

NURSING INVESTMENT REPORT: 2000-2009

Overview

In the decade from 2000 to 2009, the University of Alaska (UA) significantly increased basic nursing graduates from its associate and bachelor's programs, both of which prepare individuals to take the registered nurse (RN) examination. Over 1400 nurses have graduated from these programs since 2000, twice the number that would have graduated if the university had not made a commitment to expand. Well over 90% of these graduates have sought their first jobs in Alaska. This summary discusses the investment that made expansion possible and the remarkable results of these efforts.

The UAA School of Nursing is the academic home of the nursing expansion and is the only nursing school in Alaska. It currently has programs at three levels – associate (AAS in Nursing), bachelor's (BS in Nursing Science) and master's (MS in Nursing Science). Beginning in 2000, initial investments were made from university funds to pilot the AAS program at two sites outside of Anchorage: Fairbanks and Kodiak.

In 2002, the nursing shortage had reached crisis proportions in Alaska and UA President Mark Hamilton challenged a university/industry task force to develop recommendations regarding the university's role in reducing the shortage. This task force established the goal of doubling the number of basic nursing graduates in four short years, by 2006. In addition to increasing the supply, the task force consensus process led to several equally important actions by the School of Nursing.

Fundamental redesign of the delivery of nursing education in Alaska: Basic nursing education was transformed from a mostly on-campus program to a program with many established sites throughout the state. Today, it is UA's largest distance delivered program considering numbers of students, ongoing sites, and graduates.

Focus on the place-committed student: To ensure most graduates would practice in their communities,

especially in rural areas where shortages were most acute, nursing education began to be delivered through a combination of distance technology and local campus resources -- including local faculty, and local clinical resources. University of Alaska Anchorage (UAA), University of Alaska Southeast (UAS), and University of Alaska Fairbanks (UAF) all have a role in hosting and educating nursing students; prerequisites to enter nursing and other health care fields may be accomplished on all three campuses – which has resulted in growth in students in these basic courses.

UA maintains one accredited nursing school: Supporting an accredited multi-level nursing school is time intensive and expensive. UA leadership made the decision to build upon the expertise of the UAA-based School of Nursing while expanding its educational mission statewide.

Nursing education quality must remain high: The School of Nursing set measures in place to assure that distance students would match their UAA on-campus peers -- who had consistently performed at the top percentiles in national testing and performance. Today, all basic nursing students perform well on national licensing exams. All programs of the School were recently fully re-accredited for the maximum eight year period.

Trimester added: In order to double the number of nursing graduates, the School of Nursing converted its bachelor's program to a trimester schedule, using the entire year to teach. This ensures the maximum admission of students and use of the state's limited clinical sites throughout the year.

Industry/University partnerships: The University and industry took a leap of faith and launched the expansion with significant dollars from UA internal resources and industry contributions. The three University Chancellors and University President Mark Hamilton strategically agreed that nursing would be a top priority. In order to jump start the expansion, funds were accumulated from multiple sources including lesser priority programs, federal and private sources. Additionally,

President Hamilton established a health programs office headed by Associate Vice President Karen Perdue to lead the statewide effort. For the next several years, UA requested and the State funded a significant portion of the expansion. To date, UA has received a cumulative total of \$4.77 million in private sector funding from eight health care organizations across the state. These multi-year commitments were secured within months of UA's commitment to expand the program. A total of \$2.8 million in State support permanently supports the nursing expansion.

The Results UA met its commitment to double the number of basic nursing graduates by 2006, and, by 2009, UAA produced 2 ½ times as many basic graduates as in the baseline year of 2000. In 2000, the total number of AAS and BS graduates was 71 (BS 54, AAS 17). In academic year 2009, there were 187 graduates from these programs (BS 109, AAS 78). This expansion is shown in Figure 1.

