Policy Brief

Connecticut’s Healthcare Workforce: Under Construction

Briefing Paper

Sustinet Healthcare Workforce Taskforce

May 13, 2010

FINAL
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“The source of America’s prosperity, then, has never been merely how ably we accumulate wealth, but how well we educate our people. This has never been more true than it is today. In a 21st century world where jobs can be shipped wherever there’s an internet connection; where a child born in Dallas is competing with children in Delhi; where your best job qualification is not what you do, but what you know – education is no longer just a pathway to opportunity and success, it is a prerequisite.”


Introduction

The purpose of the United States health care system is to reduce continually the burden of illness, injury, and disability, and to improve the health status and functioning of the people of the United States. The health care and public health sector are part of the Nations’ critical infrastructure that consists of the assets, systems, and networks, whether physical or virtual, so vital to the United States that their incapacitation or destruction would have a debilitating effect on security, national economic security, public health or safety, or any combination thereof.

The health care industry also serves as an important economic engine for the state. In 2006, the healthcare industry employed some 228,000 persons in the Connecticut, or 12.7 percent of the total jobs statewide (1,789,910). Between 2006 and 2016, the Connecticut Department of Labor projects the healthcare sector will generate 39,540 new jobs, an increase of 17.3 percent.

A sustainable healthcare workforce is essential to providing quality healthcare services and it is in the public’s interest to assure that there is an adequate supply and distribution of culturally competent health care practitioners to meet the needs of the population. A number of efforts have been undertaken to address persistent healthcare workforce shortages in Connecticut.

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The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition.

(World Health Organization Constitution)
Most recently, the Connecticut General Assembly established a new entity, the Sustinet Board of Directors, in 2009 Legislative Session. The board is charged with creating a plan that will improve the health of state residents, improve the quality of healthcare and access to healthcare, provide health insurance coverage to Connecticut residents who would otherwise be uninsured, increase the range of health insurance coverage options to residents and employers, and slow the growth of per capita health care spending both in the short term and in the long term. The legislation also created three task forces and four advisory committees to provide guidance to the Sustinet Board of Directors in a number of areas. The Sustinet Healthcare Work Force Task Force, one of three task forces, is charged with developing a comprehensive plan for preventing and remedying state-wide, regional and local shortage of necessary medical personnel, including, physicians, nurses and allied health professionals by July 1, 2010. For purposes of this briefing paper and as part of Task Force deliberations, health care workforce includes community health workers, behavioral health professionals, EMS workforce and public health workers.  

**Connecticut Statewide Employment by Industry**

**Employment Distribution**

November 2009


The intent of this report is to identify Connecticut’s health care workforce issues that should be addressed in the Sustinet Healthcare Workforce Taskforce July 2010 plan:

- What entities have a role in health care workforce development?
- What efforts are currently underway that will have an impact
- What are the factors that inhibit growth of Connecticut’s healthcare workforce?
- What best practices could Connecticut replicate to ensure an adequate supply of health care workers, particularly sectors that focus on primary care and prevention?

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4 This definition is utilized in the Patient Protection and Affordable Care Act, Sec. 5101. ASTHO, 2010. Summary of Public Health Workforce Provisions in the Patient Protection and Affordable Care Act.
The size and characteristics of the future health workforce are determined by the complex interaction of the health care operating environment, economic factors, technology, regulatory and legislative actions, epidemiological factors, the health care education system and demographics.5

Economic factors

The downturn in the U.S. economy that started in March 2008 has led to a temporary easing of the nursing and allied healthcare workforce shortage in some parts of the country.6 In some areas, hospitals have seen a drop in elective surgeries. Potential patients are either delaying procedures or not seeking care due to the loss of insurance and the high cost of health care.7 Health care workers are delaying retirement or returning to the workforce after retirement due to a spouse’s loss of employment, working extra shifts, or increasing the number of hours worked to become full time employees.8

Experts warn that the health care workforce shortage is far from over.9 As the economy begins to recover, demand for health care services will likely re-emerge as more individuals gain access to either employer sponsored or publicly funded health insurance and have more disposable income available to spend on health care.

Demographics

The aging of Connecticut’s population will have profound implications for the future healthcare workforce. Between 2000 and 2030, the population 65 years of age and over is expected to increase 69 percent. An aging population will place greater demands on the health care system at the same time that many health professionals will be retiring.10 Also, as the population ages, there will be a continuing shift in the type and setting of health care services provided.11

Between 2000 and 2006, Connecticut’s population grew by only 2.9 percent.12 During this same time period Connecticut’s population 25 to 34 years of age decreased 9.6 percent or by 43,459 persons. Only one state, Massachusetts lost a higher percentage of the young adult population during this time frame. Connecticut’s population is becoming more racially and ethnically diverse. Concerns that minorities are underrepresented in the health workforce have both equity implications for people who need health care services and efficiency implications for the health care system.

7 Ibid.
8 Ibid.
9 Ibid.
11 Ibid
As minorities constitute a larger proportion of persons entering the workforce, the U.S. population will increasingly rely on minority health workers for their care.\textsuperscript{13}

Connecticut has a growing immigrant population. Individuals who are leaving the state are being replaced with immigrants from other countries. Immigrants of all skill levels can help to fill gaps in the health care workforce, but many require customized training and case management-style support. According to the Census Bureau, 12.9 percent of Connecticut’s population is foreign born.\textsuperscript{14} Nationally, 12.5 percent of the population is foreign born.

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline
\textbf{AGE} & \textbf{2000} & & & \textbf{2030} & & \\
 & \textbf{Number} & \textbf{Number} & \textbf{Change 2000-2030} & \textbf{Number} & \textbf{Number} & \textbf{Number} & \textbf{Percent} \\
 & \textbf{\% of} & \textbf{\% of} & & \textbf{\% of} & \textbf{\% of} & \textbf{\% of} & \\
\hline
\textbf{65+} & 470,183 & 13.8 & 794,405 & 21.5 & 324,222 & +69.0 & \\
\hline
\textbf{45-64} & 789,420 & 23.2 & 852,893 & 23.1 & 63,473 & +8.0 & \\
\hline
\textbf{25-44} & 1,032,689 & 30.3 & 935,506 & 25.4 & -97,183 & -9.4 & \\
\hline
\textbf{18-24} & 271,585 & 8.0 & 282,390 & 7.7 & 10,805 & 4.0 & \\
\hline
\textbf{Under 18} & 841,688 & 24.7 & 823,436 & 22.3 & -18,252 & -2.2 & \\
\hline
\end{tabular}
\caption{Connecticut Population 2000-2030}
\end{table}

\textsuperscript{13} Ibid.
A Connecticut Legislative and Program Review and Investigation Committee study found the need for adult basic services and English as a Second Language (ESL) services far exceeds the current program capacity. Based upon U.S. census data 12.1 percent of Connecticut’s population, or 324,349 persons, 18 years age and over do not have a high school diploma, an essential credential to gain access to post secondary training. Approximately 8 percent of Connecticut’s population or 260,916 people over 5 years of age and over speak English “less than well”. An individual’s language proficiency will impact their integration into the workforce.

Legislative and regulatory actions and healthcare operating environment

Federal and state legislation also have an impact on the health care workforce by determining scope of practice for various health care professions, licensing and sanctioning of health care practitioners, and developing standards and approval of health care practitioner educational/training programs to name a few.

The table below summarizes the roles and responsibilities of various entities that are involved in Connecticut’s healthcare workforce development system and are indicative of Connecticut’s long standing public policy interest in healthcare education, safety, practitioner competency and availability of health care services.

### Connecticut Healthcare Workforce Development Entities and Stakeholders

<table>
<thead>
<tr>
<th>Entity</th>
<th>Membership</th>
<th>Role</th>
<th>Website</th>
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<tbody>
<tr>
<td>CT Career Ladder Advisory Committee</td>
<td>13 members: OWC director, commissioners of SDE, DHE, DPH, DOL (or designees), 9 public members with expertise in early childhood education, health care, labor market analysis, health care employees, early childhood education employment, and 3 members with workforce development expertise</td>
<td>The Committee was charged with developing a three-year plan for the creation or enhancement of career ladder programs for occupations with projected workforce shortages for the next five years and to report to committees of the General Assembly having cognizance of matter related to higher education and employment advancement.</td>
<td><a href="http://www.ctwealf.org/resources/publications">http://www.ctwealf.org/resources/publications</a></td>
</tr>
<tr>
<td>Area Health Education Centers</td>
<td>Affiliated with the University of Connecticut</td>
<td>Their mission is to enhance access to quality health care, particularly primary and preventive care, by improving the supply and distribution of health care professionals through facilitating community/academic educational partnerships.</td>
<td><a href="http://ctahec.uchc.edu/">http://ctahec.uchc.edu/</a></td>
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</tbody>
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15 Program Review and Investigations Committee, Coordination of Adult Literacy Programs-Findings and Recommendations, December 14, 2006.
<table>
<thead>
<tr>
<th>CT Allied Health Workforce Policy Board</th>
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<tr>
<td>13 members:</td>
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<tr>
<td>• OWC director</td>
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<tr>
<td>• commissioners of DPH, SDE, DHE (or designees)</td>
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<tr>
<td>• chairs and ranking members of Public Health, and Higher Education and Employment Advancement Committees (or designees)</td>
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<tr>
<td>• a member of the State Board of Examiners for Nursing</td>
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<tr>
<td>• Connecticut Conference of Independent Colleges</td>
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<tr>
<td>• Various recognized experts in field of allied health, finance, economics or health facility management appointed by the leaders of the General Assembly.</td>
</tr>
</tbody>
</table>

| Purpose is to conduct research and planning activities related to the allied health workforce: |
| 1. Monitoring 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. Developing recommendations for the formation and promotion of an economic cluster for allied health professions. |
| 3. Identifying recruitment and retention strategies for public and independent institutions of higher education with allied health programs. |
| 4. Developing 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. Developing 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. Identifying recruitment and retention strategies for allied health employers. |
| 7. Developing recommendations about recruiting and utilizing retired nursing faculty members to teach or train students to become licensed practical nurses or registered nurses. |
| 8. Examining nursing programs at public and independent institutions of higher education and developing recommendations about the possibility of streamlining the curricula offered in such programs to facilitate timely program completion. |

<table>
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<th>Connecticut Employment and Training Commission</th>
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<tr>
<td>24 members with the majority of its membership from business and industry, and the remainder representing state and local government, organized labor, education, and community based organizations. Transferred to OWC effective July 1, 2000.</td>
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<table>
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<tr>
<th>The Connecticut Commission for the Advancement of 21st Century Skills and Careers</th>
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<tr>
<td>The order requires the Commissioners of Education and Higher Education to co-chair and shall appoint others to the Commission, including the Executive Director of the Office for Workforce Competitiveness and the Commissioners of Economic and Community Development and Labor.</td>
</tr>
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</table>

| Purpose is to develop strategies and make recommendations to the Governor to ensure that Connecticut's workforce possesses the skills necessary to succeed and prosper in the 21st century workplace; to advance innovation through research and development, product development and new venture development; to enrich existing talent by retraining existing workers for occupations experiencing skill shortages and providing structured 21st century career pathways; and to promote the development of training programs for green collar jobs. |

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<tr>
<th>Connecticut Department of Labor</th>
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<tr>
<td>State agency</td>
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</table>

| The Department is committed to protecting and promoting the interests of Connecticut workers. In order to accomplish this in an ever-changing environment, we assist workers and employers to become competitive in the global economy. We take a comprehensive approach to meeting the needs of workers and employers, and the other agencies that serve them. We ensure the supply of high-quality integrated services that serve the needs of our customers. |

