining qualified full-time faculty members. More discussion on the state of nursing faculty is provided later in this report.

Table 3. Graduate Nurse Education Programs Offered by Institution

	Hawai'i Pacific University	University of Hawai'i at Hilo	University of Hawai'i at Mānoa
Master's Degree Programs			
Specialty RN			
Advanced Population Health Nursing			✓
APRN			
Adult-Gerontology Acute Care NP	✓		
Family NP	✓		
Doctor of Nursing Practice Programs			
General DNP			
Post-Master's DNP	✓		✓
APRN			
Adult-Gerontology Primary Care NP			✓
Family NP		✓	✓
Non-Clinical			
Nurse Educator		✓	

Capacity, Enrollment Demand, and Production in Pre-License Programs

Enrollment Demand and Capacity

In AY 19-20 Hawai'i's schools of nursing reported having the capacity to admit a total of 554 new students into pre-license (LPN, ADN, BSN, GEPN) nursing programs. This represents a loss of 48 seats (-8%) for new pre-license students as compared to AY 18-19. LPN (-31%), BSN (-6%), and GEPN (-21%) programs all reported decreases in the number of seats they had available for new students as compared to the prior academic year. ADN programs reported a slight increase in capacity (+6%).

Reduction in capacity for pre-license education corresponded to a net decrease in enrollment demand for pre-license nursing education. Pre-license programs received a total of 1,393 applications from fully qualified applicants. This is a decrease of 392 (22%) as compared to AY 18-19. Enrollment demand was down in AY 19-20 as compared to the previous academic year for LPN (-29%) and BSN (-49%) programs but increased for ADN (+17%) and GEPN (+204%) programs.

Though enrollment demand was down in AY 19-20, schools reported that they received substantially more applications from fully qualified applicants than they had the capacity to admit. On average, pre-license programs reported receiving an average of 2.9 applications per available seat for new students. As a result, only a minority of applications resulted in offers of admission. Schools denied admission to 66% of LPN applicants, 75% of ADN applicants, 29% of BSN

applicants, and 58% of GEPN applicants because of capacity constraints.

New Admissions and Enrollments

Schools admitted 636 students across all pre-license programs in AY 19-20. This is a decrease of 49 (-7%) admissions as compared to the prior academic year. Consistent with a slight increase in enrollment capacity over the previous year, ADN programs admitted more students in AY 19-20 than in the prior year (+5%). The state's only GEPN program admitted more students (+58%) in AY 19-20 than in the prior year due to substantial increase in applications to the program. LPN (-31%) and BSN (-13%) programs both admitted substantially fewer students in AY 19-20 than in AY 18-19.

Of the students who were admitted, 556 of them enrolled in classes. This is an increase of 5 students, or less than 1% over AY 18-19. Although fewer students were admitted, a higher proportion of admitted students enrolled in classes in AY 19-20 (87%) than in AY 18-19 (80%).

Total Student Census and Graduates

When new admissions are added to the total number of continuing students, a total of 1,495 students enrolled across all pre-license programs. This is 241 more students than were enrolled across all pre-license programs in AY 18-19. The increase in total enrollment is explained by a combination of the slight increase in enrollments between the two years and the fact that the number of students who graduated from pre-license programs (n=499) was less than the number who

were admitted, resulting in a net increase in total enrollment.

Of the 499 graduates from pre-license programs, 401 (80%) completed ADN or BSN

programs and became eligible for licensure as RNs. LPN and GEPN graduates accounted for 13% and 6% of all pre-license program graduates in AY 19-20, respectively.

Table 4. Applicants & Enrollments for Pre-License Nursing Programs

	LPN	ADN	BSN¹	GEPN
Available Openings	48	140	316	50
Qualified Applications	147	552	545	149
Applications Received per Available Opening	3.1	3.9	1.7	3.0
Admissions Offered	48	137	388	63
Acceptance Rate*	33%	25%	71%	42%
New Students Enrolled	48	137	326	45

Note. Data in the GEPN column represent the aggregate of the MSN and DNP tracks. *Calculated as (#Admissions Offered/# Qualified Applicants).

