

Health Services Career Pathway: Promoting Education Standards, Health, and Healthcare Professions Recruitment in Hawai'i

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Career Pathways

Abstract

Hawai'i is facing a healthcare workforce shortage. Factors contributing to this shortage include poor marketing of healthcare professions, lack of preparation for postsecondary education, or attitudes and perception of healthcare careers by youth. This paper presents the Health Services Career Pathway program, a possible model for use in recruiting students for the health education profession. Health Services Career Pathway introduces secondary students to skills, knowledge, and attitudes found universally throughout the healthcare industry. High school education becomes engaging and relevant since it supports the student's career choice and prepares the student for transition to postsecondary education. Evolution of the Health Services Career Pathway is described and a variety of activities are highlighted. Partnership of secondary, postsecondary, and industry is stressed.

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Healthcare Personnel Shortage: A Growing Problem

There are numerous factors contributing to the healthcare personnel shortage. Some of the more apparent problems and its impact in Hawai'i will be described. Development of the Health Services Career Pathway and its efforts to address the healthcare personnel shortage will follow. Use of the Health Services Career Pathway model to recruit health education professionals will also be discussed.

A potential healthcare crisis is becoming increasingly apparent across the nation as evidenced by U.S. government reports (U.S. Senate, One Hundred Seventh Congress, second session, July 12, 2002), journal articles (Becker, 2003), and media (Catterall, 2003). Decreased enrollment of students into health profession programs of all types and the large numbers of the currently employed "baby boomer" generation nearing retirement age suggest more will be leaving the health professions than there are qualified to replace them (Elwood, 2003). Rural areas are especially hard hit. It is often difficult to recruit healthcare professionals from

urban areas to work in rural settings since such a move would mean adapting to a life in locations that are geographically and culturally far from the city lifestyle. In one typical scenario, a professional from the Mainland was attracted to a position in a rural out-patient clinic on the island of Kaua'i. This individual thought Kaua'i would be the tropical island paradise imagined from books and movies about Hawai'i. In reality, he had to adjust to a new culture, deal with higher cost of living expenses, and work with almost bare bone staffing situations. The Mainland recruit left within a year of being hired and contributed to the "revolving door" hiring cycle experienced at most rural healthcare facilities (J. Denny, personal communication, November 7, 2002).

Approximately 90 percent of Hawai'i (6,423.4 square miles of land) is designated rural. To get a better grasp of Hawai'i's rural nature, the following numbers illustrate the distribution of urban versus rural land area.

- O'ahu has 9.3 percent of the total land area; 76 percent of its land area is classified rural.

- Hawai'i has 62.7 percent of the land area; 91.9 percent is classified rural.
- Kaua'i has 9.7 percent of the land area; 90.3 percent is classified rural.
- Maui and Kalawao counties have 18.25 percent of the land area; 91.8 percent is classified rural (State Health Planning and Development Agency – Hawaii Health Performance Plan, 2003).

Although O'ahu has the smallest proportion of land area as compared to other counties in the state of Hawai'i, it is densely populated and has the smallest proportion of rural land area. As a result, there are more choices in employment in close proximity on the island of O'ahu. 75 percent of the state's licensed providers are located on this island alone. The city of Honolulu's healthcare workforce (as compared to all people employed) was 7.2 percent as compared to a low on Maui of 4.1 percent (Health Trends in Hawaii, 2001).

Healthcare facilities in Honolulu are not immune to the personnel shortage. An imminent loss of professionals will occur due to retiring "baby boomers." For example, the average age of clinical laboratory scientists with a baccalaureate degree is approximately 45 years old (Klipp, 2000). University of Hawai'i at Mānoa has an accredited clinical laboratory scientist program to train these professionals. In the 1970s, the Division of Medical Technology typically graduated about 30 students per year. Over time, there has been a decline in enrollment and fewer graduates from the program. In 2003, only four students graduated with a degree in Medical Technology.