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<thead>
<tr>
<th><a href="http://www.cwefal.org/resou">http://www.cwefal.org/resou</a> rces/publica tions</th>
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<tr>
<td><a href="http://www.ctdol.state.ct.us/rwdb/cetc.htm">http://www.ctdol.state.ct.us/rwdb/cetc.htm</a></td>
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<td><a href="http://www.ctdhe.org/p20/">http://www.ctdhe.org/p20/</a></td>
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<td><a href="http://www.ctdol.state.ct.us/gendocs/ab">http://www.ctdol.state.ct.us/gendocs/ab</a> out.html</td>
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<tr>
<td>The Connecticut Career Resource Network (CCRN)</td>
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<td>-----------------------------------------------</td>
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<tr>
<td>Connecticut Employment and Training Commission (CETC)</td>
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<tr>
<td>The Office for Workforce Competitiveness (OWC)</td>
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</table>
| Workforce Investment Boards (formally called Regional Workforce Development Boards) | Connecticut created Workforce Development Boards in 1992. Membership includes representatives of community-based organizations, state and local organized labor, state and municipal government, human service agencies, economic development agencies, community-technical colleges and other educational institutions, including secondary and post-secondary institutions and regional vocational technical schools. | Boards administer employment and training activities at the local level in five regions of the state, working in partnership with local elected officials. Under the Workforce Investment Act, Boards are given increased authority for oversight, strategic planning, and policy-making at the local level (in continuing close collaboration with local elected officials). 
- Capital Workforce Partners
- Workforce Alliance
- The Workplace, Inc.
- Eastern CT Workforce Investment Board
- Northwest Regional Workforce Investment Board, Inc | http://www.ctdol.state.ct.us/rwdb/workforce.htm |
| Connecticut State Board of Education | Consists of eleven members appointed by the Governor with the advice and consent of the General Assembly | Responsible for "... general supervision and control of the educational interests of the state, which interests shall include preschool, elementary and secondary education, special education, vocational education and adult education..." The Board establishes education policy, prepares legislative proposals, sets academic standards for teachers and students, administers a $2.109 billion annual general fund budget and | http://www.sde.ct.gov/sde/cwp/view.asp?a=2663&q=322228 |

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<table>
<thead>
<tr>
<th>Agency</th>
<th>Type</th>
<th>Description</th>
<th>Website</th>
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<tbody>
<tr>
<td>Connecticut State Department of Education</td>
<td>State agency</td>
<td>Provides leadership and support services to Connecticut’s 149 local and 17 regional school districts. It also serves as the board of education for the 17 regional technical high schools.</td>
<td><a href="http://www.sde.ct.gov/sde/site/default.asp">Link</a></td>
</tr>
<tr>
<td>The Board of Governors for Higher Education</td>
<td>11 members, seven are appointed by the Governor, and four by legislative leadership</td>
<td>It is the statewide coordinating and planning authority for Connecticut’s public and independent colleges and universities. Created in 1983 by the Governor and General Assembly, the Board of Governors is charged by statute to: - Maintain standards of quality - Assure the fullest possible use of available resources - Promote responsiveness to economic, societal and student needs - Apply higher education’s resources to the problems of society - Offer learning and training opportunities keyed to the state’s development - Protect academic freedom - Ensure educational opportunity</td>
<td><a href="http://www.ctdhe.org/BOG/bogmission.htm">Link</a></td>
</tr>
<tr>
<td>Advisory Council on Student Transfer and Articulation</td>
<td>The statutes require the higher education commissioner, in consultation with the Higher Education Coordinating Council, to establish an ACSTA. ACSTA is made up of the chief academic officers of each constituent unit, teaching faculty, institutional transfer coordinators, and students of the public colleges and universities, as well as two representatives of independent colleges and universities who serve as nonvoting ex-officio members. The commissioner convenes and chairs the council.</td>
<td>Required to develop a plan for coordinating the creation of articulation agreements in specific areas among public institutions of secondary and higher education, and report its progress to the General Assembly. Articulation agreements are written arrangements among educational institutions to ensure students a successful transition between them.</td>
<td><a href="http://www.ct.gov/2001/SUM/2001SUN00165-R00S8-01366-sum.htm">Link</a></td>
</tr>
<tr>
<td>Connecticut Department of Higher Education</td>
<td>State agency</td>
<td>Under the Board’s leadership, the Department of Higher Education carries out Board policy, administers statewide student financial aid programs, oversees private occupational schools and conducts research and analysis on issues important to legislators and the public.</td>
<td><a href="http://www.ctdhe.org/BOG/dheOverview.htm">Link</a></td>
</tr>
<tr>
<td>Office of Health Care Access (OHCA)</td>
<td>State agency</td>
<td>The mission of the OHCA is to ensure that the citizens of Connecticut have access to a quality health care delivery system. The Agency will fulfill its mission by advising policy makers of health care issues; informing the public and the industry of statewide and national trends; and designing and directing health care system development.</td>
<td><a href="http://www.ct.gov/ohca/site/default.asp">Link</a></td>
</tr>
</tbody>
</table>
| Connecticut Department of Public Health | State agency | To protect and improve the health and safety of the people of Connecticut by:  
- Assuring the conditions in which people can be healthy;  
- Promoting physical and mental health, and  
- Preventing disease, injury, and disability.  
DPH has several programs that address health workforce development: 1) regulates access to the health care professions and provides regulatory oversight of health care facilities and services thereby ensuring competent and capable health care service providers; 2) implementing state licensure and federal certification programs; 3) investigate and take disciplinary action against providers, which are in violation of the law or otherwise pose a risk to public health and safety; 4) Working with stakeholders to develop health workforce policy and address shortages; 5) promote diversity and cultural competence; 6) HPSA/MUA designations; 7) implement National Health Service Corp program and 8) assists international medical graduates to practice in shortage areas through the J-1 Visa Program; 9) CT Nurse Aide Registry; and 10) Physician Profile Program | http://www.ct.gov/dph/cwp/view.asp?a=3115&q=387178&dphNav_GID=1601 |
| State Board of Chiropractic Examiners | Consists of seven members, four must be practicing chiropractors and CT residents and must have practiced chiropractic continuously in this state for at least three years, and three public members. The governor shall appoint a chairman from among the members of the board. | Said board shall (1) hear and decide matters concerning suspension or revocation of licensure (2) adjudicate complaints against practitioners and (3) impose sanctions where appropriate. Annually files, a list of accredited chiropractic colleges or institutions approved by said board with the consent of the commissioner of public health. No person shall receive a license until he has passed an examination prescribed by the department of public health, with the advice and consent of the Board of Chiropractic Examiners. | http://www.ct.gov/dph/cwp/view.asp?a=3143&q=38880&dphNav_GID=1830 |
| Connecticut State Dental Commission | Consists of nine appointed members, six must be practitioners in dentistry residing in CT who are in good standing in their profession and three public members. | The Commissioner of Public Health, with advice and assistance from the Dental Commission, may issue regulations to implement the provisions of this chapter, and to insure proper dental care and the protection of public health, considering the convenience and welfare of the patient, methods recommended by the canon of ethics of the Connecticut State Dental Association and the American Dental Association and accepted health standards as Said commission shall (1) hear and decide matters concerning suspension or revocation of licensure, (2) adjudicate complaints filed against practitioners and (3) impose sanctions where appropriate. | http://www.ct.gov/dph/cwp/view.asp?a=3143&q=38884&dphNav_GID=1830 |
| Board of Examiners of Embalmers and Funeral Directors | Consists of five members, who are CT residents, three of whom shall be practical arterial embalmers, actively engaged in the practice of embalming at the time of their respective appointments and are licensed embalmers; and two public members. | The Board of Examiners of Embalmers and Funeral Directors shall (1) hear and decide matters concerning suspension or revocation of licensure (2) adjudicate complaints filed against practitioners licensed under this chapter and (3) impose sanctions where appropriate. | http://www.ct.gov/dph/cwp/view.asp?a=3143&q=38894&dphNav_GID=1830 |
| State Board of Naturopathic Examiners | Consist of three members, two must be practicing naturopathic physicians in CT and one public member | Said board shall (1) hear and decide matters concerning suspension or revocation of licensure (2) adjudicate complaints against practitioners and (3) impose sanctions where appropriate. | http://www.ct.gov/dph/cwp/view.asp?a=3143&q=38906&dphNav_GID=1830 |
| Board of Examiners for Opticians | Consists of three members appointed by the governor: Two practicing licensed opticians in good standing who reside in CT and one public member. | The Board of Examiners for Opticians shall (1) hear and decide matters concerning suspension or revocation of licensure (2) adjudicate complaints filed against practitioners licensed under this chapter and (3) impose sanctions where appropriate. | http://www.ct.gov/dph/cwp/view.asp?a=3143&q=38922&dphNav_GID=1830 |