¹ LPN-to-BSN and traditional pre-license BSN programs are included in the BSN counts as both programs produce new graduates to RN practice who are initially prepared at the baccalaureate level.

Table 5. Demographic Characteristics of Pre-License Nursing Students

Demographic Characteristic	LPN		ADN		BSN		GEPN	
	%	#	%	#	%	#	%	#
Gender Total	100%	72	100%	222	100%	1079	100%	122
Female	83%	12	26%	58	14%	155	17%	21
Male	17%	60	74%	164	86%	924	83%	101
Other/Nonbinary	0%	0	0%	0	0%	0	0%	0
Unknown/Missing	0%	0	0%	0	0%	0	0%	0
Race/Ethnicity Total	100%	72	100%	222	100%	1079	100%	122
Multiracial	26%	19	5%	11	11%	114	20%	24
White	10%	7	16%	36	15%	157	25%	30
Black/African American	0%	0	0%	0	1%	11	3%	4
American Indian/Alaska Native	0%	0	0%	0	0%	5	1%	1
Chinese	0%	0	0%	0	2%	21	7%	9
Filipinx	13%	9	11%	25	14%	151	11%	13
Japanese	3%	2	0%	0	3%	36	11%	13
Korean	1%	1	0%	0	0%	5	4%	5
Other Asian	0%	0	0%	0	24%	256	2%	3
Native Hawaiian	3%	2	4%	8	11%	117	12%	15
Samoan	0%	0	0%	0	1%	6	0%	0
Other Pacific Islander	0%	0	0%	0	2%	20	1%	1
Some Other Race/Ethnicity	0%	0	0%	0	2%	21	1%	1
Unknown/Missing	44%	32	64%	142	15%	159	2%	3
Hispanic/Latinx Origin	100%	72	100%	222	100%	1079	100%	122
Hispanic/Latinx	3%	2	0%	1	2%	22	3%	4
Non-Hispanic/Latinx	57%	41	40%	89	52%	560	97%	118
Unknown/Missing	40%	29	59%	132	46%	497	0%	0
Age Total	100%	72	100%	222	100%	1079	100%	122
20 Years or Younger	0%	0	0%	0	23%	251	0%	0
21 Years to 25 Years	14%	10	7%	16	46%	496	31%	38
26 Years to 30 Years	13%	9	18%	39	16%	177	32%	39
31 Years to 40 Years	18%	13	12%	27	12%	130	29%	35
41 Years to 50 Years	3%	2	4%	8	2%	22	7%	9
51 Years to 60 Years	0%	0	0%	0	0%	3	1%	1
61 Years and Older	0%	0	0%	0	0%	0	0%	0
Unknown/Missing	53%	38	59%	132	0%	0	0%	0

Table 6. Graduates from Pre-License Nursing Programs

	LPN	ADN	BSN	GEPN
Program Graduates	66	135	266	32
% Graduates from Neighbor Island Schools	64%	57%	16%	0%

Capacity, Enrollment Demand, and Production in Post-License Programs

Enrollment Demand and Capacity

Because post-license education is intended to support nurses' professional development and an expansion in their scope of practice but is not required for practice as an RN, enrollment capacity and demand for post-license programs is lower than for pre-license programs.

Across all post-license programs statewide (RN-to-BSN, MSN, DNP, PhD), schools had capacity to enroll a total of 209 students. This is an increase in enrollment capacity for post-license programs of 40 students (+24%). The 40-seat increase in post-license enrollment capacity is attributable to a 47% increase in enrollment capacity in RN-to-BSN programs. These programs tend to have flexible capacity limits based on enrollment. MSN and DNP programs also reported a total increase of 3 seats each as compared to AY 18-19.

Enrollment demand for post-license education also increased across all programs as compared to AY 18-19. In total, post-license programs received 208 applications which is a 28% increase over the prior academic year. RN-to-BSN programs received the largest share (54%) of post-license applications. MSN and DNP programs received 27% and 19% of fully qualified post-license program applications, respectively. Notably, one of the largest master's programs in nursing in the state is an advanced population health program for RNs and does not provide preparation for APRN practice. While there is a national shift toward advocating for the DNP as preparation for APRN practice, it is important to recognize the value of master's programs that support RNs' academic and professional development.