Decreased Healthcare Student Enrollment

Low enrollment in all healthcare programs may be attributed to the attraction of competing professions. Of the 1,244,000 bachelors degrees in the U.S. during 2000-2001, the largest numbers of degrees were conferred in the fields of business (266,000), social sciences (128,000), and education (106,000). The pattern of bachelor degrees by field of study has shifted significantly in recent years (National Center for Education Statistics [NCES], 2001). Healthcare isn't glamorous anymore. Fewer caregivers are

caring for more patients (U.S. Senate, One Hundred Seventh Congress, second session, July 12, 2002). "Generation-Next" sees the long hours, exposure to hazards, and stressors associated with doing more with less as sufficient reason to look elsewhere for career opportunities (Zemke, 2000). Many healthcare professions that face severe shortages are those that are not in the public's eye - laboratory scientists, pharmacists, speech pathologists, radiological technologists, paramedics, and audiologists to name a few (Marketing Health Services, 2002).

The August 2000 Medical Laboratory Observer article paints an alarming picture:

"Data from the US Bureau of Labor Statistics (Washington, DC) and the National Accrediting Agency of Clinical Laboratories (NAACLS) indicate that the demand for clinical laboratory technologists and technicians will far exceed the supply of new workers in the coming years. There are approximately 313,000 clinical laboratory technologists and technicians working in the US today, and 5,300 new positions will be created per year through 2008, according to BLS projections. Annual demand for another 4,000 positions will come from the need to replace retiring laboratory workers. Thus through 2008 the nation's laboratories are expected to require a total of 9,300 new laboratorians each year (Klipp, 2000)."

Although I cite clinical laboratory statistics, similar situations exist for other healthcare professions, including health education. Unless steps are taken to inform students about the allied health professions, their role in healthcare, the enormous potential for employment and advancements, these statistics will get worse (Catterall, 2003).

Increased Remediation and Attrition from Healthcare Programs

A survey conducted by the Office of the Vice President for Planning and Policy at University of Hawai'i, shows that there has been a steady increase in the percentage of alumni on the Mainland, with the number rising 8.3 percent

since 1994. This “brain drain” means those most likely to have a vested interest in working here, to provide professional services for family, friends and community, choose to work elsewhere (Creamer, 2003).

Many secondary students find high school has not prepared them for transition to the rigors of postsecondary education and are placed into remedial English or math classes delaying their entrance into any healthcare program. A recent study of Texas institutions reported that depending on the institution and subject area, 25 percent to 50 percent of those taking remedial courses in any given term fail to complete them (Boylan & Saxon, 1998). Grubb (1998) cited data from the City University of New York (CUNY) system which indicated that only 61.7 percent of students taking remedial courses took the subsequent post-test. This suggested an attrition rate of close to 40 percent in those courses. Unfortunately, the University of Hawai‘i system did not report on remediation and attrition rates in the most recent “Benchmarks/Performance Indicators Report” published June 1998.

The high cost of living in Hawai‘i is an additional burden that may contribute to student attrition. Honolulu was ranked 9th most expensive place to live among 307 urban areas surveyed during the second quarter of 2002 (University of Hawaii Economic Research Organization, 2002). L. Horn and A. Malizio (1998) published a National Center for Education Statistics (NCES) report that examined undergraduates in 1995 to 1996. About 50 percent of undergraduates identified themselves as “students who work” and about 29 percent identified themselves as “employees who study.” The “students who work” reported working an average of 25 hours per week while enrolled, substantially fewer hours than the 39 hours per week reported by “employees who study.” The 2004 medical technology senior class is composed of six postsecondary students. Five out of six medical technology students choose to work part-time for local commercial laboratories. (Teshima, personal communication, September 5, 2003). Ultimately, receiving a paycheck for daily living expenses may take

precedence. What can be done to improve this situation? How can we prepare secondary students for healthcare career choices while faced with some of these challenges?

Health Academy as a New Concept

A quiet movement to establish health occupations and skills learning in the high schools began in 1992 as a single comprehensive course. The course was developed in collaboration between teachers from public high schools and postsecondary educators from healthcare programs at Kapi‘olani Community College and the University of Hawai‘i at Mānoa. Farrington High School established a Health Academy as a “school within a school” (Healthcare Association of Hawai‘i). Students in the Academy entered as sophomores and followed the curriculum as a small learning community. Skills such as reading blood pressure, CPR, and first aid were offered in the curriculum. The intent was to prepare secondary students for employment in some of the entry-level occupations in healthcare.