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<tr>
<th>Connecticut Board of Examiners in Podiatry</th>
<th>Consists of five members appointed by the Governor; three members must be CT residents practicing podiatrists of good standing in their profession and graduates of approved colleges or schools of chiropody or podiatry and two public members.</th>
<th>Approves accredited school or college of chiropody or podiatry; files with the DPH a list of the practitioners of podiatry; may take disciplinary action against a licensee.</th>
<th><a href="http://www.ct.gov/dph/cwp/view.asp?a=3143&amp;g=38">http://www.ct.gov/dph/cwp/view.asp?a=3143&amp;g=38</a> 8936&amp;dphNa y_GID=1830</th>
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<tr>
<td>Board of Examiners of Psychologists</td>
<td>Consist of five CT residents appointed by the Governor, three must be practicing psychologists in good professional standing and licensed and two public members.</td>
<td>The Board of Examiners of Psychologists shall (1) hear and decide matters concerning suspension or revocation of licensure (2) adjudicate complaints filed against practitioners licensed under this chapter and (3) impose sanctions where appropriate.</td>
<td><a href="http://www.ct.gov/dph/cwp/view.asp?a=3143&amp;g=38">http://www.ct.gov/dph/cwp/view.asp?a=3143&amp;g=38</a> 8938&amp;dphNa y_GID=1830</td>
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<tr>
<td>Board of Examiners for Optometrists</td>
<td>Seven members appointed by the Governor; four practicing licensed optometrists in good professional standing who are CT residents and three public members.</td>
<td>Shall (1) hear and decide matters concerning suspension or revocation of licensure, (2) adjudicate complaints filed against practitioners licensed under this chapter, and (3) impose sanctions where appropriate.</td>
<td><a href="http://www.ct.gov/dph/cwp/view.asp?a=3143&amp;g=38">http://www.ct.gov/dph/cwp/view.asp?a=3143&amp;g=38</a> 8924&amp;dphNa y_GID=1830</td>
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<td>Board of Examiners for Physical Therapists</td>
<td>Consists of one physician, two physical therapists and two public members, appointed by the Governor</td>
<td>The board shall (1) hear and decide matters concerning revocation or suspension of licensure, (2) adjudicate complaints against practitioners and (3) impose sanctions where appropriate.</td>
<td><a href="http://www.ct.gov/dph/cwp/view.asp?a=3143&amp;g=38">http://www.ct.gov/dph/cwp/view.asp?a=3143&amp;g=38</a> 8934&amp;dphNa y_GID=1830</td>
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<td>State Board of Examiners for Nursing</td>
<td>Twelve CT residents appointed by Governor: • two members who shall be graduates of an approved school for licensed practical nursing; • five members who shall be registered nurses, three of whom shall, at the time of appointment, be connected with an institution affording opportunities for the education of nurses, and at least two of whom shall hold master’s degrees in nursing from a recognized college or university and one of whom shall be at the time of appointment an instructor in an approved school for licensed practical nurses; • one member who shall be an advanced practice registered nurse • four public members</td>
<td>• Adopts regulations, permitting and setting standards for courses for the training of practical nurses to be offered in high schools and vocational schools for students who have not yet acquired a high school diploma. • Keeps a list of all nursing programs and all programs for training licensed practical nurses that are approved by it, with the consent of the Commissioner of Public Health, as maintaining the standard for the education of nurses and the training of licensed practical nurses as established by the commissioner. • shall (1) hear and decide matters concerning suspension or revocation of licensure, (2) adjudicate complaints filed against practitioners licensed under this chapter and impose sanctions where appropriate. • Designated as the state agency to receive and administer federal funds that may become available for nursing education. • Shall prescribe examinations for applicants for licensure as registered nurses and licensed practical nurses under the provisions of this chapter, to determine their qualifications for the practice of nursing.</td>
<td><a href="http://www.ct.gov/dph/cwp/view.asp?a=3143&amp;g=38">http://www.ct.gov/dph/cwp/view.asp?a=3143&amp;g=38</a> 8910</td>
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<td>Connecticut Homeopathic</td>
<td>Consists of three homeopathic physicians</td>
<td>Said board shall (1) hear and decide matters concerning suspension or revocation of licensure, (2) adjudicate</td>
<td><a href="http://www.ct.gov/dph/cwp/view.asp?a=3143&amp;g=38">http://www.ct.gov/dph/cwp/view.asp?a=3143&amp;g=38</a> 8910</td>
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<tr>
<td><strong>Medical Examining Board.</strong></td>
<td>and two public members appointed by the governor</td>
<td>complaints against practitioners and (3) impose sanctions where appropriate.</td>
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<td><strong>Connecticut Medical Examining Board.</strong></td>
<td>Consists of fifteen members appointed by the governor, as follows: Five physicians practicing in CT; one physician who shall be a full-time member of the faculty of The University of Connecticut School of Medicine; one physician who shall be a full-time chief of staff in a general-care hospital in the state; one physician who shall be registered as a supervising physician for one or more physician assistants; one physician who shall be a graduate of a medical education program accredited by the American Osteopathic Association; one physician assistant; and five public members.</td>
<td>Said board shall (1) hear and decide matters concerning suspension or revocation of licensure, (2) adjudicate complaints against practitioners, and (3) impose sanctions where appropriate.</td>
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<td><strong>HealthFirst Connecticut Authority</strong></td>
<td>Composed of the following members: Two appointed by the speaker of the House of Representatives, one of whom is a health care provider and one of whom represents businesses with fifty or more employees; two appointed by the president pro tempore of the Senate, one of whom has experience in community-based health care and one of whom represents businesses with fewer than fifty employees; one appointed by the majority leader of the House of Representatives who represents consumers; one appointed by the majority leader of the Senate who represents the interests of labor; one appointed by the minority leader of the House of Representatives who represents health insurance companies; one appointed by the minority leader of the Senate who represents hospitals; and two appointed by the Governor, one of whom advocates for health care quality or patient safety and one with experience in</td>
<td>The HealthFirst Connecticut Authority must: 1. Examine and evaluate different alternatives for providing Connecticut residents with quality, affordable, and sustainable health care, including a single payer health care system and employer-sponsored health plans; 2. Recommend ways to contain the cost and improve the quality of health care, including health information technology, disease management, and other initiatives to coordinate and improve the quality of care for people with chronic diseases; and 3. Recommend ways to finance quality, affordable health care coverage, including ways to (1) maximize federal health care subsidies and contributions from employers, employees, and individuals and (2) finance the state’s share of such coverage</td>
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<table>
<thead>
<tr>
<th><strong>Sustinet Healthcare Workforce Task Force</strong></th>
<th><strong>Briefing Paper</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>State-Wide Primary Care Access Authority</strong></td>
<td>Consists of the Commissioners of Public Health and Social Services, the Comptroller, the chairpersons of the HealthFirst Connecticut Authority established under section 30 of this act and the following members: One each appointed by the Connecticut Primary Care Association, the Connecticut State Medical Society, the Connecticut Chapter of the American Academy of Pediatrics, the Connecticut Nurses Association, the Connecticut Association of School Based Health Centers and the Weitzman Center for Innovation In Community Health and Primary Care.</td>
</tr>
<tr>
<td><strong>SustiNet Health Partnership Board of Directors</strong></td>
<td>Consists of 9 members: The Comptroller; the Healthcare Advocate; one appointed by the Governor, who shall be a representative of the nursing or allied health professions; one appointed by the president pro tempore of the Senate, who shall be a primary care physician; one appointed by the speaker of the House of Representatives, who shall be a representative of organized labor; one appointed by the majority leader of the Senate, who shall have expertise in the provision of employee health benefit plans for small businesses; one appointed by the majority leader of the House of Representatives, who shall have expertise in health care economics or health care policy; one appointed by the minority leader of the Senate, who shall have expertise in health information technology; and one appointed by the</td>
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minority leader of the House of Representatives, who shall have expertise in the actuarial sciences or insurance underwriting. The Comptroller and the Healthcare Advocate shall serve as the chairpersons of the board of directors.

<table>
<thead>
<tr>
<th><strong>SustiNet Health Care Workforce Task Force</strong></th>
<th><strong>Section of P.A. 09-148 establishes a task force to study the state’s health care workforce. The task force shall develop a comprehensive plan for preventing and remedying state-wide, regional and local shortage of necessary medical personnel, including, physicians, nurses and allied health professionals.</strong></th>
</tr>
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<tbody>
<tr>
<td>(1) One appointed by the speaker of the House of Representatives, representing a consumer group with expertise in health care; (2) One appointed by the president pro tempore of the Senate, who is an academic expert on the health care workforce; (3) One appointed by the majority leader of the House of Representatives, representing the business community with expertise in health care; (4) One appointed by the majority leader of the Senate, who is a health care practitioner; (5) One appointed by the minority leader of the House of Representatives, who shall be a representative of the business community with expertise in health care; (6) One appointed by the minority leader of the Senate, who shall be a primary care physician; (7) One appointed by the Governor who shall be an academic expert in health care; and (8) The Commissioners of Public Health, Social Services and Economic and Community Development, the president of The University of Connecticut, the chancellor of the Connecticut State University System, the chancellor of the Regional Community-Technical Colleges, and a representative of the SustiNet board of directors shall be ex-officio, nonvoting members of the task force.</td>
<td><strong><a href="http://www.ct.gov/sustinet/cwp/view.asp?a=3822&amp;q=450070">http://www.ct.gov/sustinet/cwp/view.asp?a=3822&amp;q=450070</a></strong></td>
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</table>

| **CT Public Health Association** | **Connecticut Public Health Association works to improve the quality of the public health profession and advocating for policies and programs that promote health and prevent disease. Members represent a wide variety of disciplines and are united in the goal of protecting and promoting the public’s health. Key areas for CPHA advocacy and education resources** |
| Non-profit organization | **http://cpha.infor.org/mentoring** |
include Public Health Infrastructure, Racial and Ethnic Health Disparities, Health Literacy, Universal Health Care, Environmental Health, and Disease Prevention. The Mentoring Organization Registry is comprised of 23 organizations that form a coalition to work with middle and high school educators, guidance counselors and youth to promote public health concepts and career awareness.

| CT Partnership for Public Health Workforce Development | The Connecticut Partnership for Public Health Workforce Development promotes and facilitates collaborative education and training programs among academic institutions, state and local public health agencies and organizations to enhance the quality of public health services, especially for underserved areas and populations in the region. The Connecticut Partnership was formed in 2000, and is one of six partnerships in the New England states and a member of the New England Alliance for Public Health Workforce Development, established in 1999 as a part of a HRSA Public Health Training Center grant to Boston University and the accredited schools of public health in New England. The regional training centers work to improve the Nation's public health system by strengthening the technical, scientific, managerial and leadership skills and abilities of the current and future public health workforce. |
| Governor's Health Care Reform Advisory Board | Consist of fifteen members: a. The Comptroller, or her designee; b. the Secretary of the Office of Policy and Management, or his designee; c. a member appointed by the Governor, who shall be a representative of the nursing or allied health professions; d. a member appointed by the Governor, who represents the health insurance industry; e. a member appointed by the Governor, who represents the business community; f. a member appointed by the Governor, who represents the hospital industry; g. a member appointed by the President Pro Tempore of the Senate, who is a primary care physician; h. a member appointed by the Speaker of the House of Representatives, who is a representative of organized labor; i. A member appointed by the Majority Leader of the Senate, who shall have expertise in the provision of employee health benefit plans for small businesses; j. a member appointed by the Majority Leader of the House of Representatives, who shall have expertise in health care economics or health care policy; k. a member appointed by the Minority Leader of the Senate, who shall have The Board shall prepare a set of proposed health care policies in response to federal health care reforms. Such policies shall emphasize cost containment, maximizing federal matching funds, best practices designed to enhance access to preventive care, and assuring health care coverage for all children entering the primary and secondary school system. |
expertise in health information technology; I. a member appointed by the Minority Leader of the House of Representatives, who shall have expertise in the actuarial sciences or insurance underwriting; and m. the Commissioners of the Departments of Social Services and Public Health and the Office of Health Care Access, or their designees.


One of the goals of health care reform is to eliminate the number of uninsured individuals. Legislation that improves access to health care services will likely result in a pent up demand for health care services as more individuals become insured. Connecticut must ramp up its efforts to train its healthcare workforce to address both current and projected needs for talent.

Current federal and state health care reform efforts are placing an emphasis on primary health care and prevention services. However, current insurance reimbursement policies are at cross-purposes with this objective by providing higher reimbursement to specialists and encouraging more services to be provided through “fee for service” reimbursement policies. A GAO report on primary care trends concluded that the nation’s over reliance on specialty care services at the expense of primary care leads to a health care system that is less efficient.16 At the same time, research shows that preventive care, care coordination for the chronically ill, and continuity of care—all hallmarks of primary care medicine—can achieve improved outcomes and cost savings. Conventional payment systems tend to undervalue primary care services relative to specialty services. A statewide survey of Connecticut physicians has identified a number of areas of growing concern. One of the ominous findings in this report is that the supply of physicians in Connecticut appears to be shrinking with widespread recruitment difficulties.17 Long, erratic hours, the high cost of malpractice insurance and competition with the private sector for talent all contribute to healthcare workforce shortages.

Technological innovations impact the healthcare workforce by creating occupations that did not previously exist. Sixty-five percent of current preschoolers will work in jobs or careers that do not yet exist.\textsuperscript{18} Therefore it is critical that educators move beyond basic competency in core subjects to 21\textsuperscript{st} Century interdisciplinary themes including global awareness, financial, economic, business and entrepreneurial literacy, civic literacy and health literacy.\textsuperscript{19} The days where a high school diploma or a college degree signaled the competition of formal learning are over. Individuals and institutions must embrace the concept of life long learning to be competitive in the future. For individuals this means constantly upgrading career related skills. Post secondary institutions will need to respond quickly to develop and deploy training programs to insure a properly trained future workforce.

A good first step would be to streamline the Connecticut Board of Governors’ Academic Approval process that requires a nine month lead time to complete its approval process.\textsuperscript{20} Workforce training will need to be delivered in a variety of formats to accommodate today’s learner.