Table 7. Applicants & Enrollments for Post-Licensure Nursing Programs

	RN-to-BSN	MSN	DNP	PhD
Available Openings	112*	57*	40	0
Qualified Applications	112	57	39	0
Applications Received per Available Opening	--*	--*	1.0	--
Admissions Offered	112	52	33	0
Acceptance Rate**	100%	91%	85%	--
New Students Enrolled	77	52	20	0

Note. *At least one institution reported that available seats for new students was variable depending on enrollment demand and availability of clinical faculty. In these cases, the number of qualified applications received substitutes for the number of openings for new students. The ratio of applications per opening is not reported because of this substitution. **Calculated as (#Admissions Offered/# Qualified Applicants).

New Admissions and Enrollments

Commensurate with increases in both enrollment capacity and demand, the total number of applicants admitted to post-license programs in AY 19-20 increased as compared to the previous year. RN-to-BSN and MSN programs both increased the number of students they admitted by 47% and 49% respectively. DNP admissions decreased by one student as compared to AY 18-19. In total, post-license programs admitted 197 students in AY 19-20 which represents an increase of 48 students (32%) as compared to the prior year.

Of the 197 students who were admitted to post-license programs, 149 (76%) enrolled in classes. This is an increase in total post-license enrollments by 20% as compared to AY 18-19. Enrollment in RN-to-BSN programs increased by 13% and accounted for 52% of all newly enrolled post-license students. The increase in RN-to-BSN enrollment bucks the trend we have seen over the last two academic years of declining enrollment in post-license baccalaureate programs in Hawai'i and the country.

Total Student Census and Graduates

When newly enrolled and continuing students are counted, 284 students were enrolled in post-license programs in AY 19-20. In comparison to AY 18-19, this is an increase of 60 students (27%). RN-to-BSN and PhD (which did not admit any new students) programs reported decreases in their total student census by 13% and 47%, respectively. MSN and DNP programs, however,

increased their total census by 124% and 23%, respectively.

In AY 19-20, 99 students graduated from post-license programs which is a decrease of 16 students (-14%) as compared to 18-19. Master's programs graduated 14% more students in AY 19-20 than in the previous academic year. MSN programs were the only type of post-license programs that graduated more students in AY 19-20 (+14%) than in the previous academic year. The number of graduates from RN-to-BSN, DNP, and PhD programs decreased by 14%, 38%, and 57%, respectively.

Graduates from RN-to-BSN programs comprised 50% of post-license graduates which supports Hawai'i's rising BSN-preparedness rate and contributes to Hawai'i having one of the most highly educated nursing workforces in the country. Hawai'i's only PhD program graduated 3 students who now have the academic preparation to become nurse faculty.

Of the 46 students who graduated from MSN or DNP programs, 28 (61%) of them completed a program that prepared them for practice as advanced practice registered nurses. When GEPN students who completed their graduate education are included, Hawai'i's schools of nursing prepared 51 new prospective APRNs to the workforce, the majority of whom are prepared to provide primary care.

