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# Table of Contents

Introduction ................................................................................................................1
Current Allied Health Workforce Policy Board Sponsored Initiatives...........2
Current Program Initiatives.....................................................................................3
  Faculty Education ....................................................................................................3
  Student Recruitment and Retention ...............................................................4
  College Readiness ..................................................................................................5
  Career Pathways .....................................................................................................7
  Employer Engagement ..........................................................................................8
Recommendations for Addressing Workforce Shortages..............................11
Conclusion and Next Steps...................................................................................14
Introduction

The Connecticut Allied Health Workforce Policy Board was established in Public Act 04-220 (An Act Concerning Allied Health Workforce Needs) to conduct research and planning activities related to the allied health workforce. PA 04-220 stated that “allied health workforce” and “allied health professionals” means professionals or paraprofessionals who are qualified by special training, education, skills and experience in providing health care, treatment and diagnostic services, under the supervision of or in collaboration with a licensed practitioner, and includes but is not limited to, physician assistants, registered nurses, licensed practical nurses, certified nurse assistants, home health aides, radiological technologists and technicians, medical therapists and other qualified technologists and technicians.

According to the legislation, the responsibilities of this board include:

1. Monitor data and trends in the allied health workforce including but not limited to:
   a. The state’s current and future supply and demand for allied health professionals; and,
   b. The current and future capacity of the state system of higher education to educate and train students pursuing allied health professions.

2. Develop recommendations for the formation and promotion of an economic cluster for allied health professions.

3. Identify recruitment and retention strategies for public and independent institutions of higher education with allied health programs.

4. Develop recommendations for promoting diversity in the allied health workforce including but not limited to racial, ethnic and gender diversity and for enhancing the attractiveness of allied health professions.

5. Develop recommendations regarding financial and other assistance to students enrolled in or considering enrolling in allied health programs offered at public or independent institutions of higher education.

6. Identify recruitment and retention strategies for allied health employers.

7. Develop recommendations about recruiting and utilizing retired nursing faculty members to teach or train students to become licensed practical nurses or registered nurses.

8. Examine nursing programs at public and independent institutions of higher education and develop recommendations about the possibility of streamlining the curricula offered in such programs to facilitate timely program completion.
The Board began meeting in March 2005 and issued its first report to the legislature in February 2006. Throughout its tenure, the Board has met regularly to discuss current initiatives in allied health in the state, gaps in workforce data, issues related to educational programming, and recruitment and retention of the workforce, as well as researching and developing solutions to allied health workforce shortages. This report provides an update on current initiatives as well as recommendations for substantial, sustained and well coordinated efforts to address current and future workforce demands.

Current Allied Health Workforce Policy Board Sponsored Initiatives

In the February 2006 report to the legislature, the Allied Health Workforce Policy Board (AHWPB) outlined three new initiatives which needed to be undertaken. Two of these initiatives were implemented by the Office for Workforce Competitiveness in 2006 and the final initiative has been discussed at length with key policymakers. These three initiatives included:

1. A comprehensive state faculty staffing plan to address workforce shortages in all allied health professions. This faculty staffing plan should be utilized as the guide for future initiatives and resource allocations. The plan is intended to determine the faculty necessary to meet current and projected labor market training needs in all areas, across all public and private institutions and outline the current and needed resources for allied health programs to meet the workforce shortages. This report is in its final draft and will be submitted to the legislature with recommendations for investment of state resources and further study.

2. An assessment of the current clinical placement capacity for all allied health occupations in the state, to assist in tracking and developing worksites for allied health program expansion. This assessment, being conducted by the CT Hospital Association, involves representatives from educational institutions, hospitals, long-term care facilities and community health centers. The report will be completed by July 1, 2007.

3. The completion of the development and implementation of the Department of Public Health’s online allied health workforce data collection system to gather and maintain information concerning licensed individuals working in allied health fields. Resources have been allocated by the Governor in the 2007 state budget to complete this critical project. Concerns remain about the timeliness of the development of this database and the Department’s commitment to its implementation and maintenance.
Current Program Initiatives

Health care workforce shortages reflect the intersection of a set of factors operating within both the health care and educational systems. Addressing these system issues requires a unified approach. The Allied Health Workforce Policy Board serves a key role in convening stakeholders who are conducting a variety of initiatives.