From 1992 to 1995, the health occupations curriculum from Farrington High School was used as a model to in-service teachers from other schools interested in introducing the same curriculum into their classrooms. Using Tech Prep as well as Perkins and School-to-Work federal funding, curriculum development and secondary teacher professional development workshops were conducted. Tech-Prep provides academic-technical consortia development of contextual curricula in the Career Pathways encompassing the industries and occupations in Hawai‘i. School-to-Work provides the glue of local school/community/business partnerships to initiate and follow through on local school changes and responses to education, economic and workforce needs (Hawai‘i Department of Labor and Industrial Relations, 2002). Carl D. Perkins Act funds programs that provide vocational-technical education to individuals for current or emerging occupations requiring other than a baccalaureate or advanced degree (Office of the State Director for CTE, 2000). On the island of O‘ahu, Pearl City, Waipahu, McKinley, Roosevelt, Campbell, and Nānākuli High Schools initially stepped into the health

occupations curriculum arena and the Tech Prep movement. These schools were later followed by Hilo High School and Konawaena High School on the island of Hawai'i. Although the Farrington High School curriculum had an established course outline and sequence, there was no follow up to determine if high schools that adopted and taught a year-long course on the Health Occupations were doing the same. Left unmonitored, the Health Occupations teachers selected parts of the Farrington curriculum they felt qualified to teach or desirable by their students. Content, resources, and assessment were inconsistent.

After 1995, the Department of Labor and Industrial Relations (DLIR) got involved with the School-to-Work movement. To DLIR, School-to-Work was a way to get students prepared for employment while attending high school. The infusion of resources from DLIR helped to implement a few critical steps that were missing from the earlier Tech Prep efforts at a healthcare curriculum. During this time, the National Healthcare Skill Standards, a set of core standards determined by a National Consortium, was examined closely (NCHSTE, 2002). Previous to this point in time, industry professionals had not actively participated in the validation of the Health Occupations curriculum. In 1995 to 1997, secondary, postsecondary, and industry professionals worked together and scrutinized the national standards. Using the national standards as a reference, the Hawai'i Healthcare Industry and Knowledge Standards were developed. From 1998 to 1999, these same professionals helped to examine health occupations, categorize them into clusters, and organized representative occupations into an occupational framework from entry level (on-the-job training), to technical (two years at a community college), and professional (four years and more at a university). This framework is useful for students, parents, and school counselors since it illustrates the depth and breadth of the health professions and their academic requirements. Individual Career Pathway frameworks can be viewed on the Office of the State Director for Career and Technical Education [website](#) (access link to *Pathways* and then *Pathway Frameworks*).

Enter the Health Services Career Pathway

When School-to-Work funding ended in 2000, Tech Prep returned to introduce a new concept in education reform, the Career Pathway. The intent of Tech Prep funds has always been to promote entry into postsecondary education and ultimately into a vocation. A way to do that is to create a means to provide meaningful and relevant education for high school students in one of six broad career choices; health services, public and human services, natural resources, arts and communication, industrial engineering and technology, and business. Each Career Pathway "connects the dots" between secondary education, postsecondary academic programs, and industry. When performance standards identified as essential by the industry are taught in the classroom, the student becomes engaged and takes ownership since the skills and knowledge will directly contribute to their successful entry into a future career of their choice.

From 1994, the Hawai'i public school system was moving towards standards-based education (State of Hawai'i, Department of Education, 2000). Different categories of academic and personal skills were benchmarked and performance indicators were identified for each age group. These standards drove curriculum development at each public school. The original course taught at the Farrington Health Academy was reviewed and reorganized in 2002 to comply with the Hawai'i Content and Performance Standards (HCPS) II (State of Hawaii DOE, 1999). By doing this "crosswalk," secondary teachers could provide the Health Services Career Pathway curriculum while satisfying the need to hit as many of the HCPS II requirements.