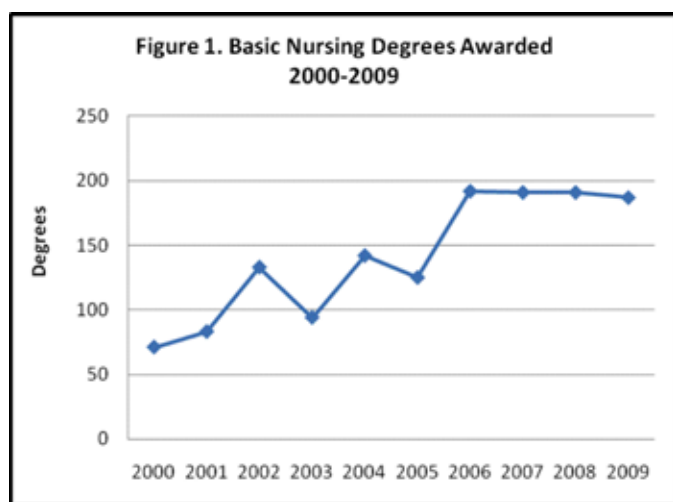


Figure 2 shows graduates from UAA nursing programs during the decade, including the BS and AAS programs. (Graduates from the suspended practical nursing program are not included in this graph.)

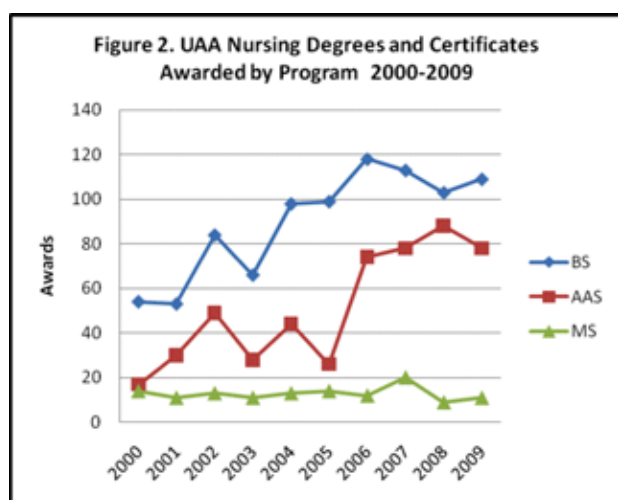
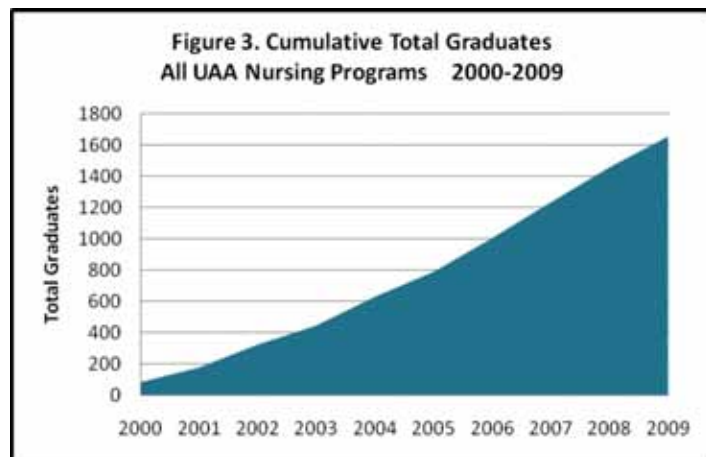