\textbf{Human Capital Challenges}

Today’s education system faces many challenges. Simply put, too many individuals are not adequately prepared at each stage in the talent development pipeline. Out of every 100 Connecticut 9\textsuperscript{th} graders, only 24 will earn a college degree. Connecticut must do a better job educating its students so that they will be college ready and have the skills needed to attain post-secondary educational goals.\textsuperscript{21} Connecticut has joined “Complete College America”, a nonprofit organization working to increase the number of young adults with a college degree. As a participating entity, Connecticut must pledge to make college completion a top priority and commit to: Setting state-and campus-specific degree and credential completion goals; developing and implementing aggressive state- and campus- level action plans for meeting the state’s completion goals; and collecting and reporting common measures of progress toward the state’s completion goals.

\textsuperscript{18} College Board, \textit{Toward Higher Ground-New Visions, New Voices for the 21\textsuperscript{st} Century: A report on the College Board Colloquium,} January 12-14, 2009, Delray Beach, Florida.
\textsuperscript{19} Partnership for 21\textsuperscript{st} Century Learning. Framework for 21\textsuperscript{st} Century Learning, 4/22/09.
\textsuperscript{21} Commission for the Advancement of 21\textsuperscript{st} Century Skills and Careers, QUICK FACTS: Summary of Important Data from April 28, 2009 Briefing Document, http://www.ctdhe.org/P20/pdfs/BriefingSummary042809.pdf
Early Childhood

A high-quality preschool education is essential to each child’s future success both in school and as an adult. The percentage of kindergartners who entered kindergarten with a pre-kindergarten experience was 79 percent in 2006–07.

K-12 Education

CMT Test Results:
Grade 4- 2009
63.8 % of 4th graders scored at or above state goal in mathematics
60.7 % of 4th graders scored at or above state goal in reading.
64.2 % of 4th graders scored at or above state goal in writing.
Children who do not read by the end of third grade are less likely to have academic success.
Grade 8- 2009
64.7 % of 8th graders scored at or above state goal in mathematics.
68.5 % of 8th graders scored at or above state goal in reading.
66.5 % of 8th graders scored at or above state goal in writing.
60.9 % of 8th graders scored at or above state goal in science.
Many students are not prepared for the rigors of high school.

CAPT Tests:
Grade 10-2009
48.0 % of 10th graders scored at or above state goal in mathematics.
43.0 % of 10th graders scored at or above state goal in science.
47.5 % of 10th graders scored at or above state goal in reading.
55.1 % of 8th graders scored at or above state goal in writing.

Drop Out Rate
Cumulative Dropout Rates (Four-Year Cohort) %
The Graduating Class of 2007 was 6.2 % statewide.
Youth who do not complete high school will have a difficult time finding employment or advancing beyond low-paying jobs.

Post Secondary Education

First year college students who have graduated from high school but are not ready for college-level academic work:
• 80% of community college students test as needing remediation in either math or English
• 50+% of CSU students test into either remedial or developmental math

Drop Out Rate
Cumulative Dropout Rates (Four-Year Cohort) %
The Graduating Class of 2007 was 6.2 % statewide.
Youth who do not complete high school will have a difficult time finding employment or advancing beyond low-paying jobs.

Workforce Training System

34.7% of Connecticut’s adults have a four-year degree, up from 27.2% in 1990.
Despite the rise, Connecticut’s ranking fell from first to fourth behind Massachusetts, Colorado and Maryland.

11.8 % of the population 25 years of age and over lacks a high school diploma.

The New England 2020 report forecasts a 3% decline in Connecticut’s 25-30 year old population holding a baccalaureate degree or higher. For the first time in 50 years, we will not replace our retirees with a more educated workforce.

Employers report hiring a substantial number of new entrants who are poorly prepared, requiring additional company investment to improve workforce readiness skills.

The cost of post secondary education including tuition and related expenses are important factors affecting access to post secondary education and career choice. The cost of post secondary education in Connecticut is among the highest in the nation. In 2006, Connecticut earned an "F" in terms of affordability of college education. The University of Connecticut ranks among the top ten most expensive state universities in terms of tuition and fees on a national (9th) and regional (6th) basis while, the Connecticut State University system ranked among the top 20 most expensive state universities in terms of tuition and fees a national (13th) and regional (6th) basis. Similar results were reported for the Connecticut Community Technical College (CTC) system; the CTC system ranked among the 8th most expensive regionally and 22nd most expensive nationally in terms of tuition and fees. Families rely on student loans to cover the rising cost of tuition, books, and living expenses. Connecticut ranks 4th nationally for high average student debt at $23,469. The District of Columbia, New Hampshire, and Vermont ranked 1st, 2nd, and 3rd respectively.

Prior Studies and Recommendations

Connecticut’s healthcare workforce shortages have been the subject of numerous studies by various task forces, organizations, and commissions. A list of some of those studies and major recommendations are shown in the following table.

Recent Connecticut Health Care Workforce Studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Recommendations</th>
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| Governor’s Hospital Strategic Task Force, Findings and Recommendations, January 8, 2008, http://www.ct.gov/ohca/lib/ohca/taskforce/hospital_task_force_master_version_1-17-08.pdf | Related to work force issues:  
13. Designate one state agency to coordinate all programs designed to increase the training, recruitment and retention of health care workers in conjunction with other work force initiatives such as Connecticut’s Mental Health Transformation initiative and its Behavioral Health Workforce project.  
14. All programs designed to enhance recruitment and retention of healthcare professionals in Connecticut should include a mechanism for monitoring and evaluation to determine program effectiveness, with an appropriate funding allocation.  
15. Expand the capacity of the on-line licensure system approved during the 2007 legislative session to include all healthcare professionals by 2010 and establish a comprehensive database of licensed healthcare professionals that includes, but is not limited to, the following information about the licensee: type of license held, whether the licensee is working, position held, how long at current position, name of employer, employer’s type of industry, highest level of education, number of hours providing direct patient care per week.  
16. Prior to January 1, 2009, the Department of Public Health should complete a survey of all health care professionals licensed in Connecticut to initially populate the comprehensive database.  
17. The State Health Plan should include a health care workforce planning component that includes analyzing projected trends in the health care workforce, identifying demographics of the health care workforce and |

the patient population, establishing priorities for allocation of resources and development of a strategic workforce plan that includes an evaluation by DMHAS and DPH of mental health services and access to such services as they relate to hospital EDs and the availability of inpatient, intermediate, residential, outpatient and other levels of care.

18. Expand current loan repayment and forgiveness programs for physicians in the following ways: i) Create a loan forgiveness program that links loan forgiveness to the number of years that a physician is "on-call" at a hospital; ii) Create a loan forgiveness program for physicians at the residency level. If a physician accepts a residency in a defined geographic or physician specialty shortage area, loan forgiveness will be linked to the number of years of post-residency, in-state practice in the defined shortage area.

19. Provide funding to medical schools for scholarships to physicians who are willing to practice in a defined geographic or physician specialty shortage area in the state for at least 5 years after completing their residency programs.

20. Create a pilot program, including loan forgiveness, for a community-based physician residency focusing on primary care to support FQHCs. The loan forgiveness component of such pilot program should require that the physician remain in a community-based primary care practice in Connecticut in collaboration with a FQHC for at least five years after completing the residency program. The purpose of this program is to train physicians in community-based primary care, to improve access to primary care and to alleviate pressure on hospital emergency departments.

21. Evaluate and make necessary adjustments to the Connecticut definition of a health care professional shortage area (contained in DPH regulations) to better reflect specific geographic, demographic and physician specialty shortages.

22. Expand current loan repayment and forgiveness programs for 1) nursing students and 2) advanced practice registered nurses in a primary care residency program.

23. Work with the joint standing committee having cognizance of higher education and employment advancement to ensure an adequate number of slots for nursing students in schools of nursing.

24. Establish a pilot nursing residency program to provide mentoring to first-year hospital-based nurses in order to increase nurse retention rates and to smooth their transition from school to clinical practice.

25. The University of Connecticut and the Connecticut State University System should establish Masters level programs to prepare baccalaureate nurses to serve as educators in nursing schools to address the shortage of nursing faculty.

- Nurses who become educators under this program may be eligible for loan forgiveness programs if they remain members of the nursing faculty in Connecticut for at least five years.
- Provide methods to increase compensation and/or the availability of nurse educators consistent with applicable state laws and collective bargaining agreements.

26. To increase the availability of health care services for persons covered by public health insurance programs or who are uninsured, we recommend the establishment of a pilot program to address the problem of recruiting and retaining physicians practicing at FQHCs.

27. Establish a working group consisting of representatives of physicians, hospitals, insurance industry, other stakeholders, state legislators and regulators to develop a comprehensive tort reform proposal for submission by January 1, 2009 to the Governor and the joint standing committees having cognizance of public health, judiciary, and insurance matters. This proposal would complement the review of professional liability insurance rates for physicians and surgeons,
hospitals, advanced practice registered nurses and physician assistants in Connecticut to be conducted by the Insurance Commissioner pursuant to Public Act 05-275.

28. For each fiscal year from 2009 through 2013, allocate $500,000 to OHCA to provide matching grants to hospitals and FQHCs, not to exceed $50,000 per hospital or FQHC in any year, to be used to implement national “best practices” relating to recruitment and retention of staff. Such grants should be awarded on a competitive basis and should require that each hospital or FQHC awarded a grant provide matching funding equal to the amount of the state grant.

29. Review the composition and membership of the Connecticut Allied Health Workforce Policy Board to ensure that the work force needs of the entire health care field are represented. At a minimum, membership should be expanded to include physicians and representatives of organized labor. The new board should 1) assist the Office of Workforce Competitiveness (OWC) in developing and evaluating programs to increase training, recruitment and retention of physicians, nurses and other health care workers providing care in hospitals in Connecticut; 2) monitor employment satisfaction and attrition rates of all health care professionals in Connecticut; 3) provide support to DPH in its development of the hospital-based health care workforce planning component of the State Health Plan; 4) work with the State Department of Education (DOE) to develop programs at the middle school and high school levels to increase student enrollment in mathematics and science courses necessary to pursue a bachelor or post-graduate degree in health care fields; and (5) collaborate with the State DOE to develop programs aimed at middle school and high school students to encourage an understanding of and promote careers in health care.

### Allied Health Workforce Policy Board, Annual Legislative Report, February 2009

The AWHPB studies have pointed out that Connecticut’s talent pipeline for health care careers is in particularly poor shape because:

- Many applicants to certificate and degree programs lack fundamental skills in literacy, math, science and English and require substantial developmental education to enter a post-secondary allied health program.
- High school students have only a limited understanding of the availability of and range of opportunities in allied health careers and do not connect their high school experience to their college plans.
- There is a significant under-representation of minorities pursuing careers in allied health professions.

Recommendations include: 1: Provide Student Support Services & Academic Remediation; 2: Coordinate Statewide Allied Health Outreach Campaign; 3: Improve Articulation Between Secondary, Post-Secondary and Graduate Allied Health And Nursing Programs; 4: Invest In New Faculty; 5: Expand Allied Health and Nursing Programs; and (5) Support Employer-sponsored Training.

### Allied Health Workforce Policy Board, Annual Legislative Report, 2010

The Allied Health Workforce Policy Board has identified three critical talent pipeline issues: deficient skills readiness, lack of career awareness and readiness, and low representation of minority students.

Recommendations: 1. Develop a state Strategic Health Care Workforce Plan; 2. Provide Student Support Services and Academic Remediation; 3. Coordinate Statewide Allied Health Outreach Campaign; 4. Invest In New Faculty; 5. Expand Allied Health and Nursing Programs; and 5. Support Employer-sponsored training.