In order to inventory the current initiatives happening throughout the state, the AHWPB held a meeting in July 2006 with a variety of stakeholders to identify current efforts and the challenges faced in successfully addressing allied health workforce issues. The initiatives and their challenges shared at the information session, which are briefly presented below, fell into 5 broad categories: faculty education, student recruitment and retention, college readiness, career pathways and employer engagement.

Faculty Education

The state’s public and private educational institutions have been working diligently over the last several years to address the need for nursing faculty. They have expanded program offerings and promoted graduate education.

- The Community College System is working to establish a common Associate degree nursing program across all 5 institutions that currently provide this training. This effort has involved reviewing course content, prerequisites, student screening and testing.

- The Connecticut State University System and the University of Hartford work to address the faculty shortage issue by expanding options for students to advance from Associate to Bachelor’s to Master’s Degrees in nursing. The University of Hartford has a long standing program at the MSN level in Nursing Education that is well enrolled. Southern CT State University (SCSU) has recently developed a Master’s of Nursing Education Program with online and on-ground delivery to increase the number of Master’s-prepared nurses available to teach in the state’s Associate and Bachelor’s degree programs. SCSU has experienced challenges in attracting students to the Master’s program because of the salary differential between educators and practitioners and the unmet need for incentives such as full scholarships for students.

- To help alleviate the nursing faculty shortage, Southern CT State University (SCSU) and Western CT State University (WCSU) are collaborating to offer nursing education courses online. The first year that these courses were offered online, 9 students from SCSU and WCSU enrolled in the two courses with 16 expected in the 2006-2007 academic year. Faculty from both institutions worked collaboratively to provide students with excellent learning experiences.
Sacred Heart University received a grant from the Connecticut Healthcare and Facilities Authority (CHEFA) that will include direct support to faculty pursuing doctorates, creation of a Nursing Education Certificate that may be acquired by students achieving a MSN in Administration, Family Nurse Practitioner or Clinical Nurse Leader and targeted recruitment of new minority students into both of these programs with some scholarship support and a commitment to participate in nursing education as preceptors or faculty.

The University of Connecticut, School of Nursing recently received a grant from the Department of Higher Education to establish an infrastructure for their certificate program for non-nurse college graduates (MbEIN) which prepares individuals for RN licensure in 11 months. In addition, the School is expanding its MbEIN program to the Stamford area. The School is also establishing a faculty practice plan to recruit qualified nurse practitioners to serve as faculty and as clinicians and a post Master’s certificate program in key clinical areas for enhanced preparation of faculty. Lastly, they are creating a preceptor booklet and workshop for all nurses in practice who serve as preceptors for undergraduate students.

### Student Recruitment and Retention

The ability to recruit and retain students in allied health programs is an issue that affects all educational institutions whether serving youth or adults. The need to increase awareness of the breadth and benefits of allied health careers was raised by stakeholders as a major priority if the state is to increase the allied health workforce pipeline. A number of initiatives are being undertaken to promote interest in allied health careers and success in training programs.

- CT Area Health Education Center (AHEC) has a number of adult student recruitment efforts including their UCONN Urban Service Track which identifies and trains under-represented minority and disadvantaged students interested in caring for CT’s underserved populations; their service learning opportunities and community health worker training which pairs students, volunteers and health care professionals to increase local health and human services capacity and quality; efforts to identify and engage foreign born Spanish speaking health professionals; their medical interpreter training which provides professional training to bilingual health care personnel and training to assist health care providers in giving culturally and linguistically appropriate care to underserved populations, particularly migrant workers. AHEC raised challenges related to the need for financial aid for students in these programs, resources to continue and expand current programming, stipends to support volunteers and dedicated supervisors for clinical experiences.
• AHEC offers youth a number of opportunities including the Youth Health Service Corps that provides training and promotes volunteer service for those interested in careers in health care. They provide increased science awareness and achievement for disadvantaged elementary and middle school students through their Hands-On Science Outreach initiative and health careers exploration efforts. Several programs provide culturally and linguistically appropriate education and career exploration for middle and high school minority students and promote awareness opportunities and mentorship for those interested in health careers. In addition, AHEC offers a Summer Medical Camp for high school students, Health Career Clubs focused on health career exploration for high school students, produces a Health Careers Chronicle and the HOT Careers Guide that provide information on health care careers. Barriers to program implementation include steady funding, recruitment of adult leaders, particularly minorities, and dedicated project staff.