Today, more than 21 high schools across the State of Hawai'i offer the Health Services Career Pathway ([Appendix A](#)). Students of the Health Services Career Pathway benefit from a curriculum that will prepare them for transition into postsecondary education in healthcare, introduce them to performance indicators identified by healthcare professionals, offer skills that can be useful in healthcare and elsewhere, and make them better informed

healthcare consumers. All Career Pathways encourage industry and postsecondary partnerships. The postsecondary partnerships can be as simple as coordinating visits to programs at the community colleges and university or as involved as workshops and enrichment programs for secondary students and their teachers. Industry partnerships can take several forms including, job shadowing, internships, mentorships, or service learning.

The previous pages described some of the problems contributing to the healthcare profession shortage. Development of the Health Services Career Pathway to improve the workforce at the pre-training level (secondary school) was also highlighted. The following pages feature some of the Health Services Career Pathway activities and note how each can promote health education as well as recruit students into health careers.

Activities Generated From Health Services Career Pathway

Work-Based Learning

Career Pathways has developed relationships between secondary and postsecondary institutions and industry to create several skills building programs: job shadowing, internships, mentorships, and service learning programs. These programs provide students with the opportunity to investigate career paths without having to commit to any particular professional preparation program.

Job shadowing has been one of the easiest to accomplish. Students can screen a career choice when they job-shadow a professional. Industry can help by providing opportunities for secondary students to follow employees as they perform their duties. Students can observe the skills used in a typical workday. This often helps the student to reaffirm their choice in health career.

Internships allow secondary students to further develop technical skills, knowledge, and work ethics. Internship activities allow students to perform non-vital supporting activities in the internship site. Although the student may not perform activities that directly contribute to the

operation of an internship site, they will be physically present to observe any activities of interest in the profession while participating in a meaningful way. Internships can offer stipends depending on the employer.

Mentorships are one-to-one relationships. It takes the relationship of the secondary student and the participating professional to another level. Instead of following the professional in their duties, the secondary student utilizes the professional as a consultant in a project. Oftentimes these relationships are useful when putting together science fair projects, applying to postsecondary schools, or scholarships. Sometimes a student seeks mentors to ask advice on career choices or employment opportunities.

Service learning programs develop the partnerships between secondary institutions and industry by allowing the student to participate in community service activities in cooperation with a profession. For example, student participation in the Great American Smokeout or a Blood Bank of Hawai'i donor campaign with other healthcare professionals contributes directly to the community and the profession.

Work-based learning whether job-shadowing, internship, mentorship, or service learning will reinforce the cognitive and affective skills learned in the classroom. Each of these activities demonstrates to the student the health profession's role in healthcare and to their community. Work-based learning assists in matching student aptitude and values with a health career.

Financial Assistance

Healthcare organizations offering partnerships are often looking for the occasional promising student who will become a future employee in an area of personnel shortage. Many are going so far as to underwrite postsecondary education with the student promising to work for the organization when they graduate and become certified. "Support forgiveness" (an agreement between healthcare profession student and future employer) can often help a student realize a goal they originally thought unachievable without financial assistance. (King, 2003). Kapi'olani

Medical Center is discussing such a partnership with the Health Services Career Pathway schools (P. Dias, personal communication, June 5, 2003). Kapi'olani would like to encourage secondary students to select their facilities as internship sites. Students who demonstrate motivation and academic success could find their higher education paid for should they pursue a career in a personnel shortage area.

To further address the workforce shortage, a multidisciplinary council of healthcare leaders will examine the workforce shortage and seek government funding for training of healthcare professionals. Council members include dean of the UH School of Nursing and Dental Hygiene, UH vice dean for academic affairs at the medical school, state Department of Health director or a designated representative, and eight members appointed by the governor. The council will focus on healthcare workforce planning for the state and set policy to assist groups for training the workforce. The council plans to administer a graduate medical education program collaboratively with the Department of Health and special funds for training will be disbursed around the state (Sawada, June 23, 2003).

Industry and government are offering financial assistance to make pursuing a career in healthcare more appealing. Associate, bachelor, and advanced degree professionals are being sought to improve numbers in the healthcare workforce.

Legislature Gets Involved Too

A New UH center supported by Legislative funding addresses the nursing shortage. It seeks answers to several questions. Why aren't people choosing nursing as a career; how do you recruit people into the nursing profession; and what problems make it difficult to retain nurses in the profession? (Sawada, July 28, 2003). Until these questions are answered, no amount of strategic planning will effectively alleviate the nursing shortage in Hawai'i.