### CT Career Ladders Advisory Committee, 2009 Legislative Report

Recommends replication of past initiatives to additional sites and students. With continued Career Ladder funding, the Advisory Committee will work with state agency and community partners to support the following initiatives:

1. Most individuals who participated in Career Ladder Initiatives are already working in the health care field and need the support of their
employer to increase their skills. It is recommended that incumbent worker training funds continue to be available through the Department of Labor and Workforce Investment Boards (WIBs) to help employers actively engage in the career advancement of their employees. This investment, which is matched by employer partners, would allow the WIBs to serve individuals interested in career ladders in health care.

2. The Community Colleges have demonstrated the effectiveness of Learning Communities on their campuses. This model should be scaled up to provide all students, particularly those needing developmental education, with the holistic academic and support services necessary to be successful. In addition, the community college Health Career Advisor positions have proven successful and resources should be found within college budgets to sustain these positions.

3. It is also recommended that the legislature authorize the use of state financial aid provided to the state’s public and private colleges and universities for students who are pursuing noncredit certificate programs in our state’s training programs. Currently, no state funding is available for training in these short-term occupational areas that support the state’s health care infrastructure.

<table>
<thead>
<tr>
<th>Connecticut Hospital Association, Averting Crisis: Ensuring Healthcare for Future Generations, <a href="http://www.chime.org/">http://www.chime.org/</a></th>
<th>Increase the number of nurses and other healthcare professionals by expanding the number of nursing and other healthcare faculty.</th>
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<tr>
<td>• Raise public awareness of healthcare careers.</td>
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<td>• Enhance recruitment and support for qualified health professions Candidates through enhanced state funding for career and academic counseling, scholarship, and loan forgiveness programs.</td>
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<td>• Create career ladders and other career “growing” initiatives that build the pipeline of healthcare workers.</td>
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<tr>
<td>• Increase retention and employee engagement of current caregivers.</td>
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<td>• Establish a comprehensive healthcare workforce database.</td>
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</tbody>
</table>

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<tr>
<th>Connecticut Hospital Association, Clinical Placement Capacity Project Report, July 2007, <a href="http://www.chime.org/">http://www.chime.org/</a></th>
<th>1. Augment Nursing Faculty Resources By:</th>
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<tr>
<td>• Promoting the development of joint appointments such that qualified nurses currently practicing on staff at hospitals/agencies serve as faculty members of schools of nursing.</td>
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<tr>
<td>• Developing a recruitment and information campaign for nurses who are already qualified or interested in becoming qualified to become faculty members.</td>
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<tr>
<td>• Proposing and supporting long-term initiatives to build the nursing faculty pipeline.</td>
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<tr>
<td>2. Strengthen Preceptorship in Nursing By:</td>
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<td>• Developing statewide programs to educate new staff registered nurse preceptors and to support and recognize experienced nurse preceptors.</td>
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<tr>
<td>• Promoting initiatives to prepare more nurses at the baccalaureate level.</td>
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<tr>
<td>3. Balance the Clinical Placement Distribution Schedule Where Possible By:</td>
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<td>• Encouraging schools and hospital/agency partnerships to further explore scheduling alternative regarding shifts, days of the week, and semesters.</td>
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<td>4. Establish Additional Mechanisms for the Exchange of Information Between Hospitals/Agencies and Schools By:</td>
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<tr>
<td>• Considering the convenience of regional or statewide programs in which representatives from hospital/agencies and schools meet to discuss goals, needs, and opportunities related to the education of the future nursing and allied health workforce.</td>
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<tr>
<td>• Creating a statewide resource such as a handbook and/or website in which hospitals/agencies describe the nature of clinical placement opportunities at their organizations and provide contact information.</td>
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<td>5. Enhance Clinical Placement Processes By:</td>
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<td>• Identifying best practice models for: faculty orientation, student orientation, planning and coordination, and school/hospital/agency...</td>
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partnership.

6. Simplify and Streamline the Clinical Affiliation Contracting Process By:
   - Developing a standard, “core” affiliation agreement and creating mechanisms that enable the completion of the contracting process within a reasonable timeframe. As described above, an initiative to resolve the currently problematic clinical affiliation contracting process is under way.

7. Consider Enhancement of Simulation Resources By:
   Exploring the development of a simulation center and its potential benefit as a supplement to laboratory resources and to healthcare education for schools and hospitals/agencies.

http://www.businessfairfield.com/webpdf/OneCoastHealthStudy.pdf

Recommendations:
1. Advocate for increased Medicaid reimbursement rates.
2. Encourage larger providers, particularly hospitals and long term care facilities, to increase local purchasing through measures to advertise and develop relationships with local vendors, especially if more local services are outsourced.
3. Explore tax incentives for the services addressing prevention and wellness (e.g. fitness centers).
4. Support businesses and development projects that are responding to the changing needs of the aging population and to the shifts in emphasis within the health care field.
5. Encourage a general culture of entrepreneurship in the region.
6. Work to brand Fairfield County as a locus of the health-related finance industry.
7. Support a marketing campaign for Bridgeport highlighting the availability of lab space and manufacturing labor.
8. Explore local tax abatements and secure state tax incentives for health cluster firms.
9. Promote the region as a location for medical device manufacturing and related firms.
10. Pursue opportunities to bring research operations into the region.

Holt, Wexler, & Farnam, LLP prepared for the Business Council of Fairfield County, Health Care Workforce Initiative, December 2007,

Recommendations:
1. Create a formal, public/private partnership to implement specific strategies to address current and projected health care occupational shortages based on setting specific production objectives. A collaborative “Southwest Connecticut Health Workforce Initiative” would integrate and bring to scale isolated initiatives while adding new priorities to the One Coast region’s workforce development agenda.
2. Implement a regional pilot of a web-based centralized clinical placement system.
3. Create a regional pilot of a scholarship for service program to produce nursing and/or allied health teaching faculty.
4. Develop a central resource for immigrants with foreign health care experience to help them gain employment in the regional health care industry.
5. Expand employer-sponsored, on-site, basic skills programs (including English as a Second Language)
6. Expand the availability of nursing and/or allied health distance learning courses.
7. Create an online student-transfer information system for nursing and allied health coursework
8. Support increased salaries for community college nursing faculty
9. Support increased salaries for community college nursing faculty
10. Develop a broad scholarship for service program.
Initiatives to Address Healthcare Workforce Shortages

A number of initiatives have been undertaken to address factors that act as a barrier to increasing the size of Connecticut’s health care workforce. A summary of recent initiatives are listed in the following table.

### Recent Initiatives to grow Connecticut’s Healthcare Workforce

<table>
<thead>
<tr>
<th>Partners</th>
<th>Project Summary</th>
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<tr>
<td>Charter Oak State College (COSC) in collaboration with the Connecticut League for Nursing (CLN) and the Connecticut Hospital Association (CHA)</td>
<td>Developed an online perioperative nursing course for nurses who want to move into this field.</td>
</tr>
<tr>
<td>Eastern Connecticut Health Network (ECHN), Manchester Memorial, and Rockville General Hospitals</td>
<td>Summer Internship Program. The summer interns spend two weeks of intensive orientation and then begin functioning in their student nurse role in areas such as operating rooms, cardiac units and pediatrics under the supervision of their preceptor.</td>
</tr>
<tr>
<td>Charter Oak State College (COSC)</td>
<td>Grant in the fall of 2008 to undertake a curriculum alignment initiative with partners from the state’s comprehensive high schools, technical high schools, community colleges and other educational and technical assistance organizations.</td>
</tr>
<tr>
<td>Northwestern Allied Health Education Center (AHEC), Office for Workforce Competitiveness (OWC), the Department of Economic and Community Development (DECD), and Regional Education Service Centers (RESCs)</td>
<td>Next Generation Careers Project: The goal of this project was to provide professional development exposure to educators that will enhance their capacity to guide students’ career preparation efforts.</td>
</tr>
<tr>
<td>Charter Oak State College in collaboration with the Connecticut League for Nursing</td>
<td>RN Refresher Course: This grant supports two initiatives to revise the course: 1. Charter Oak State College has been working with Danbury Hospital to pilot the revised online course that will provide a model for staff development that any hospital can use in the future and 2. Charter Oak State College worked with employers and the CT League for Nursing to improve the feasibility and efficiency of the preceptor model currently in use with students.</td>
</tr>
<tr>
<td>Charter Oak State College</td>
<td>Licensed Practical Nurse and Nurse Aide Curriculum Review: Charter Oak State College was given a career ladder grant to: 1) review Licensed Practical Nurses (LPN) programs offered through Connecticut’s Technical High School System (CTHSS) to determine if general education college credit can be awarded for part of the curriculum and if there is a need for additional college level courses to assist their graduates in transitioning to RN degree programs. 2) Review the current Certified Nurse Aide (CNA) programs offered in the state. Currently there are approximately 165 State of Connecticut approved nurse aide programs. These programs are offered by community colleges, health centers, and training centers.</td>
</tr>
<tr>
<td>Western Connecticut State University and Eastern Connecticut State University</td>
<td>Collegiate Health Service Corp: This project is designed to increase enrollment, retention and success in the allied health and nursing professions by targeting students early in their educational careers by developing a Collegiate Health Service Corps (CHSC). The CHSC is an extension from the Area Health Education Center’s (AHEC’s) high school program Youth Health Service Corps (YHSC). These programs combine teaching students about health information and requiring students to perform community service.</td>
</tr>
<tr>
<td>Organization</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Connecticut Department of Public Health with Department of Consumer Protection</td>
<td>Implemented an on-line licensing renewal system for physicians, nurses, and dentists. Plans to expand to other licensed professions.</td>
</tr>
<tr>
<td>CT Public Health Association</td>
<td>Mentoring Committee received mini-grant and held two educator trainings on public health concepts and careers.</td>
</tr>
<tr>
<td>Connecticut Community Colleges</td>
<td>With a grant from the Department of Labor, provided a health career advisor in each of the 5 Workforce Investment Board regions. Developed a virtual Health Career Academy. Student advising services.</td>
</tr>
<tr>
<td>University of Connecticut</td>
<td>Master’s Entry in to Nursing-allows individuals with a bachelor’s degree into Master’s program to prepare for RN licensure in 11 months. Offered Doctorate program for Nursing in 2008</td>
</tr>
</tbody>
</table>

Source:
Healthcare Workforce Data and Information

Healthcare workforce data management responsibilities are shared by numerous public and private entities at both the federal and state level. While a wealth of health data and information is collected, data is not easily shared between partner agencies or with the public potentially resulting in missed opportunities for joint data collection and cost savings.

The lack of a centralized health data system to inform decision-making is not a new issue. The need for better data and information has been raised in a number of reports dating back to the 1994 CT Program Review and Investigations Committee Health Cost Containment Study and others such as:

- Connecticut Department of Public Health, **Health Workforce Shortages A Review of Available Data and Measures for Selected Professions**, May 2001;
- Connecticut Department of Public Health, **A Study Concerning the Shortage of Nurses and Quality of Patient Care in Connecticut: Phase I and II**, 2000, 2001;
- Connecticut Department of Public Health, **Adolescent Health Strategic Plan**, May 2005;
- Connecticut Environmental Public Health Tracking Consortium, **A Plan to Implement Environmental Public Health Tracking in Connecticut**, May 2005;

Students, workforce partners, and researchers seeking information on specific healthcare occupations will have to search multiple websites in order to obtain a complete picture of the occupation of interest. Expansion of Connecticut’s on-line licensing program to other allied healthcare occupations should yield promising data for healthcare workforce planning.

The Connecticut Community College Virtual Health Careers Academy begins to address the issue of lack of awareness of health careers and pathways; however the Health Career Academy is listed under U.S. DOL funding subheading making it difficult to find. Also, the Health Career Academy is limited to only the community college system, and is not a stand alone student advising tool.