Table 8. Demographic Characteristics of Post-License Nursing Students

Demographic Characteristic	RN-to-BSN		MSN		DNP		PhD	
	%	#	%	#	%	#	%	#
Gender Total	100%	78	100%	121	100%	75	100%	10
Female	78%	17	21%	25	39%	29	10%	1
Male	22%	61	74%	90	61%	46	90%	9
Other/Nonbinary	0%	0	0%	0	0%	0	0%	0
Unknown/Missing	0%	0	5%	6	0%	0	0%	0
Race/Ethnicity Total	100%	78	100%	121	100%	75	100%	10
Multiracial	29%	23	2%	3	16%	12	10%	1
White	15%	12	26%	31	28%	21	60%	6
Black/African American	0%	0	1%	1	4%	3	0%	0
American Indian/Alaska Native	3%	2	0%	0	3%	2	10%	1
Chinese	5%	4	0%	0	1%	1	0%	0
Filipinx	23%	18	2%	2	13%	10	0%	0
Japanese	6%	5	2%	2	7%	5	0%	0
Korean	4%	3	0%	0	0%	0	0%	0
Other Asian	0%	0	33%	40	20%	15	20%	2
Native Hawaiian	10%	8	1%	1	1%	1	0%	0
Samoan	0%	0	1%	1	0%	0	0%	0
Other Pacific Islander	0%	0	1%	1	1%	1	0%	0
Some Other Race/Ethnicity	3%	2	3%	4	0%	0	0%	0
Unknown/Missing	1%	1	29%	35	5%	4	0%	0
Hispanic/Latinx Origin	100%	78	100%	121	100%	75	100%	10
Hispanic/Latinx	3%	2	3%	4	3%	2	0%	0
Non-Hispanic/Latinx	97%	76	76%	92	91%	68	100%	10
Unknown/Missing	0%	0	21%	25	7%	5	0%	0
Age Total	100%	78	100%	121	100%	75	100%	10
20 Years or Younger	0%	0	0%	0	0%	0	0%	0
21 Years to 25 Years	22%	17	2%	3	1%	1	0%	0
26 Years to 30 Years	26%	20	19%	23	8%	6	10%	1
31 Years to 40 Years	29%	23	47%	57	29%	22	20%	2
41 Years to 50 Years	13%	10	23%	28	37%	28	10%	1
51 Years to 60 Years	10%	8	8%	10	17%	13	10%	1
61 Years and Older	0%	0	0%	0	7%	5	50%	5
Unknown/Missing	0%	0	0%	0	0%	0	0%	0

Table 9. Graduates from Post-Licensure Nursing Programs

	RN-to-BSN	MSN	DNP	PhD
Program Graduates	50	33	13	3
% Graduates from Neighbor Island Schools	38%	0%	77%	0%

Note. There are no MSN or PhD programs on neighbor islands. See Table 1 for types of programs offered in each county.

Nurse Faculty in Academic Year 2019-2020

Faculty Positions and Vacancies

In AY 19-20, Hawai'i's schools of nursing reported having a total of 308 funded faculty positions. This is an increase of 2 positions as compared to AY 18-19. Though schools reported a net increase in total funded positions as compared to the prior academic year, two troubling trends emerged in the data. First, the part-time faculty continue to account for more than half of all funded faculty lines. In AY 19-20, part-time faculty accounted for 57% of all filled faculty positions. Second, the full-time faculty vacancy rate is 16%. As compared to the prior academic year, the number of vacant full-time faculty positions more than doubled in AY 19-20 from 10 to 23.

The combination of the high rate of part-time faculty and the alarmingly high full-time faculty vacancy rate are symptomatic of problems associated with recruiting and retaining nursing faculty that plague schools of nursing across the country. In addition to the normal problems of faculty recruitment and retention (e.g.,

comparatively low rates of pay, expanding workload, lack of preparation for the demands of teaching, extraordinary tenure and promotion requirements, etc.) the COVID-19 pandemic may be responsible for the provocation of a wave of faculty departures. Faculty in Hawai'i tend to be markedly older than the rest of the nursing workforce. In AY 18-19, 36% of the full-time faculty for whom age was reported were age 61 or older. In AY 19-20, that proportion was up to 41%. These faculty are at if not beyond typical retirement age. The stresses of having to rapidly adapt instruction in response to the pandemic plus concerns about the greater susceptibility to COVID-19 may have caused many older faculty members to move into retirement. Other faculty left the workforce to address family needs, and others may have chosen to leave academia for clinical practice. Regardless of the reasons, the rapid, massive losses of full-time faculty in the last year have only served to exacerbate the existing faculty shortage and concerns about how to resolve it.

Table 10. Faculty Positions and Vacancies

Position Type	Full-Time		Part-Time		Total	
	#	%	#	%	#	%
Position Total	142	100%	166	100%	308	100%
Filled	119	84%	164	99%	283	92%
Vacant	23	16%	2	1%	25	8%