The Hawai'i Department of Education, in particular the Career Pathway resource teachers and specialists continually lobby for initiatives that improve access to higher education.

Awareness of Legislative funding will help to identify areas where students can maximize their chances of success in education and employment.

School Health Education Program (SHEP)

SHEP combines community health, health education, role modeling, and recruitment through a partnership of the UH Mānoa, John A. Burns School of Medicine and the State of Hawai'i, Department of Education. Medical students participate in SHEP to fulfill a community service requirement. The traditional approach was to place these medical students into community health centers to perform health education for the underserved.

In 1999, several public school teachers approached UH's medical school for assistance in developing new approaches to teach health education classes. The concept of SHEP was designed and partial funding from Hawaii Medical Service Association (HMSA) was used to implement the program. Medical students, especially if they are alumni of the high school they are placed in, serve as positive role models to the teens. SHEP supplements and supports the health education instruction that secondary students receive from their health teachers. Med student participation in SHEP can be viewed as service-learning but there are practical benefits to both the med student and the high school student. The medical students learn how to communicate with adolescents (which will help them in their future practice as physicians). They also inspire the high school students to consider careers in healthcare. High school students can better relate to the med students and the subjects they teach because they are closer in age (DeSilva, 2003).

High school health education is made engaging when delivered by postsecondary students in health profession programs. The postsecondary students serve as positive role models that encourage secondary students to consider careers in healthcare. Secondary-postsecondary partnerships like this are mutually beneficial.

Health Professions Summer Institute

In an effort to bring many of the “hidden healthcare professions” to light, the Health Services Career Pathway held a Health Professions Summer Institute in 2003. Twenty-five students from public schools were invited to attend three days at University of Hawai‘i at Mānoa and Kapi‘olani Community College for

hands-on activities in six health professions. The six professions featured were medical technology, speech pathology and audiology, medical assisting, radiological technology, respiratory care, and emergency medical service (see Figures 1 and 2).



Figure 1
Medical Technology Lab



Figure 2
Radiological Technology Lab

After a brief lecture and instruction, the high school students could perform activities like urinalysis, pulmonary therapy, positioning of their “patients” (each other) for simulated hand X-rays, and every student got certified in blood pressure reading. At each visit with a healthcare professions program, the students could view the facilities, query faculty about program admission requirements, curriculum, clinical training, and of course the job market climate. Program students, when available served as positive role models. The secondary students could ask what attracted them to the profession, how they felt about the curriculum, how they adjusted to the demands of the program, and other personal questions. Testimonials from health professions program students had more impact on the high school students than any other information session about their program.

At the beginning, the majority of Summer Institute participants indicated a desire to become nurses or doctors. At the end of the three days, most professed that they had no idea there were such exciting options in healthcare. Some indicated they would like to pursue one of the six careers featured in the Summer Institute.

Benefits of Health Services Career Pathway

When high school students entertain the idea of becoming a health professional, how can they discover whether they are suited for a career in healthcare? Health Services Career Pathway can provide numerous and diverse opportunities for secondary students to explore the broad range of health careers practiced in Hawai‘i. The rigorous Pathway standards are what the industry deems as important for entry-level professionals. Aligning the industry-identified performance standards to the Hawai‘i Content and Performance Standards makes the Pathway curriculum relevant to the student’s future career choice and prepares the student for higher education and participation as a productive citizen. The Pathway can serve to validate career choices when students discover they have the attitude and aptitudes necessary to succeed. Students who discover they are uncomfortable with careers in healthcare will still benefit from participating in this Pathway by becoming

Discussions are underway to periodically visit with this cohort of students and follow them as they transition from secondary to postsecondary education. The success of the Health Services Career Pathway and efforts like the Summer Institute can be measured but will take time to bear fruit. The planning group of the Summer Institute is considering expanding the search for funding sources to deliver future Summer Institutes and possibly including more healthcare professions.