• The Workforce Alliance is working to improve outcomes for those entering the health care workforce by institutionalizing services in their One Stop Career Center including client assessment through the Health Occupations Basic Entrance Test (HOBET), academic, career and financial aid assistance and referrals to education programs that meet their needs. This effort, including the administration of the HOBET test to all interested in health care careers, will be replicated statewide through the Community College System’s US DOL grants.

• The University of Connecticut School of Nursing recently received a grant from the Department of Higher Education to establish learning communities in Waterbury and New London to attract elementary and middle school disadvantaged and underserved children to a nursing career.

**College Readiness**

The issue of students’ readiness for college has been raised repeatedly by members of the Allied Health Workforce Policy Board and other stakeholders. Students entering higher education often come with inadequate foundational skills in reading and math to allow their successful transition to college credit level courses. In addition, community college students often work full-time and can only manage part-time coursework which lengthens the time to degree. A number of initiatives are underway to address the transition to college for individuals with educational skill deficits.

• The CT Community College System has received two grants from the US DOL in the last year targeted to allied health careers. The first grant is working to produce a higher rate and number of graduates in nursing and allied health by increasing instructional supports, enhancing curriculum, targeting and enhancing academic and career counseling and improving
the academic readiness of the students entering the allied health pipeline. The second grant will serve students entering higher education through developmental or non-credit programs to bridge the transition successfully into advanced degree and certificate programs. The System has also initiated an Achieve the Dream Project to address the significant attrition of students during developmental courses. The System raised a number of challenges to the successful implementation of these initiatives including the need for financial and social supports for developmental students, insufficient faculty to increase student enrollment and the lack of comprehensive information on career pathways.

- Capitol Workforce Partners is leading the Bridges to Health Care Careers Program funded through the Career Ladder Initiative. Through a collaboration of several agency partners (Capital Workforce Partners, Capitol Community College, Capitol Region Education Council and 1199 Training and Upgrading Fund), the Bridges to Health Care Careers Program has been piloted at Capitol Community College as a developmental education model to assist entry level health care workers to transition to credit bearing college courses leading to allied health or nursing career programs. With the support of a dedicated case manager, students are provided intensive counseling, academic tutoring, and financial assistance for the developmental coursework. The initiative requires continued funding to provide these intensive supports for additional students, as well as the identification of preferred slots for those students who have successfully completed the program to enroll in health career courses, even though many of these programs are at capacity.

- 1199 Training & Upgrading Fund provides tuition, counseling and academic support for those interested in getting their high school diplomas or pursuing post graduate education. Staff has noted balancing work and family is a major challenge for participants despite their high level of motivation for pursuing their education. The Fund offers critical financial resources for entry level union members interested in personal and professional advancement. They need programs that understand these challenges and include academic supports that help them address their foundational and knowledge skill deficits.

- CT Career Choices Program engages students in health care careers through a healthcare curriculum and extracurricular activities. Built on national education standards, this curriculum is intended to provide strong foundational and technical skills to students interested in allied health careers. The program is currently piloted in a select number of high schools in the state but bringing the program to scale is challenging.

- The State Department of Education has three student readiness programs: Developing Tomorrow’s Professionals and Medical Careers Education which provide academic instruction, workplace learning, and mentoring
opportunities to prepare students for health care careers and the Project Lead the Way Biomedical Sciences Program which implements a national four year sequence of biomedical sciences courses to prepare students for post-secondary education and health care careers. The programs are challenged by the retention of students and mentors and the need for sustainable funds.