Table 11. Demographic Characteristics of Nurse Faculty

Demographic Characteristic	Full-Time		Part-Time		Total	
	%	#	%	#	%	#
Gender	100%	119	100%	164	100%	283
Female	91%	108	63%	104	75%	212
Male	8%	10	13%	21	11%	31
Other/Nonbinary	1%	1	0%	0	0%	1
Unknown/Missing	0%	0	24%	39	14%	39
Race/Ethnicity	100%	119	100%	164	100%	283
Multiracial	10%	12	0%	0	4%	12
White	49%	58	20%	32	32%	90
Black/African American	3%	4	0%	0	1%	4
American Indian/Alaska Native	0%	0	0%	0	0%	0
Chinese	2%	2	1%	1	1%	3
Filipinx	8%	10	4%	6	6%	16
Japanese	5%	6	3%	5	4%	11
Korean	1%	1	2%	3	1%	4
Other Asian	1%	1	0%	0	0%	1
Native Hawaiian	5%	6	2%	3	3%	9
Samoan	0%	0	0%	0	0%	0
Other Pacific Islander	0%	0	0%	0	0%	0
Some Other Race/Ethnicity	2%	2	32%	52	19%	54
Unknown/Missing	14%	17	38%	62	28%	79
Hispanic/Latinx Origin	100%	119	100%	164	100%	283
Hispanic/Latinx	1%	1	2%	4	2%	5
Non-Hispanic/Latinx	85%	101	34%	56	55%	157
Unknown/Missing	14%	17	63%	104	43%	121
Age	100%	119	100%	164	100%	283
30 Years or Younger	0%	0	1%	1	0%	1
31 Years to 40 Years	7%	8	7%	12	7%	20
41 Years to 50 Years	15%	18	10%	17	12%	35
51 Years to 55 Years	18%	21	9%	14	12%	35
56 Years to 60 Years	20%	24	6%	10	12%	34
61 Years to 65 Years	24%	28	2%	4	11%	32
66 Years to 70 Years	11%	13	1%	2	5%	15
71 Years and Older	6%	7	0%	0	2%	7
Unknown/Missing	0%	0	63%	104	37%	104
Highest Degree Earned	100%	119	100%	164	100%	283
ADN	0%	0	0%	0	0%	0
BSN	3%	3	13%	21	8%	24
Baccalaureate, Non-Nursing	1%	1	0%	0	0%	1
Master's Degree, Nursing	38%	45	23%	37	29%	82
Master's Degree, Non-Nursing	1%	1	1%	1	1%	2
DNP	17%	20	5%	8	10%	28
Doctoral Practice Degree, Non-Nursing	9%	11	2%	3	5%	14
PhD, Nursing	23%	27	1%	2	10%	29
PhD, Non-Nursing	9%	11	2%	4	5%	15
Unknown/Missing	0%	0	54%	88	31%	88

Challenges Facing Hawai'i's Nurse Education Programs

Top Challenges

Schools continue to be impacted by several challenges. For the third consecutive year, schools indicated that the challenges with the most significant impacts on their programs were insufficient financial resources for faculty compensation (including new lines and raises) and insufficient resources for program development. Nearly 90% of Hawai'i's eight schools reported one of these issues as their top challenge. The ongoing challenge of being unable to offer competitive compensation to nurses to entice them into faculty positions is especially poignant given the extraordinarily high full-time faculty vacancy reported by schools this year.

This year, a lack of clinical training sites affected many schools. Historically, this challenge has been predominantly reported by schools in Honolulu County due to the relatively large number of schools in competition for the same, limited pool of clinical placements. In this year's survey, 88% of schools reported being negatively affected by a clinical placement shortage and 13% of schools reported this to be their number one concern.

The emergence of clinical training site shortages as a statewide problem is likely due to the nearly total elimination of all face-to-face clinical education during the COVID-19 pandemic. The

suspension of all live clinical experiences during the spring semester of AY 19-20 coincided with the rapid rise in COVID case counts and nationwide shortages of personal protective equipment. Although the conditions that prohibited students being in facilities for live clinical placements have largely subsided, schools remain unclear about whether or when clinical placement availability will return to pre-pandemic levels. Data from the next few years' education capacity surveys should cast light on whether clinical placements remain an ongoing statewide problem.

In response to the challenges that adversely impact their programs, schools reported virtually the same set of mitigation tactics and responses as they reported in last year's report. Schools have adapted to challenges by reducing cohort sizes, seeking alternative funding sources, and increasing the proportion of clinical education they provide via simulation.