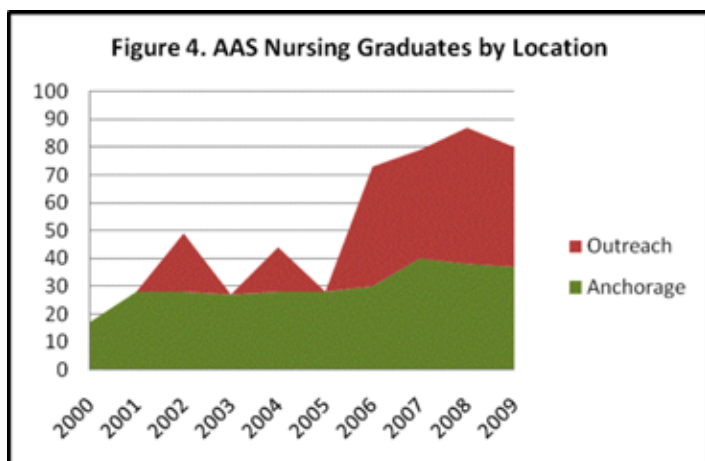
Figure 3 shows that over the past decade total graduates in all nursing programs exceeded 1650, with basic nursing program graduates, AAS and BS, totaling approximately 1400 of that number.



Expanding basic nursing education in Alaska

Associate degree program (AAS) Before expansion, many qualified students from across Alaska who wanted to become nurses could not do so because they were unable to leave their communities for education and, if they did leave, often they did not return to fill local jobs. Rather than expand capacity only in Anchorage, the decision was made to deliver nursing education to those students in medium and larger communities throughout Alaska with local hospital facilities.

The AAS program, which had only 17 graduates a decade ago, had 78 graduates in 2009, 4 ½ times the 2000 number. 51% of these graduates were educated in outreach sites. By 2009 the AAS program had exceeded its original plan of 8 sites and had 11 sites outside of Anchorage: Bethel, Fairbanks, Homer, Juneau, Kenai, Ketchikan, Kodiak, Kotzebue, Mat-Su, Sitka, and Valdez. By 2011, the School will operate in 13 sites (all but five of the communities in Alaska with hospitals). Students from Cordova will be admitted in spring 2010; Dillingham plans to admit students in 2011. Several other sites are expected to come on line in the next few years when students, faculty and other resources are aligned. Faculty members are located at each outreach site in addition to Anchorage.



This expansion was made possible by investments from Alaska's health care industry, the State, community partners, and the collaboration of community campuses at UAA, UAS and UAF. Much of the success of the expansion is a result of the commitment from community campuses that serve as a home base for the nursing students, provide pre-and co-requisite coursework, advising, tutoring, and instructional facilities including computers, labs and library services.

This high demand AAS program has two or three applicants for each available slot overall, but this varies widely by location. After a student finishes the pre-requisites, an application is made to one of the program sites. Applicants may apply to only one site at a time but may choose a different site in subsequent

application periods. Applicants for each site are ranked on a merit basis. Ranking criteria include the overall GPA and grades in specific pre-requisite courses, performance on a pre-nursing examination, an interview, and whether the individual has experience as a Certified Nurse Assistant or has applied to the program previously.

Once seats are filled for the semester, applicants who are not admitted must reapply for the following

year and compete against others applying at that time. Some apply to both the associate and bachelor's programs if they have completed sufficient pre-requisites for both. This competitive process is used uniformly at all sites, ensuring the high quality of associate degree students. Videoconferencing and internet resources ensure that academic resources and requirements are similar for all students. Distance students, except those in Fairbanks, travel to Anchorage for clinical intensives generally once a semester after the first semester; time in Anchorage depends on the range of clinical experiences available at their home site. Fairbanks admits annually; the other outreach sites every two years. In the past decade, the numbers of students admitted to outreach sites and to the Anchorage AAS program have been essentially equal. This includes a total of 64 LPNs admitted in Anchorage into either the third semester for AVTEC graduates or the second semester for others.