- The Workplace Inc. provides training to youth to attain certification as either an emergency medical technician or nurse aide. Recruiting and retaining students with multiple barriers has proven difficult.

- The Community College System developed two accelerated learning pilot projects to offer intensive summer programs for developmental education students to improve skills necessary for college level allied health programs. After a successful first effort, the System anticipates replicating this project again this year.

- Goodwin College has initiated a comprehensive developmental education program to assist underserved and under-prepared students to enter allied health programs offering tutoring, mentoring and career exploration.

**Career Pathways**

One of the difficulties encountered in allied health fields is the lack of clear career pathways between entry level and higher level occupations. Course work and experience in one field is often distinct from others which makes it difficult to move seamlessly from one career to another. A variety of initiatives are taking place in the state to streamline educational programs and to offer advanced training for current employees.

- Charter Oak State College, working with the CT Community College System and the CT League for Nursing, is helping individuals transition from licensed practical nurse to registered nurse through a bridge course. In addition, they offer a series of refresher courses for licensed practical nurses, registered nurses and pharmacists to bring them back into the field. Through a grant from the Career Ladder Initiative, Charter Oak developed an online perioperative nursing course to provide registered nurses with additional training. Challenges encountered by Charter Oak include the lack of financial aid for those taking refresher courses and the need for clinical sites to complete training.

- The Workplace, Inc. offers occupational skills training and case management to those interested in career advancement through their Academy for Career Advancement and their Career Coach, mobile One Stop Career Center. In particular, they are serving long term care employers by providing workers with language skills training. The challenge has been building employer relationships and meeting the support needs of workers.
• The Office for Workforce Competitiveness is working with the CT Technical High School System and the CT Community College System to provide high school students with a planned, non-duplicative seamless program leading to an Associate Degree or certificate in an allied health career. The challenges to the project’s completion have been the access to faculty for curriculum development work in both systems, outlining articulation agreements across the systems and ensuring professional development for instructors related to the new curriculum.

• The dual enrollment initiative, spearheaded by the Community College System allows high school students to take credit courses in math, science and technology in their senior year at the state’s community colleges. As part of the Achieve the Dream effort, transfer agreements are being established between the CT Technical High School System, the Community College System, the State University System and University of Connecticut.

• Western CT State University (WCSU) has developed a partnership with Naugatuck Valley Community College and the University of Connecticut to establish a nursing career ladder agreement. Students can begin with their Associate degree and transition to Western and UCONN to pursue their Bachelor’s and Master’s degrees in nursing. Western also has an articulation with Goodwin College to allow their Associate degree nurses to pursue their Bachelor’s degree at WCSU and Southern CT State University has a similar relationship with the Nursing program at Gateway Community College.

Employer Engagement

It is clear that employers are key partners in addressing the state’s allied health workforce shortages. Hospitals and long term care facilities have been actively engaged in addressing the educational needs of their current employees. The challenge is to build on these pilots and engage a broader range of employer partners in the effort to enhance the workforce pipeline.

• 1199 Training and Upgrading Fund is working with national consultants to engage employers in improving the culture of their workplaces to utilize and enhance the skills of their entry level employees. Efforts have focused on relationship building to change the decision making process and the opportunity for career and personal advancement. English language classes are offered to employees of St. Camillus Home in Stamford with assistance from The Workplace, Inc. and Norwalk Community College. Sustainability of these efforts over the long term requires the ongoing commitment of the employer and technical assistance by the national consultants.

• Capital Workforce Partners has developed healthcare focused partnerships with the Capitol Region Education Council, Vernon Adult Education, 1199 Training &
Upgrading Fund, long term care associations, and community colleges in the region. The purpose is to engage long term care employers in establishing educational plans from a menu of services they have identified with their front line employees to better prepare them for higher level career opportunities. The goal is to deliver onsite adult basic education programs for those employees interested in advanced careers in the health professions. A long term commitment to the educational process is needed by both staff and administration.