Articulation agreements between post secondary institutions need to be provided as part of a stand-alone student advising system. "Articulation" is defined as the intentional planning and coordination of educational programs so that a program at one level serves as the foundation for the next educational level. The goal of an articulation agreement is to help students make transitions that are smooth, seamless, and educationally sound and do not require revalidation. NJ Transfer and California ASSIST are examples of web based tools that demonstrate how coursework taken at one post secondary education institution can be used to satisfy requirements at another post secondary institution.

The State of Oregon has developed a template and set of design standards for their Student Pathways Website and Career Pathway Common Roadmap Template to serve as effective collaboration and communication tools for students, employers, and educators:

- Are effective on a stand alone basis without the need for additional explanations or legends

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Sustinet Healthcare Workforce Task Force
Briefing Paper
• Facilitate the development of Career Pathways statewide by community colleges and educational institutions
• Use database as foundation of roadmap and website infrastructure
• Use a content management system to assure ease and cost-effectiveness of maintenance and updating
• Focus on needs of students in making their career decisions and employers’ workforce needs
• Include entry and exit points are included on the map for opportunities in both education and employment. Define entry points prerequisite sets of competencies or credentials.
• Are user-friendly; data is not more than two “clicks” away
• Use Oregon Skill Sets used as an organizing framework to assure that high school students users see the link to community college roadmaps
• Use OLMIS data as source of labor market information (so don’t have to continually update labor market information)
• Include for seven common elements: occupations, wage information, labor market information, competencies/outcomes/skills, college courses, industry-recognized credential or standard (if applicable), participating employers (this seventh element is required for program approval; not required for user roadmap)
• Build on best practice from Southwestern, Lane, PCC, Clackamas roadmap design
• Be descriptive; not prescriptive.  

A number of healthcare occupations that are anticipated to be in demand over the next decade have been identified by the Connecticut Department of Labor. The majority of the projected “in demand” healthcare occupations will require some level of post-secondary education or training. Further, in order to fully advance an individual’s career in the healthcare sector, it will be necessary for an individual to eventually acquire a college degree.

## Healthcare Workforce Planning Information and Websites

<table>
<thead>
<tr>
<th>Responsible Entity</th>
<th>Type of information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connecticut Department of Public Health</td>
<td>Licensing database: The “License Look Up” assists consumers in verifying a license holder. DPH posts a static list indicating the number of active licenses on its website. There is currently no searchable database features on line for workforce planning purposes. <a href="http://www.ct.gov/dph/cwp/view.asp?a=3121&amp;q=389538&amp;dphNav=1">http://www.ct.gov/dph/cwp/view.asp?a=3121&amp;q=389538&amp;dphNav=1</a></td>
</tr>
<tr>
<td>Connecticut Department of Labor</td>
<td>Training and Education Planning System (TEPS)-is a tool designed to aid the analysis and discussion of the demand and supply of talent in Connecticut's workforce. It is intended to help identify where there may be skill shortages or surpluses in the labor market, and thereby guide investments in education and training programs by program planners and administrators, as well as by individuals considering career options. <a href="http://www1.ctdol.state.ct.us/TEPS/default.aspx">http://www1.ctdol.state.ct.us/TEPS/default.aspx</a></td>
</tr>
<tr>
<td>Connecticut Department of Higher Education</td>
<td>Degree Completions Database- The Connecticut Department of Higher Education provides a database containing all of the collegiate degrees conferred in Connecticut by academic years for programs approved by the CT Board of Governors for Higher Education. By using the search engine, it is possible to produce a Degrees Conferred Report that contains the following information: Institution name, CIP number, DHE number, Program Name, Degree Type, Grand Total, Total Men, Total Women, Total Minorities, Total Non-minorities, total for page and total for the query. By checking the detail box, the report will also break down the degrees conferred by ethnic grouping. <a href="http://www.ctdhe.org/database/default.htm">http://www.ctdhe.org/database/default.htm</a></td>
</tr>
<tr>
<td>Connecticut Department of Higher Education (CT DHE)</td>
<td>The Connecticut Department of Higher Education provides a database containing Headcount and Full-Time Equivalent (FTE) enrollments for all Connecticut Institutions of Higher Education. By using the search engine, it is possible to produce an Enrollment Report that contains the following information: Institution name, College Type, Total Enrollment for Year, and total for the query. It is possible to select Headcount enrollment or Full-Time Equivalent (FTE) enrollment or both Headcount and FTE for one year, a selection of years, or for all years in the database.</td>
</tr>
<tr>
<td>CT DHE</td>
<td>Current Approved Training providers- a list of approved health occupation training providers. <a href="http://www.ctdhe.org/edinfo/pdfs/HealthOccupationTrainingInCT.pdf">http://www.ctdhe.org/edinfo/pdfs/HealthOccupationTrainingInCT.pdf</a></td>
</tr>
<tr>
<td>CT colleges, university</td>
<td>Articulation agreements: Must search individual college websites to determine what courses will transfer between institutions.</td>
</tr>
</tbody>
</table>
### HEALTH CARE OCCUPATIONS IN DEMAND MINIMUM EDUCATION OR TRAINING REQUIREMENTS (SORTED by ANNUAL OPENINGS)

<table>
<thead>
<tr>
<th>Occupational Title</th>
<th>Employment 2006</th>
<th>Change Net</th>
<th>Change Percent</th>
<th>Annual Openings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Occupations requiring a bachelor’s degree or higher</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation Counselors</td>
<td>4,370</td>
<td>5,220</td>
<td>850</td>
<td>19.4%</td>
</tr>
<tr>
<td>Child, Family, and School Social Workers</td>
<td>5,200</td>
<td>5,700</td>
<td>504</td>
<td>9.7%</td>
</tr>
<tr>
<td>Mental Health/Substance Abuse Social Workers</td>
<td>2,640</td>
<td>3,280</td>
<td>642</td>
<td>24.4%</td>
</tr>
<tr>
<td>Social and Community Service Managers</td>
<td>2,780</td>
<td>3,340</td>
<td>560</td>
<td>20.1%</td>
</tr>
<tr>
<td>Medical and Health Services Managers</td>
<td>3,690</td>
<td>4,070</td>
<td>379</td>
<td>10.3%</td>
</tr>
<tr>
<td>Pharmacists</td>
<td>2,760</td>
<td>3,280</td>
<td>520</td>
<td>18.8%</td>
</tr>
<tr>
<td>Mental Health Counselors</td>
<td>2,010</td>
<td>2,600</td>
<td>584</td>
<td>29.0%</td>
</tr>
<tr>
<td>Physical Therapists</td>
<td>3,200</td>
<td>3,780</td>
<td>585</td>
<td>18.3%</td>
</tr>
<tr>
<td>Medical and Public Health Social Workers</td>
<td>2,220</td>
<td>2,680</td>
<td>461</td>
<td>20.8%</td>
</tr>
<tr>
<td>Medical Scientists, Except Epidemiologists</td>
<td>1,750</td>
<td>2,060</td>
<td>312</td>
<td>17.9%</td>
</tr>
<tr>
<td>Health Specialties Teachers, PS</td>
<td>2,490</td>
<td>2,890</td>
<td>403</td>
<td>16.2%</td>
</tr>
<tr>
<td>Clinical, Counseling, and School Psychologists</td>
<td>2,950</td>
<td>3,270</td>
<td>326</td>
<td>11.1%</td>
</tr>
<tr>
<td>Substance Abuse/Behavioral Disorder Counselors</td>
<td>1,210</td>
<td>1,640</td>
<td>430</td>
<td>35.5%</td>
</tr>
<tr>
<td>Chemists</td>
<td>1,820</td>
<td>1,950</td>
<td>136</td>
<td>7.5%</td>
</tr>
<tr>
<td>Family and General Practitioners</td>
<td>2,070</td>
<td>2,280</td>
<td>216</td>
<td>10.4%</td>
</tr>
<tr>
<td>Medical and Clinical Laboratory Technologists</td>
<td>2,150</td>
<td>2,390</td>
<td>238</td>
<td>11.1%</td>
</tr>
<tr>
<td>Biological Technicians</td>
<td>990</td>
<td>1,180</td>
<td>190</td>
<td>19.1%</td>
</tr>
<tr>
<td>Internists, General</td>
<td>1,750</td>
<td>1,930</td>
<td>180</td>
<td>10.6%</td>
</tr>
<tr>
<td><strong>Occupations requiring post-secondary training or an associate’s degree</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Registered Nurses</td>
<td>32,840</td>
<td>38,560</td>
<td>5,722</td>
<td>17.4%</td>
</tr>
<tr>
<td>Nursing Aides, Orderlies, and Attendants</td>
<td>24,660</td>
<td>27,590</td>
<td>2,924</td>
<td>11.9%</td>
</tr>
<tr>
<td>Licensed Practical and Licensed Vocational Nurses</td>
<td>8,020</td>
<td>9,070</td>
<td>1,050</td>
<td>13.1%</td>
</tr>
<tr>
<td>Fitness Trainers and Aerobics Instructors</td>
<td>3,970</td>
<td>4,620</td>
<td>650</td>
<td>16.6%</td>
</tr>
<tr>
<td>Dental Hygienists</td>
<td>3,160</td>
<td>3,790</td>
<td>629</td>
<td>19.8%</td>
</tr>
<tr>
<td>Radiologic Technologists and Technicians</td>
<td>2,970</td>
<td>3,410</td>
<td>440</td>
<td>14.7%</td>
</tr>
<tr>
<td>Emergency Medical Technicians and Paramedics</td>
<td>2,800</td>
<td>3,150</td>
<td>350</td>
<td>12.3%</td>
</tr>
<tr>
<td>Medical Records and Health Information Technicians</td>
<td>1,570</td>
<td>1,760</td>
<td>190</td>
<td>12.3%</td>
</tr>
<tr>
<td>Surgical Technologists</td>
<td>1,060</td>
<td>1,250</td>
<td>190</td>
<td>17.3%</td>
</tr>
<tr>
<td><strong>Occupations requiring work experience or moderate to long-term on-the-job training</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social and Human Service Assistants</td>
<td>8,350</td>
<td>9,670</td>
<td>1,322</td>
<td>15.8%</td>
</tr>
<tr>
<td>Medical Assistants</td>
<td>4,990</td>
<td>6,520</td>
<td>1,529</td>
<td>30.7%</td>
</tr>
<tr>
<td>Pharmacy Technicians</td>
<td>2,880</td>
<td>3,710</td>
<td>826</td>
<td>28.7%</td>
</tr>
<tr>
<td>Medical Secretaries</td>
<td>5,690</td>
<td>6,440</td>
<td>753</td>
<td>13.2%</td>
</tr>
<tr>
<td>Dental Assistants</td>
<td>3,390</td>
<td>4,060</td>
<td>671</td>
<td>19.8%</td>
</tr>
<tr>
<td>Insurance Claims and Policy Processing Clerks</td>
<td>6,150</td>
<td>5,820</td>
<td>-332</td>
<td>-5.4%</td>
</tr>
<tr>
<td><strong>Occupations requiring only short-term on-the-job training</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home Health Aides</td>
<td>10,590</td>
<td>13,280</td>
<td>2,694</td>
<td>25.4%</td>
</tr>
<tr>
<td>Personal and Home Care Aides</td>
<td>6,340</td>
<td>8,450</td>
<td>2,109</td>
<td>33.2%</td>
</tr>
</tbody>
</table>

Health Career Ladders and Lattices

Career ladders and lattices consist of a group of related jobs that comprise a career. Career ladders and lattices may include a pictorial representation of job progression in a career as well as detailed descriptions of the jobs and the experiences that facilitate movement between jobs. Career ladder/lattices may be specific to an organization or may span multiple organizations.