TABLE I. SCHEDULE FOR AAS OUTREACH DELIVERY

LOCATION	DATE FIRST IMPLEMENTED	NEXT SCHEDULED ADMISSION	PROJECTED # PER ADMISSION	GRADUATES 2000-2009
1. Bethel (Kuskokwim Campus, UAF)	Jan. 2004	Jan. 2011	6-8	10
2. Cordova (offered as part of Valdez cohort)		Jan. 2010	2	0
3. Fairbanks (Tanana Valley Campus, UAF)	Aug. 2000	Jan. 2010	16 (annually)	110
4. Homer (Kenai Peninsula Campus, UAA)	Jan. 2006	Jan. 2010	8	15
5. Juneau (UAS Juneau)	Jan. 2004	Jan. 2010	10 (per hospital request)	24
6. Kenai (Kenai Peninsula Campus, UAA)	Jan. 2005	Jan. 2011	14	21
7. Ketchikan (UAS Ketchikan)	Jan. 2004	Jan. 2010	8 (per hospital request)	23
8. Kodiak (Kodiak Campus, UAA)	Aug. 2000	Jan. 2011	8	23
9. Kotzebue (Chukchi Campus, UAF)	Jan. 2006	Jan. 2010	4	3
10. Mat-Su (Mat-Su Campus, UAA)	Jan. 2006	Jan. 2010	8	16
11. Sitka (UAS Sitka)	Jan. 2005	Jan. 2011	8	10
12. Valdez (Prince William Sound Community College)	Jan. 2008	Jan. 2010	4	4
13. Dillingham (Bristol Bay Campus, UAF)		Jan. 2011	4	0
Other sites	TBD	TBD	TBD	
Total Outreach Site AAS Graduates				259

Bachelor's degree program (BS) The BS in Nursing Science program has 120 admission slots, 40 in each of three trimesters each year, and is delivered in Anchorage year round. There is also an RN-to-bachelor's degree program that is distance delivered, enabling associate degree graduates to progress to a bachelor's degree in their home community. There are generally 15-20 students enrolled in the RN-BS program. Bachelor's degree students are prepared for careers in community health and leadership/management, as well as general nursing. In 2000 there were 54 BS graduates and in 2009 there were 109, double the original number.

Pre-requisite work for the BS program may be done at UAF, UAS or UAA campuses or through distance coursework. When nursing pre-requisites are complete, admission to the program on the Anchorage campus is guaranteed with a GPA of 2.70 or higher and threshold grades in certain critical classes. Due to high demand there is a waiting period between finishing pre-requisite work and actually starting the clinical program. Students are advised about options during the waiting period such as pursuing a minor in nutrition or gerontology, and completing co-requisite or other classes.

Bachelor's students admitted in fall 2009 will likely be assigned a seat three or four trimesters later. However, once they enter the clinical major, they progress rapidly through the program, completing in less than two calendar years. Bachelor's degree students are **guaranteed** their seat upon acceptance and are not required to reapply each year. This differs from many nursing schools outside of Alaska that simply turn students away. Tens of thousands are denied admission each year in the Lower 48.

Financial support for expansion

The State of Alaska provided most of the funding for the nursing expansion through general funds appropriated by the Alaska Legislature and investment of university resources. Since 2002, the health care industry has made significant financial pledges to support enrollment expansion and develop sites to deliver nursing education in multiple communities throughout Alaska. Alaska's hospitals have donated \$4.77 million, leveraging state funding. Industry funding was at a high of \$961,998 in 2005 and is now \$450,000 annually. Student tuition pays for about 18% of nursing education. Significant additional direct and in-kind contributions

by clinical sites and outreach campuses have supported program offerings.

As of 2009, health care industry contributions can be summarized as follows: Providence has contributed 50%; Alaska Regional and Fairbanks Memorial contributed 10% each and Yukon Kuskokwim Health Corporation contributed 9%. The Alaska Native Tribal Health Consortium contributed 6%; Bartlett Hospital, Mat-Su Regional and Ketchikan General contributed 5% apiece.

Industry donors and clinical partners also provide guidance to the School through the Nursing Education Advisory Council (NEAC) established in 2003. More than 280 clinical partners throughout Alaska, including health care institutions and the Alaska State Division of Public Health, provide clinical experiential education for students. Nursing students and faculty, in turn, provide health care institutions assistance in the care of their patients and bring an excitement and vibrancy to health care settings.