- Capital Workforce Partners and The Workforce Alliance are also supporting partnerships with local hospitals who are administering the online School At Work (SAW) program onsite to enhance developmental academic, communication, and personal management skills for entry level employees. The hospital contributes a staff coach for the student employees, as well as financial resources, space and computers to sustain the program.

- The Eastern CT Workforce Investment Board provides alternative learning opportunities for healthcare workers and their employers to access skill upgrades though 2500 online learning courses. Challenges include the ability to link the online learning to the clinical component and offer credit for course work.

- The Northwestern Regional Workforce Investment Board partnered with regional health care providers and businesses to provide entry level workers with career ladder opportunities to move into higher-paying, higher skilled positions with their employers.

- Goodwin College has a number of employer partnerships in place that are helping them address key workforce shortages. They are partnering with St. Francis Hospital which offers release time to their full-time Master’s prepared nursing staff to act as preceptors during Goodwin’s nursing program clinical rotations. They are working with the Eastern CT Health Network (ECHN) to address staffing shortages in their hospitals and doctors’ offices by creating programs that will allow certified nurse aides and other entry level employees to pursue educational opportunities. Working with Hartford Hospital, they are offering a Respiratory Care program where the hospital’s employees are student preceptors for the evening and weekend clinical rotations. And lastly, they are working with Jefferson Radiology to create programs specifically designed to upgrade the skills and competencies of their employees.

- Southern CT State University (SCSU) has developed partnerships with a variety of area healthcare agencies. For the past several years, they have collaborated with Midstate Medical Center in Meriden, Leeway House in New Haven, and the Orange Visiting Nurses Association. Each of these agencies has provided SCSU with a qualified, Master’s prepared registered nurse who supervises a group of BSN students in their clinical agency. The agency agrees to “release” the master’s prepared clinician from their regular duties while they are supervising students and SCSU pays the institution directly for these services. This has resulted in a win-win situation for SCSU and the healthcare agency in that
students are supervised by master clinicians who know the agency well and can provide expert teaching and mentorship and the agency has the opportunity to have nursing students whom they can eventually recruit into registered nurse positions.

- Western CT State University (WCSU) has a partnership with Danbury Hospital that allows a Master’s prepared nurse on staff at the hospital to serve as a Visiting Assistant Professor in the Department of Nursing at WCSU. This partnership has allowed Western to admit 10 additional students to the BSN program annually.
Recommendations for Addressing Workforce Shortages

The State of Connecticut must produce sufficient numbers of allied health workers if it is to have a functional health care infrastructure within its borders. As can be seen from the previous discussion, a broad group of stakeholders, both public and private, must be engaged to address labor market shortages. Given these needs, the Allied Health Workforce Policy Board recommends the following initiatives and investments. These recommendations will benefit from a collaborative approach including the institutions of higher education that can provide valuable experience and expertise in any analysis of the current educational delivery system, its capacity for growth, and the resources required for sustainability.

Data Collection and Analysis

The Allied Health Workforce Policy Board has determined that one of the most critical issues facing the state is the lack of reliable and systematic data on allied health workforce supply and demand. Without this information, our planning efforts are hampered and the state’s educational infrastructure is producing graduates without a clear picture as to demand.

The completion of the development and implementation of the Department of Public Health’s online allied health workforce data collection system of all licensed individuals working in allied health fields is critical to the state’s workforce planning. However, beyond the database, we must continue to collect and analyze data particularly as it relates to the state’s investment in workforce initiatives. Dedicated resources and sustained research and analysis are needed in order to determine the effectiveness of these interventions and possible opportunities for replication. Addressing the state’s health care workforce demand requires both short and long term strategies and ongoing evaluation of these efforts is critical to our success.