Uses of career ladders and lattices include the following:

- attract individuals to an industry by showing potential career progression beyond entry points,
- focus workforce development efforts,
- show workers how different jobs interconnect within careers in an industry, and
- inform workers about the training, education, and developmental experiences that would enable them to accomplish their career objectives.

A study in California, prepared by the Shirley Ware Education Center, evaluated and mapped career pathways for 60 healthcare occupations. The goal of the project was to identify, map, and develop career pathways into and through health care specialties that could be used to aid and encourage career advancement for incumbent workers in the health care industry.

Using the pathways identified in the California study as a guide, we looked at similar pathways and training opportunities for several healthcare occupations in Connecticut. By doing so, areas where there may be significant educational gaps between occupations along a potential career path could be identified.

We looked at three careers: nursing, emergency medical services and physical therapy to illustrate where progression between jobs was well defined as well as areas where there are huge hurdles to overcome. A mapping project should be undertaken of all health care occupations in Connecticut.

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27 Ibid.
28 Ibid.
29 The Career Ladder Mapping Project, Shirley Ware Education Center, Oakland, California, December 2002.
Direct Patient Care Career Pathways

Source: The Career Ladder Mapping Project, Shirley Ware Education Center, California, December 2002.
Nursing Career Ladder

Nursing has been the focus of considerable attention by both educators and workforce professionals in Connecticut as well as nationally. Demand for entry level as well as mid-to senior-level nurses is high. There are multiple points along the nursing career pathway where individuals may enter to pursue a career in nursing.

The recent suspension of the Licensed Practical Nurse program offered at Connecticut technical high schools in response to the current and future state budget deficit has eliminated an important rung on the nursing career ladder. Students that are presently enrolled in the day and evening programs will have the opportunity to complete their programs, but all future programs are suspended.

The suspension of the LPN program has been the subject of much discussion as LPNs have been identified as a high growth occupation. Additionally, significant effort had been undertaken to modify the LPN curriculum so that LPNs would be able to receive full credit for the first year of the RN programs offered at community colleges and fill second year RN slots where the attrition rate is high.

**Nursing Pathway Occupations Projections 2006-2016**

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Employment 2006</th>
<th>Employment 2016</th>
<th>Annual Openings Total</th>
<th>Annual Openings Growth</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Health Aides</td>
<td>10,588</td>
<td>13,282</td>
<td>364</td>
<td>269</td>
<td>25.4%</td>
</tr>
<tr>
<td>Nursing Aides, Orderlies, and Attendants</td>
<td>24,661</td>
<td>27,585</td>
<td>513</td>
<td>292</td>
<td>11.9%</td>
</tr>
<tr>
<td>Medical and Clinical Lab Technicians</td>
<td>1,532</td>
<td>1,691</td>
<td>39</td>
<td>16</td>
<td>10.4%</td>
</tr>
<tr>
<td>Medical and Clinical Lab Technologists</td>
<td>2,150</td>
<td>2,388</td>
<td>57</td>
<td>24</td>
<td>11.1%</td>
</tr>
<tr>
<td>Medical Assistant</td>
<td>4,987</td>
<td>6,516</td>
<td>215</td>
<td>153</td>
<td>30.7%</td>
</tr>
<tr>
<td>Licensed Practical Nurses</td>
<td>8,017</td>
<td>9,067</td>
<td>324</td>
<td>105</td>
<td>13.1%</td>
</tr>
<tr>
<td>Registered Nurses</td>
<td>32,835</td>
<td>38,557</td>
<td>1,114</td>
<td>572</td>
<td>17.4%</td>
</tr>
<tr>
<td>Nursing Instructors/Teachers, Post Secondary</td>
<td>451</td>
<td>531</td>
<td>16</td>
<td>8</td>
<td>17.7%</td>
</tr>
</tbody>
</table>

Legend: 🎈 Hot Job, 🌿 High growth rate or annual openings

Nursing Career Ladder

**Certified Nurse Anesthetists (MSN)**

**Clinical Nurse Specialists (MSN)**

**Masters in Nursing (BA/BS to MSN)**

**PhD (3-5 yrs.)**

**Master Entry Program in Nursing**

**Nurse Educators (MSN)**

**Nurse Midwife**

**Nursing Career Ladder**

**BSN or RN to BSN (2-4 yrs)**

**Baccalaureate Programs**

Central Connecticut State University
Fairfield University (Also second degree program), Quinnipiac University, Sacred Heart University, St. Joseph College, Southern Connecticut State University, University of Connecticut University of Hartford, Western Connecticut State University

**RN (24 months)**

**Diploma in Nursing**

Bridgeport Hospital School of Nursing,
**Associates Degree**

Capital C C, Gateway CC, Goodwin College,
Naugatuck Valley C C, Norwalk C C, St.
Vincent’s College, Three Rivers C C

**LPN to RN**

LPNs can transfer into 2nd year of Associates Degree Program

**Licensed Practical Nurse (LPN)**

**Registered Nurse (ADN)**

**Bachelor of Science in Nursing (BSN)**

**Masters of Science in Nursing**

**Nurse Midwife**

University of Connecticut

**Yale University**

**Medical Assistants**

**Patient Care Technician**

**Home Health Aide**

**EKG Technician**

**Phlebotomist**

**Certified Nurse Assistant**

**EKG technician**

Non-credit certificate
Capital CC, Gateway CC, Naugatuck CC, Norwalk C C, Three Rivers CC, Tunxis CC

**Phlebotomy Technician**

Non-credit certificate
Asnuntuck C. C., Gateway C.C., Naugatuck Valley C.C., Norwalk C.C., Tunxis C.C.

**Medical assistant**

Associates Degree
Capital CC, Northwestern CC, Quinebaug Valley CC

**Credit certificate**
Capital CC, Northwestern CC, Norwalk CC

**Home Health Aid**

Non-credit certificate
Charter Oak

**Certified Nursing Assistant**

Non-credit certificate

**MSN**

Fairfield University (including specialty areas), Quinnipiac University, St. Joseph College, Southern Connecticut University, University of Connecticut, University of Hartford, Western Connecticut University, Yale University

**LPN (18-24 months)**

Goodwin, New England Technical Institute
LPN programs at Connecticut Technical High Schools are suspended eliminating the only publicly funded LPN programs in CT.

**PhD (3-5 yrs.)**

University of Connecticut

**Yale University**

**Sustinet Healthcare Workforce Task Force Briefing Paper**
Emergency Medical Services Career Ladder

Emergency medical services, while not designated as a high growth occupation or “hot job” by the Connecticut Department of Labor is an excellent example of progressive training levels *(e.g. MRT, EMT-B, EMT-I, EMT-Paramedic) with certification provided at each level. Training in Connecticut is provided on both a credit and noncredit basis.

Graduates of the Goodwin’s Paramedic Program can apply credits earned towards an Associate Degree in either Health Science or Homeland Security. Students interested in pursuing a Bachelor of Science in Health Science can also apply the majority of their credits toward this degree.

In order to increase the applicant pool for registered nurses, the feasibility of a Paramedic to Associates Degree in Nursing in Connecticut should be studied. Such programs are offered in California as well as in several mid-western states.

Emergency Medical Services Occupations
Projections 2006-2016

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Employment</th>
<th>Annual Openings</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
<td>2016</td>
<td>Total</td>
</tr>
<tr>
<td>EMT/Paramedics</td>
<td>2,803</td>
<td>3,149</td>
<td>67</td>
</tr>
<tr>
<td>Emergency Management</td>
<td>103</td>
<td>109</td>
<td>2</td>
</tr>
<tr>
<td>Specialists</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Fighters</td>
<td>3,967</td>
<td>4,314</td>
<td>180</td>
</tr>
</tbody>
</table>

Legend: 🎨 Hot Job, 🌟 High growth rate or annual openings

Emergency Medical Services Career Ladder

- Emergency Medical Technician-Paramedic
- Emergency Medical Technician-Intermediate
- Emergency Medical Technician-B
- Medical Response Technician
- Fire Fighters
- Emergency Management Specialist
- EMT-Paramedic
- EMT-Intermediate
- Emergency Medical Technicians (EMT)-Basic
- Medical Response Technician

- Associates Degree
  - Health Science
  - Homeland Security
- Paramedic Studies
  - Associates Degree
- Associate in Science Degree in Paramedic Studies
  - Associates Degree: Capital CC
  - Emergency Management Response
  - Credit certificate: Capital CC

- EMT-Intermediate
  - Non-credit certificate: Asnuntuck, Capital, Gateway, Manchester, Northwestern, Norwalk, and Quinebaug Community Colleges, Tunxis Danbury Hospital

- EMT-Paramedic
  - Credit Certificate: Capital CC, Goodwin*
  - Non-credit certificate: Northwestern CC, Danbury Hospital

- Emergency Medical Technicians (EMT)-Basic
  - Non-credit certificate: Asnuntuck, Capital, Gateway, Manchester, Northwestern, Norwalk, and Quinebaug Community Colleges, Tunxis Danbury Hospital
Physical Therapy Career Ladder

Demand for physical therapy related occupations is expected to increase in the future. Physical therapy aides, physical therapy assistants and physical therapists are all designated as high growth occupations. A major issue is the huge education gap between rungs on the ladder from physical therapy assistant to physical therapist.

**Physical Therapy Occupations Projections 2006-2016**

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Employment</th>
<th>Annual Openings</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
<td>2016</td>
<td>Total</td>
</tr>
<tr>
<td>Physical Therapy Aides</td>
<td>434</td>
<td>518</td>
<td>14</td>
</tr>
<tr>
<td>Physical Therapy Assistants</td>
<td>665</td>
<td>818</td>
<td>24</td>
</tr>
<tr>
<td>Physical Therapists</td>
<td>3,197</td>
<td>3,782</td>
<td>98</td>
</tr>
</tbody>
</table>

Legend: 🔥 Hot Job, 🌿 High growth rate or annual openings


Physical Therapy Career Ladder

**Physical Therapist**
- 6 Year Doctoral Degree
  - Quinnipiac University
  - Doctoral Degree, 3 +3
  - Sacred Heart
  - Doctoral (3 year)
  - University of Connecticut
  - BS to DPT
  - University of Hartford

**Physical Therapy Assistant**
- Associates Degree
  - Capital CC
  - Housatonic CC
  - Manchester CC
  - Naugatuck CC
  - Northwestern CC
  - Tunxis CC
Impediments to Growing Connecticut’s Health Care Workforce

A number of factors have been identified that inhibit Connecticut’s ability to grow its healthcare workforce. Many of these factors have been identified in previous studies.