Need for registered nurses continues

The need for nurses will continue as the state's population ages. In a 2007 study, the vacancy rate for all professional nurses in Alaska was estimated at 9.8%, with 8.4% in urban areas and 17.8% in rural areas. This reflects all nursing positions, including the specialty areas which have higher vacancy rates than regular staff nurses. Many other health care professions have even higher vacancy rates (Alaska Center for Rural Health, 2007). This study was repeated in 2009 and analysis is underway.

In order to increase the supply of many health disciplines in a logical manner, the University of Alaska developed and adopted a comprehensive health academic plan in 2007, covering over 70 health programs across the three universities, including nursing. This plan helps target university efforts to address State health workforce needs in addition to nursing.

Nurse executives from health care organizations throughout the state report a steady but modest need for more new basic nursing graduates, and an intense demand for advanced specialty trained nurses. Industry partners are stepping up their internship and preceptorship programs to more quickly advance new graduates into specialty areas where they have the most need. The expanded basic programs continue to be vital to

providing a pipeline of nurses necessary to fill vacancies throughout Alaska over the long term.

Graduate program

There are three tracks in the MS in Nursing Science program: family nurse practitioner, psychiatric/mental health nurse practitioner, and nurse educator. During the last five years, master's degree program students have come from many communities, including Anchorage, Eagle River, Chugiak, Wasilla, Palmer, Fairbanks, Kenai, Soldotna, Bethel, Kotzebue, Girdwood, Ketchikan, Sitka, Nikiski, Valdez, Seward, Petersburg, Cordova and Cold Bay. New enrollment includes 15 students each year in the family nurse practitioner program; five to six in the psych/mental health nurse practitioner program every other year; and three to five in the nurse educator track. All core courses are on-line. The nurse practitioner programs require periodic clinical intensives in Anchorage. Currently, there are 71 students in graduate core and specialty classes.

The family nurse practitioner program track has seen growth in the past three years. In 2007, five students were admitted, and in 2009 there were 14. The industry needs nurse leaders, nurse educators, and nurse practitioners. Nurse practitioners play a major role in providing primary care in Alaska and the demand for their expertise is only expected to grow in the decades to come. Alaska laws and regulations provide, compared to other states, a broad scope of practice for the advanced nurse clinician. There is continued internal dialogue and planning regarding enhanced academic preparation of the nurse practitioner in Alaska.

Other programs/services at the School of Nursing

Practical Nurse Program (PN) In 2007 the School suspended admissions to its distance-delivered practical nursing program to avoid duplication with AVTEC and concentrate resources in the RN programs. The UAA program graduated 119 students in its six year history. UAA offers AVTEC graduate licensed practical nurses admission to the second year of the AAS program to progress to becoming an RN. In the past five years there have been 24 AVTEC graduates admitted to the AAS program.

Student advising and support A Student Services Coordinator and two staff advise nursing students

during both pre-clinical and clinical years. As increased enrollment occurs in Anchorage and other Alaska communities, it will be essential to add staff support to meet the needs of students and faculty.

Recruitment and Retention of Alaska Natives into Nursing (RRANN) In 1996, Alaska Natives and American Indians made up only 1.5% of the nursing workforce in Alaska while making up 16% of the population. A federally funded program began in September 1998 to increase the number of Alaska Native nurses. Since then, over 100 Alaska Native/American Indian nurses have graduated from UAA's School of Nursing. RRANN offers free tutoring, financial assistance through stipends, and on-campus housing opportunities, socialization with peers and networking with healthcare professionals, to support the retention of Alaska Native/American Indian students in both pre-clinical and clinical years.

RRANN Student Success Coordinators are located at UAA, UAS and UAF. The UAS RRANN site began in spring 2005 and is responsible for Sitka, Juneau and Ketchikan. A grant from the Rasmuson Foundation in 2006 expanded RRANN to Bethel. The Yukon-Kuskokwim Health Corporation and the Kuskokwim Campus of UAF have contributed to the support of this program. A RRANN coordinator will soon be hired in Fairbanks.