Some schools also reported that they made no specific changes to address challenges. Rather, the faculty increased their workloads by either teaching overloads or volunteering their time to ensure that students had access to education that met HBON and accreditation standards and graduated on time.

Table 12. Factors that Adversely Affect Nurse Education Programs

Challenges Affecting Programs	#1 Challenge	Affects Existing Programs	Affects New Program Development
Lack of funding for new faculty lines or raises	38%	88%	63%
Insufficient funding, faculty, or other resources for program development	38%	75%	50%
Insufficient number of clinical training sites	13%	88%	50%
Difficulty filling full-time faculty positions	13%	63%	38%
Difficulty filling part-time faculty positions	0%	50%	38%
Insufficient number of preceptors for clinical training experiences	0%	50%	38%
Some other challenge	0%	0%	0%

Note. The sum of percentages in “Affects Existing Programs” and “Affects New Program Development” columns exceed 100% due to multiple responses from some schools. Two schools indicated that none of the listed challenges adversely impacted their ability to develop new programs.

Responses to Challenges

Table 13. Tactics Used by Nurse Education Programs to Address Adverse Impacts

Responses to Challenges	% Schools Reporting
Pursuit of alternate/supplemental funding sources	38%
Reduced admissions cohort sizes	38%
Replacement of live clinical experiences with high-fidelity simulation	38%
Other response	38%
Delayed or terminated development of new degree programs or program tracks	13%
Decreased frequency of new student admissions	0%
Increased student tuition and/or fees	0%
Elimination of degree programs or program tracks	0%
Payments directly to preceptors	0%
Payments to clinical sites	0%

Note. The sum of the percentages exceeds 100% due to multiple responses from some schools.

Appendices

Appendix A – Glossary of Nurse Education Programs Offered in Hawai‘i in AY 2019-2020

Term	Definition
Pre-license Programs	Nurse education programs that admit students with no prior education or experience in nursing.
LPN Program	A program of instruction that requires at least one year of full-time equivalent coursework generally within a high school, vocational/technical school, or community/junior college setting, the completion of which results in a diploma or certificate of completion and eligibility to apply for licensure as an LPN (see also Hawai‘i Administrative Rules §16-89-11 and §16-89-12).
ADN Program, Generic/Traditional	A program of instruction that requires at least two years of full-time equivalent college academic work generally within a junior or community college, the completion of which results in an associate degree with a major in nursing and eligibility to apply for licensure as an RN. (See also Hawai‘i Administrative Rules §16-89-10).
Pre-License BSN Program, Generic/Traditional*	A program of instruction to prepare <i>generalist</i> registered nurses that admits students with no previous nursing education, the completion of which results in a baccalaureate degree (e.g. BS, BSN, etc.) with a major in nursing and eligibility to apply for licensure as an RN. The program requires at least four years but not more than five years of full-time equivalent college course work within a senior college or university. (See also Hawai‘i Administrative Rules §16-89-10).
Pre-License <i>Graduate Entry (GEPN)</i> Program*	A program of instruction that admits baccalaureate degrees in other disciplines and no previous nursing education. The program prepares graduates for entry into the profession, eligibility to apply for licensure as an RN, and upon completion, <i>awards a graduate degree in nursing (e.g., MSN, DNP, PhD)</i> . (See also Hawai‘i Administrative Rules §16-89-10).
Post-license Programs	Nurse education programs that require a prospective student to hold an active nursing license to be eligible for admission.
<i>LPN to BSN Program*</i>	<i>A program for students licensed as LPNs the completion of which results in a baccalaureate degree (e.g., BS, BSN, etc.) with a major in nursing and eligibility to apply for licensure as an RN.</i>
Post-License BSN (RN-to-BSN) Program	A <i>post-license BSN</i> program for students who are already licensed as RNs whose highest nursing education is a diploma or associate’s degree.
MSN Program *	A post-license master’s program with emphasis on advanced clinical practice, including Nurse Practitioner, Nurse Anesthetist, Nurse Midwifery, and Clinical Nurse Specialist tracks. <i>Includes RN-to-MSN and post-baccalaureate admissions pathways.</i>
DNP Program*	A program of instruction that prepares graduates for the highest level of nursing practice beyond the initial preparation in the discipline. The DNP is the terminal practice degree. <i>Includes post-baccalaureate and post-master’s admissions pathways.</i>
PhD Program*	A post-licensure doctoral program that culminates in the PhD in Nursing. <i>Includes post-baccalaureate and post-master’s admissions pathways.</i>