Faculty Shortages

The Allied Health and Nursing Faculty Plan Report confirms that faculty shortages exist in a number of Connecticut's degree programs. Nearly every program within nursing and allied health is vulnerable to the current, or anticipated, faculty shortage problem. Where sufficient faculty exists, it is recognized that securing replacements will be difficult. It is therefore in the best interests of the State to create a proactive plan to develop instructor talent. The Scholarship-for-Service model has been used successfully in government and the armed forces to produce employees for areas of need. Connecticut should invest in such a program beginning this legislative session with an allocation of $1,500,000 for each of the next ten years. Since it will take 2-7 years to move faculty to the Master’s and/or Ph.D. level, it is imperative that faculty development efforts be initiated as soon as possible and sustained for the next ten years in order to ensure the needed graduates from the state’s two and four year institutions. Resources should be focused on replenishing faculty from unique programs, from programs producing insufficient graduates for labor demand, and
from those programs where finding qualified faculty was an issue should be targeted for any faculty replenishment programs. In addition, the state must identify ways to better recruit and retain nursing and allied health faculty members, such as competitive salaries, loan rebate programs, employer paid sabbaticals, job sharing, etc.

**Student Support Services and Academic Remediation**

Many applicants to allied health certificate and degree programs lack fundamental skills in literacy, math, science and English. In order to pursue allied health careers, many will be forced to take remedial/developmental courses, often taking more than two years of course work, before being accepted into an academic degree program. Recapturing students who would be otherwise lost to programs because of academic failures will add to the graduation rates without having to incur additional teaching faculty or facilities costs. Sufficient studies have shown that embedded tutoring and academic counseling services directly impact student program completion. However, many programs have no funding for program-specific student services, and since pilot programs have already generated positive outcomes, it is recommended that $1,000,000 in funding be made available for targeted student assistance in selected nursing and allied health programs.

Addressing these issues should be a collaborative effort involving the institutions that have experience in the areas, who are involved in the national retention initiatives, and who can best help identify best practices, their potential for replication and the resources necessary to support and improve student success. In addition to investments in college student support services, the legislature should support high school reform that increases the requirements for math, science and English that better prepare individuals for the transition to higher education and fully fund the state’s public and private college financial aid pools.

**Limited Understanding of Allied Health Careers and Competition with Other Careers**

Connecticut has a need for well-trained allied health professionals. While many career programs exist within the State, some of those programs and careers go virtually unnoticed by youth and adults. A statewide awareness campaign designed with input from all stakeholders, including AHEC, the Nursing Career Center, One Stop Career Centers and the state’s secondary and post-secondary institutions is recommended. This campaign should include general marketing of allied health careers, training for teachers and guidance counselors, and information for parents and students, particularly minority students, on career opportunities and the location of, and educational requirements for allied health programs. Since many of the programs report their students as being older adults, any marketing campaigns should target that demographic, particularly those currently in entry level health care jobs. A budget allocation of $350,000 for each of the next two years is recommended to start this effort.
Disjointed Career Ladders and Limited Articulation

For most allied health occupations, true career ladders do not exist. This discourages skill enhancement because of limited wage gains and limited credit transferability. Often past experience in the field does not translate into credit toward a degree, and students find themselves starting at the beginning of each educational program. In addition, there are few educational stops along the career path that result in wage gains since often employees cannot perform new functions until that educational program is completed and licensure is obtained, if needed. This proves to be a disincentive to pursuing jobs in allied health. It is recommended that the Office for Workforce Competitiveness be allocated $200,000 through the Career Ladder Initiative to continue its work with the state’s public and private institutions of higher education and Regional Workforce Investment Boards to standardize entry level health care and child care training statewide and develop or strengthen articulation agreements that link different levels of training and education, such as credential and associate level training with bachelors and graduate degree programs, so that individuals can progress seamlessly up their chosen career ladder.
Conclusion and Next Steps

There are a number of exciting initiatives happening in Connecticut and a variety of dedicated individuals and institutions working to address shortages in the health care fields. The work of the Allied Health Workforce Policy Board has pointed to the need for dedicated funding for data collection and analysis in order to monitor the effectiveness of these efforts. This long term effort requires sustained work and funding in order to be successful. Armed with better data and stronger coordination and collaboration across educational partners and the support of the legislature and state agencies, the Allied Health Workforce Policy Board will continue its efforts to monitor the state’s needs and promote efforts to expand our allied health workforce pipeline.