The Nursing Workforce Diversity Program extends assistance to disadvantaged students from any minority group in the clinical programs. Similar to RRANN, this program provides tutoring, financial assistance, along with networking and peer support to aid student retention.

Area Health Education Center (AHEC) In 2005, the School became the first school of nursing in the country to house an Area Health Education Center (AHEC) – usually found at schools of medicine. AHECs create a formal relationship between the university and geographically distinct community partners to strengthen the health workforce in underserved communities. AHEC centers do this by encouraging youth in underserved areas to go to college and pursue a health career; providing clinical rotations for students in the health professions in underserved areas, and supporting continuing education opportunities for health professionals working in underserved areas.

There are currently four AHEC centers in Alaska: Interior AHEC at Fairbanks Memorial Hospital, Southeast AHEC at the SouthEast Alaska Regional Health Consortium, Yukon-Kuskokwim AHEC at Yukon-Kuskokwim Health Corporation, and Southcentral AHEC at Providence Alaska Health System. The AHEC program office is headquartered in the Alaska Center for Rural Health in the School of Nursing at UAA.

Constraints on further expansion

Continued expansion is constrained by three major factors: 1) the availability of trained faculty, 2) adequate facilities, and 3) most importantly, clinical placements. Efforts are being made to address all three of these challenges.

Faculty shortage By state regulation, a master's degree in nursing is required for nursing faculty. There is a nationwide nursing faculty shortage and recruitments for the School have been difficult. On average, it has had six to seven faculty vacancies per year and anticipates up to 20 retirements in the next 10 years, since the average age of faculty is 55 years.

The University employs faculty to teach the three levels of nursing education. Currently, associate degree faculty account for about 20 full-time regular positions with four vacancies; the bachelor's program employs 24 full time faculty. The master's programs have 1.5 full time faculty, supplemented by bachelor's program faculty. An additional 15 adjunct faculty support nursing. Faculty are employed at the outreach sites, allowing distance students to get face to face supervision of their clinical instruction and ensuring students' concerns are addressed promptly.

The School of Nursing established an MS track in nursing education to begin to grow its own faculty in Alaska. It also hosted one cohort of a distance-delivered PhD in nursing from the Oregon Health and Sciences University – this program was grant-funded so only one cohort was offered.

Adequate facilities A new \$46 million health sciences building will open in Anchorage in fall 2011 and will house state of the art facilities for the School of Nursing. The School accomplished its enrollment expansion with minimal increase in space in Anchorage. Increased class sizes have created crowding in classrooms and labs. Skills labs had to be created at every outreach site and will be required for any new sites in the future.

Nursing and other health faculty are presently incorporating higher technology and fidelity simulation into their curriculum and planning for its use in outreach sites. UAA added a small two-bed simulation laboratory this fall. While the use of simulation will not replace the need for clinical experiences with real patients, other universities have experienced positive results from the use of simulation. It enhances and deepens learning and better prepares students for the nursing role.

The new Health Science Building (Phase I) will house a simulation laboratory which will be used in an interdisciplinary manner with medical and other health program students. Funding for a simulation technician to set up and run the laboratory was awarded from university workforce development funds this year.

Limited clinical placements This is probably the most challenging limitation to overcome and it takes strong collaboration to maximize clinical opportunities for students on an ongoing basis. Hospitals, nursing homes, and other healthcare partners provide opportunities for nursing students to interact with and care for their patients. With only 26 hospitals in Alaska, many quite small, clinical placements are limited. Required specialty placements are particularly difficult to find. There is a fine balance between the number of nursing students, the number and type of patients appropriate for learning, physical space and staff preferences and needs. Patient safety and comfort must be paramount. The School works closely with these partners to identify the best number of students present at one time. In an effort to decrease the impact on clinical inpatient sites in Anchorage that are heavily used by associate and bachelor's degree programs, including students from outreach sites, the School is identifying new sites within the Anchorage area. Beginning in 2008 the psychiatric unit at Providence Alaska Medical Center and the Providence Extended Care Center were utilized. The School is discussing the possibility of using new sites or expanding cohorts at existing clinical sites as well.