Note. *Italicized program titles, definitions, or parts of definitions are additions or modifications to those published in the source document published by the National Forum of State Nursing Workforce Centers (2020, pp. 7–9). There are other types of nurse education programs available throughout the country including ADN-Bridge and Accelerated BSN programs. No institution in Hawai‘i reported offering either of these types of programs during AY 18-19 and are thus not included in this table. For descriptions of these programs, see either the [Hawai‘i Nurse Education Capacity Report for AY 2016-2017](#) or the [Forum’s Minimum Dataset Survey for Education](#).

Appendix B – Method for 2019-2020 Nurse Education Capacity Survey

Instrumentation

The data collection instrument for the Education Capacity Survey is based on the National Nursing Workforce Minimum Dataset for Education as published by the National Forum of State Nursing Workforce Centers (2020). The Forum recommends that states use the appropriate MDS for education, supply, and employment demand so that national dialogue about nursing workforce development can be informed by data that is collected at the state level.

In addition to the data points recommended by the Forum, the Center added several questions regarding specialty or certificate education offered in baccalaureate and graduate nurse education programs, challenges to program growth or sustainability, and the responses schools have had to those challenges.

The survey instrument was converted to a form-fillable .pdf with calculation and data validation fields intended to support the submission of high-quality, error-free data.

The full instrument is available upon request to Dr. Carrie Oliveira, Workforce Researcher at the Hawai'i State Center for Nursing.

Institutional Review Board Review

Because the survey collected aggregated, secondary data, it does not meet the definition of “human subjects research” and did not require review or oversight by the IRB at the University of Hawai'i at Mānoa where the Center is housed.

Procedure

The study period commenced on February 16, 2021 when the Center's Researcher sent emails to the chief administrator of each school of nursing requesting their participation in the study. The email included a link to a website that provided a copy of the form-fillable survey and answers to frequently asked questions. The survey form was also attached to the email for the schools' convenience.

School administrators were asked to complete the survey and email it back to the Center's researcher by March 31, 2021. By the original submission deadline, five schools had submitted completed surveys. Two schools requested extensions until April 15, 2021 and met their deadline. One additional school requested a deadline extension until May 6, 2021 and submitted by that date.

Following the submission of all surveys, the Center's researcher reviewed each survey for data quality issues and followed up with the individual designated on each survey for clarification.

Appendix C – Program Admissions by Semester, AY 2019-2020

	LPN			ADN			BSN			LPN to BSN			RN to BSN			BSN to MSN			RN to MSN			MSN to DNP			BSN to DNP			PhD			BSN to PhD					
# Programs	2			4			4			1			4			2			2			3			2			1			1					
Admissions Semesters*	F	S	I	F	S	I	F	S	I	F	S	I	F	S	I	F	S	I	F	S	I	F	S	I	F	S	I	F	S	I	F	S	I	F	S	I
Associate-Granting Institutions																																				
Hawai'i Community College	●			●																																
Kapi'olani Community College	●	●		●	●																															
Kaua'i Community College				●																																
University of Hawai'i Maui College		●		●																																
Baccalaureate-Granting Institutions																																				
Chaminade University							●																													
Hawai'i Pacific University							●	●		●	●		●	●		●	●					●	●													
University of Hawai'i at Hilo							●						●	●								●			●											
University of Hawai'i at Mānoa							●						●			●			●						●			●								

Notes. *Letters in this row refer to the session in a traditional academic year wherein F = Fall Semester, S = Spring Semester, I = Summer Intersession. A gray cell indicates that a school did not offer a given program during AY 19-20. A white cell indicates that a school operated the program during the AY but did not admit new students during the academic term. A dot indicates that a school admitted new students into the program for the indicated semester. Kaua'i Community College does not admit into its LPN program, but does confer LPN certificate of achievements and counts its first year ADN students as LPN students.

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