Health Professions Summer Institute serves to promote the participating allied health profession programs through the use of contextual learning activities. By performing some of the representative tasks of these professions, the secondary student becomes aware of each profession’s role in healthcare. Academic requirements for admission and contacts for advising from each program are presented so students can prepare for postsecondary transition while in high school. Summer Institute is intended to increase awareness of allied health careers and increase enrollment in the participating health profession programs. responsible and well-informed healthcare consumers.

Benefits of “Growing Your Own”

To counteract the “revolving door” cycle of recruiting professionals unprepared for Hawai‘i’s particular conditions, a movement to “grow your own” is emerging. The concept of “growing your own” refers to identifying community individuals (typically secondary students) who have the mind and heart to become a healthcare professional in their own community. In addition to the right attitude, these students need a support structure to achieve success. A Career Pathway, mentors from the healthcare industry, or meaningful work-based learning can go a long way to developing a healthcare professional. The pathway to success also includes career counseling and financial assistance so an effective connection to postsecondary is essential. For all of this to work, the student must see their value to their community and how they can help. Who would know the needs of the

community better than someone who comes from that community?

AHEC (Area Health Education Center) Hawai'i State Office sends recruitment specialists for this purpose. Visits to rural areas are of particular interest. The partnership between the Health Services Career Pathway and AHEC is vital since manpower is limited and Hawai'i is an island state, travel to "neighbor islands" is cumbersome and expensive. Commuting one-way costs almost \$90. Working with AHEC means reaching out to more rural areas and reaching more students.

Health Education Profession Implications

The health education profession can benefit from the Career Pathway model. Health Services Career Pathway core standards introduce secondary students to knowledge, skills, and attitudes found universally in all healthcare careers. Secondary students acquire the academic foundation to make healthy choices and practice advocacy amongst their peers. This is essential for health education.

Application of health education principles can be seen in the Farrington Health Academy's Project TEACH (Teen Educators Active in Community Health). Teens are empowered to assist other teens in their community to become more informed about health risks so that they can make informed decisions about their own health practices. With grants from the Hawai'i Community Foundation and Learn and Serve America, the students of the Farrington Health Academy-- in collaboration with the Department of Health, Community Health Nursing Division--have written an original script about HIV/AIDS and performed in the original video production of "Shawn's Story." The video has proven to be a powerful learning tool to discuss HIV/AIDS prevention. In the second year of the project, students produced a facilitator's guide to accompany the video and presented educational training sessions to 482 students at Farrington High School and to 349 students from 10 high and two intermediate public schools, and one private high school across the state. Each school has received a video and a guide to assist their peer educators to continue the program in their

own schools and at feeder intermediate schools. It is the intent of this project to service the other high schools throughout the state that have requested the sessions. In developing a core of teen educators in as many intermediate and high schools as possible, the project will be perpetuated (Bowman, 2000).

Building partnerships between secondary, postsecondary, and industry is important to begin developing a pathway that leads to health education as a career choice. In the classroom, health educators can share their academic and work experiences. Outside the classroom, work-based learning can consist of job-shadowing, internships, mentorships, and service learning under the guidance of health education professionals. Postsecondary partnerships are necessary to make sure students are aware of available academic programs that prepare health education professionals.

The Health Services Career Pathway model can be used to bring awareness of the health education profession to more students, to highlight the value of what they do to improve health of individuals and their communities, as well as illustrate career opportunities for health educators.

Summary

The healthcare professions workforce shortage will have negative effects on the quality of healthcare. In some of the disciplines, it is already an acute problem. This problem must be addressed at many levels simultaneously. Recruitment can begin in the secondary level using the Health Services Career Pathway model. Partnering with postsecondary and industry serves to recruit and reinforce career choices in healthcare. Several medical institutions are planning financial assistance through "support forgiveness" or "loan forgiveness" to pay for academic program costs in exchange for agreements to work in personnel shortage areas. Activities to provide secondary students interaction with healthcare professionals through mentorships, internships, and service learning are growing in the State of Hawai'i.

Core standards of the Health Services Career Pathway serves to introduce secondary students to concepts, skills, attitudes, and values found universally in healthcare. These industry-defined standards will prepare secondary students for transition into the workforce at entry-level occupations or to transition into postsecondary health profession programs. Students who choose not to pursue healthcare careers will benefit by becoming well-informed healthcare consumers and advocates for wellness.