Future challenges

Nursing program interest In 2000 there were about 400 pre-nursing students identified by the university. In 2009 there were over 1000. This burgeoning interest is wonderful but also presents a serious challenge to the ability of the School of Nursing to admit qualified students quickly and in sufficient numbers to satisfy stu-

dent demand. Even if possible, it would be irresponsible to admit more students annually than the healthcare industry can reasonably hire upon their graduation. The university must also carefully balance its need for more basic nursing education with the tremendous academic needs for other health professionals.

Trimester schedule This innovative approach successfully allowed for expansion and also increased dependence on adjuncts for clinical instruction over the summer trimester. The year-round program in Anchorage is fast-paced, allows the bachelor's program to be completed quickly, but can be tiring for students and faculty alike.

Course offerings Distance elective courses are available to prepare students in areas of greatest need as identified by industry partners, including intensive care units, peri-operative and emergency care, and obstetrics. However, complementary clinical experiences offered by hospitals through internships or preceptorships must be coordinated.

Student travel Although changes to length of stay and timing of travel have been made over the years for outreach site students, many continue to identify travel to Anchorage for clinical intensives as a significant challenge and, for some, an impediment to completion of the nursing program. The use of simulation at outreach sites may better prepare students for their clinical intensives, though it is unknown whether this will make the time spent in these critical rotations more efficient.

Support for distance education Early in the expansion effort, there was a lack of instructional design and media support for faculty to convert courses for distance delivery. The university hired a specialized cadre of health instructional designers to support health faculty using distance education, a project initially known as the Health Distance Education Partnership. There must be intensive and ongoing support for faculty who teach by distance to insure success of the distance methodologies. These investments must be maintained to refresh content and train new faculty.

Stable funding for the pipeline and diversity programs Successful programs like RRANN and Nursing Workforce Diversity programs and the four AHEC centers and AHEC program office depend almost entirely on temporary federal funding sources. They are vulnerable to funding cutbacks and require state support.

Future directions

Several planned enhancements were mentioned above, such as the construction of the Health Sciences Building, integration of enhanced simulation in the nursing curriculum, and development of future academic expansions at the advanced clinical level. Other plans to stabilize and strengthen existing programs include the following:

New cohorts A cohort of an additional 16 AAS students will be added in Anchorage as soon as faculty can be hired. There is interest in expanding the AAS program to Nome, Petersburg, and possibly other sites, and doubling the number of students in Mat-Su. However, until sites are assessed, students prepared, financing assured, faculty recruited and other resources found, further expansion has slowed. Growth in the future will be limited due to the constraints to growth described above.

Need for additional advisor and tutor With the planned expansion of distance delivery sites and plans to increase the Anchorage AAS cohort, it is a priority to hire a third advisor to assist the larger numbers of students. There are also plans to make the tutoring program coordinator a regular position. This position is currently funded with supplemental workforce funds.

Conclusion

In just a few short years, the UAA School of Nursing and its partners in the University of Alaska system and in Alaska's healthcare industry have more than doubled the number of basic nursing graduates to address a shortage of nurses in Alaska. Even with more than 1400 graduates since 2000, Alaska's demand for nurses will continue. The University continues to meet Alaska's need for new nurses with support from the state, financial support from industry, and student support from a number of sources. Continued expansion is constrained by a lack of faculty nationwide, lack of educational space, and limited clinical placements. The university is committed to addressing these constraints to the extent possible with the support of other Alaskans.

Reference

Alaska Center for Rural Health (2007). 2007 Alaska Health Workforce Vacancy Study. Found at http://nursing.uaa.alaska.edu/acrh/index_downloads/workforce_7-24-07_body-final.pdf