“Grow your own” recruitment efforts in rural areas seek to improve the healthcare workforce in medically underserved areas by appealing to the resident student’s sense of family and

community ownership. A partnership with AHEC leverages limited resources and reaches out to more students in rural areas than Health Services Career Pathway can do alone.

Students are motivated when exposed to a comprehensive curriculum that is career centered. Education and training is directly relevant to their career goals. As a consequence, secondary education has more meaning than graduating from high school. It becomes career preparation. When other systems are in place to support their career choice (financial assistance, mentoring, etc.), their path to successfully becoming a healthcare professional is greatly enhanced.

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Sheri attended the University of Hawai'i at Mānoa John A. Burns School of Medicine Division of Medical Technology. She earned her Bachelor of Science in Medical Technology then spent a year in clinical training at the Queen's Medical Center located in downtown Honolulu. She is certified as a Medical Technologist (MT) through the American Society for Clinical Pathology and as a Clinical Laboratory Scientist (CLS) through the National Credentialing Agency. She worked at the Kapi'olani Medical Center for Women and Children for 18 years specializing in hematology and immunohematology. Since 1993, Sheri has been lecturing part-time at the University of Hawai'i in the Division of Medical Technology. She earned her Master in Public Health recently and provides consultation services for the State of Hawai'i Department of Health and Department of Education. Her favorite pastimes include hula and hiking. She keeps active in the national professional organization American Society for Clinical Laboratory Science (ASCLS) and the UH School of Public Health Alumni Association.

Aaron K. Koseki, Ph.D., RRT

Aaron K. Koseki is Associate Professor in Health Sciences at Kapi'olani Community College, University of Hawai'i. Koseki received his Ph.D. in Philosophy (1976) from the University of Wisconsin-Madison and taught at the University of Illinois at Urbana Champaign until 1984. In 1985, he became a practicing, registered Respiratory Therapist. He has served as Technical Director and Administrative Director of Cardiopulmonary and Neurological Services for two medical centers in Illinois, and returned to Hawai'i in 1989 to open the Cardiopulmonary Department of Saint Francis Medical Center – West in Ewa Beach, Hawai'i as its Director. In 1991, he moved to the Health Sciences Department of Kapi'olani Community College to become the Curriculum Coordinator for a Kellogg Foundation Grant on community health. He has been faculty in the Respiratory Care Program since 1992, and has also served as an academic counselor to pre-Health students. In 1992 and in 1995, he was elected as the President of the Hawai'i

Society for Respiratory Care. Koseki has been actively involved with Tech Prep, School-to-Work, and the Health Services Career Pathway for over a decade. In 1999, he was selected as the Outstanding Postsecondary Educator of the Year by the Hawai'i Vocational Association. He currently serves as the Acting Program Director for the Respiratory Care Program.

Ada Toyama

Ada has been a Career and Technical Education Resource Teacher at the Office of Curriculum, Instruction and Student Support since August 1993. She began her state assignment as a Sex Equity Resource Teacher and for the last four years has been working on the development of the Health Services Career Pathway. Prior to that she was a teacher of business education and marketing classes at Castle High School. She is a graduate of the University of Hawai'i with a BBA in Management and post-graduate degree in secondary education. She earned additional undergraduate credits studying Human Relations in Business from the University of Missouri at Kansas City. She is a certified True Colors and GESA trainer. In 1998 she received the Myra P. Sadker Award from the Vocational Education Equity Council, an Affiliate of the American Vocational Association.

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Appendix A
2003 – 2004 Health Services Career Pathway Participating Schools

Hawaiian Island	High School
Hawai‘i (Big Island)	Hilo High School
	Kealakehe High School
	Waiākea High School
Kaua‘i	Kapa‘a High School
	Kaua‘i High School
Maui	Baldwin High School
	Lahainaluna High School
O‘ahu	Campbell High School
	Castle High School
	Farrington High School
	Kahuku High School
	Kailua High School
	McKinley High School
	Mililani High School
	Moanalua High School
	Nānākuli High School
	Pearl City High School
	Roosevelt High School
	Waialua High School
	Wai‘anae High School
	Waipahu High School