<table>
<thead>
<tr>
<th>Individual Factors</th>
<th>Institutional Factors</th>
<th>Systemic Factors</th>
</tr>
</thead>
</table>
| Lack of awareness of health care occupations. | Faculty salaries in public nursing and allied health academic settings are not competitive with salaries offered in non-academic settings or private post-secondary institutions causing faculty shortages. | There is no coherent statewide healthcare workforce plan.  
• No specific annual targets have been set for each healthcare occupation.  
• Annual completion numbers not reported for each health care occupation. |
| Lack of a credential such as a GED or high school diploma. | Not enough clinical placements to meet the demand in certain areas of the state and lack of awareness of clinical slots that may be open. | Lack of career ladders (Progression gaps too large, articulation agreements between higher education institutions may not exist for certain courses of study). |
| Need for remedial education and English as a second language. | Data on the number of students wait listed for field of study due to lack of faculty, classroom space, clinical placements, etc. is not routinely collected or reported masking unmet needs. | No entity in the Executive Branch is accountable for meeting specific production targets. |
| Cost of post secondary education (e.g. tuition, books, etc.) is too high. | Cumbersome clinical placement contracting process between colleges and hospitals. | Lack of centralized health care workforce database for planning purposes. |
| High student indebtedness may steer students to specialty areas that will command higher salaries to pay off student loans. | Need for additional certifications and multiple certifying bodies and options; employer preferences are not known. | Cumbersome program approval process for post-secondary institutions to modify or implement new education programs. |
| Work-School-Life conflicts. Class schedule/training delivery format does not accommodate working adults. | Inadequate deployment of technology in academic settings (e.g. distance learning, on-line clinical placement scheduling, simulation labs, etc.). | Lack of full system wide transparency among Connecticut’s healthcare workforce development entities and stakeholders resulting in missed opportunities for collaboration or sharing of research  
• no website/ minimal web presence for several public healthcare workforce entities that posts meeting notices/agendas, policy reports, etc. (e.g. OWC, AHWPB, Committee on Employment and Training, etc.).  
• no online student transfer information system supplying articulation agreements. |
Government entities that impact size of healthcare workforce subject to:
- budget crisis/hiring freezes
- rigid job classifications and bureaucratic processes in selection and hiring of qualified candidates
- lack of visibility, defined career ladders, and in some occupations non-competitive salaries.

Recommendations

It is clear that a number of actions will be required to resolve Connecticut’s health care workforce shortages. Indeed, there is no silver bullet and the solution will require that multiple entities work in concert.

As the economy improves, health care reform moves through the legislative process and Boomers begin to retire, current healthcare workforce shortages will be exacerbated. Connecticut will need to get moving quickly on a comprehensive strategic plan to insure that there is an adequate supply and distribution of culturally competent health care practitioners to meet the needs of the population.

Recommendations

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>#1. Establish a Healthcare Workforce Data Center and website to support better workforce planning.</th>
<th>#2. Develop health care workforce plan that identifies specific annual targets and production for each in-demand health care occupation. Post annual healthcare workforce scorecard on Governor’s website.</th>
<th>#3. Develop an on line student transfer information system.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue or problem that proposal addresses</td>
<td>• Fragmented data collection efforts. • Missed opportunities for joint data collection. • Data needed for planning is not collected or is not available. • Lack of awareness of data and information/research studies undertaken in CT.</td>
<td>There is no coherent statewide healthcare strategic workforce plan that identifies: • Specific numerical annual production targets and results for each in demand health care occupation [recommend use of CTDOL annual openings as production target until more refined goal can be developed]; • Projected statewide post secondary institution capital needs; • Projected post secondary institution operating needs; • Faculty staffing plan; • An entity responsible for implementation/execution of the plan; and • An evaluation framework.</td>
<td>• On-line student-transfer information system would provide an electronic platform for academic planning, supplying articulation information to students and advisors. • Increased transparency and improved decision making. • Helps students avoid having to repeat coursework.</td>
</tr>
<tr>
<td>Exemplars</td>
<td>Lead Agency</td>
<td>Other Stakeholders</td>
<td>Pros</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>• California Health Workforce Clearinghouse, <a href="http://www.oshpd.ca.gov/">http://www.oshpd.ca.gov/</a>HWDD/HWC/RS-HWCFactSheet.pdf</td>
<td></td>
<td></td>
<td>• Facilitates identification of opportunities for joint data collection that could result in cost savings or collection of better data.</td>
</tr>
<tr>
<td>• Virginia department of health professions, <a href="http://www.dhp.state.va.us/hwdc/default.htm">http://www.dhp.state.va.us/hwdc/default.htm</a></td>
<td></td>
<td></td>
<td>“What gets measured gets done.”</td>
</tr>
<tr>
<td>• Michigan Health Care Workforce Center, <a href="http://www.michigan.gov/healthcareworkforcecenter">http://www.michigan.gov/healthcareworkforcecenter</a></td>
<td></td>
<td></td>
<td>Improved transparency and accountability: By developing an annual health care workforce scorecard, the public and policy makers will have a better understanding of health care</td>
</tr>
<tr>
<td>• Oklahoma Health care workforce center, <a href="http://www.okhealthcareworkforce.com/">http://www.okhealthcareworkforce.com/</a></td>
<td></td>
<td></td>
<td>• Students will be able to save time and money by understanding how coursework earned at one institution will be treated by another institution.</td>
</tr>
<tr>
<td>• Texas Department of Health Services, <a href="http://www.dshs.state.tx.us/chs/hprc/">http://www.dshs.state.tx.us/chs/hprc/</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Developing California’s Health Care Workforce For Tomorrow <a href="http://www.oshpd.ca.gov/HWD/HWC/RP-Developing.pdf">http://www.oshpd.ca.gov/HWD/HWC/RP-Developing.pdf</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• California <a href="http://www.assist.org">www.assist.org</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• New Jersey <a href="http://www.njtransfer.org">www.njtransfer.org</a></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>• Arizona <a href="http://www.aztransfer.com">www.aztransfer.com</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Pennsylvania College Credit Transfer system <a href="http://www.pacollegecredentialtransfer.com">www.pacollegecredentialtransfer.com</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Arkansas Course Transfer System (ACTS) <a href="http://www.adhe.edu">www.adhe.edu</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• u.select- is used throughout the U.S. to help students explore their educational options, <a href="http://pdx.transfer.org/">http://pdx.transfer.org/</a></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| | • Enhances inter-agency understanding and cooperation.  
• Increased awareness of health care occupations.  
• Healthcare workforce data provided online will ensure accessibility of the information and findings among healthcare decision makers and stakeholders. | workforce issues, entities accountable for achieving results and how well the state is meeting its goals. | • Provides an effective tool for guidance counselors and advisors that should improve their productivity. |
|---|---|---|---|
| **Cons** | • Some entities may be resistant to sharing data and to changes in data collection procedures.  
• Requires funding to implement and to sustain the effort. | Will require funding to implement and to sustain the effort. | Will require funding to implement and to sustain the effort. |
| **Expected outcome** | Improved healthcare workforce planning and data collection. | A coherent plan identifying strategies that will result in an increased supply of nursing and allied health workers. | Students will be able to make seamless transitions from one institution to another avoiding the need to repeat courses. |
| **How do you measure success?** | Website developed.  
• Number of hits on website  
• Survey of customers using website.  
Data and research findings become more accessible for use by researchers, planners, etc.  
• Number of databases and reports posted on website.  
Improved data collection  
• Number of collaborations on data collection.  
• Cost savings achieved. | Annual report card identifying targets/goals for each healthcare profession benchmarked to actual completion rates:  
• enrollment;  
• number of students requiring remediation,  
• retention rate,  
• completion rate,  
• licensing exam pass rate  
• number of qualified students who could not be admitted  
• number of faculty vacancies. | • Website developed that includes coursework for nursing and allied health program of study.  
• Number of participating post secondary institutions.  
• Improved productivity of counselors/advisors.  
• Number of transferring students having to repeat coursework  
• Customer surveys |
| **Cost** | Order of magnitude cost: minimal.  
Resources needed to develop an on-line portal and to identify data sets needed by stakeholders. | Order of magnitude cost: Resources would be needed to develop the on-line platform.  
Other states have implemented transfer systems so Connecticut would not have to break new ground. | Order of magnitude cost: Resources would be needed to develop the on-line platform.  
Other states have implemented transfer systems so Connecticut would not have to break new ground. |
<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Issue or problem that proposal addresses</th>
<th>Exemplars</th>
</tr>
</thead>
</table>
| #4. Develop career maps for each “in-demand” healthcare occupation and identify how coursework will be treated as an individual moves up the career ladder in a chosen field. | • Many incumbent workers are not aware of the different positions in the health care industry and how they are related. • High turn over in entry-level positions. • Career ladders and lattices help people visualize and learn about the job options that are available as they progress through a career.  
  - Career ladder/lattices may be organization specific or may span multiple organizations. 
  - Formalize nursing career maps to take advantage of extensive work done in area of nursing. 
  - Develop career maps/paths for all other health care occupations. 
  - Develop new map/paths; recommend: 
    - Long term care career path in direct patient care as well as in behavioral health. 
    - Map behavioral health care career paths for several specialty areas. | • Connecticut Charts a Course, [http://www.ctcharts-a-course.org/index.cfm?modul e=B&navID=nav41](http://www.ctcharts-a-course.org/index.cfm?modul e=B&navID=nav41) 
• Statewide career pathways [http://www.statewidepathways.org/about.html](http://www.statewidepathways.org/about.html) 
| #5. Implement an on-line centralized clinical placement scheduling system. | • Lack of clinical placements has been cited a barrier to increasing enrollment in nursing and allied health programs of study. 
  - Fragmented and time consuming clinical placement process. 
  - Lack of awareness of open clinical placement slots. 
  - The goals of CCP systems are to: a) Increase the overall number of available clinical sites; b) Decrease the faculty and staff clinical hours needed to arrange clinical site time; c) Decrease the cost to schools and clinical facilities of placing students; d) Provide an early alert system when clinical sites become available; and e) Provide a forum to increase communication about issues facing education and workforce development. | Web-based centralized clinical placement (CCP) systems use online scheduling systems to match students from participating schools with clinical placement opportunities at participating clinical sites. 
• Alabama [http://www.studentmax.org/clients.php](http://www.studentmax.org/clients.php), The Connecticut Adult Virtual High School program, funded by the state Department of Education's Bureaus of Adult Education, has developed and implemented a web-based learning model, an online orientation course, and online credit courses for |
| #6. Increase awareness of Connecticut Adult Virtual High School and other methods of obtaining a high school diploma. Explore how this tool could be used for tutoring students enrolled in high school who need extra help. | • Lack of a high school diploma is a barrier to post secondary training programs and many occupations. 
• Lack of awareness of options available to adult learners to earn a high school diploma. |  

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<table>
<thead>
<tr>
<th>Resource Center</th>
<th>Website Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>O-Net Resource Center</td>
<td><a href="http://www.onetcenter.org/ladders.html">http://www.onetcenter.org/ladders.html</a></td>
</tr>
</tbody>
</table>

**Lead Agency**
State Department of Higher Education, Statewide Advisory Council on Transfer and Articulation, CT Career Ladder Advisory Committee, State Department of Labor

**Other Stakeholders**
AHWPB, post secondary institutions, Workforce Investment Boards

**State Department of Higher Education, post secondary institutions, organizations offering clinical sites**

**Connecticut Department of Education**

**Connecticut Hospital Association, allied health nonprofit organizations, State Attorney General’s office regarding contracting procedures**

**Adult literacy Board, Local Boards of Education, Workforce Investment Boards, one stop centers.**

students enrolled in the Adult Credit Diploma Program in Connecticut. The program offers the central delivery of student registration; course development; staff development; and program management, and represents a statewide improvement in learning outcomes, cost efficiencies, and program equity. CT Adult virtual high school ([http://www.ctvhs.org/](http://www.ctvhs.org/)).
<p>| <strong>Pros</strong> | | | <strong>Cons</strong> | | | <strong>Expected outcome</strong> | | | <strong>How do you measure success?</strong> | | | <strong>Cost</strong> |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| • Effective recruitment and retention tool | • Improved productivity by decreasing time spent arranging clinical placements. | Awareness of another tool to help individuals attain a high school diploma. | • Some organizations may fear that existing relationships will be compromised by participating in system. | • Strategy was not recommended by Connecticut Hospital Association in recent study; no reason given | Will require funds to market this program. |
| • Individuals will become aware of career options and hopefully reduce turnover in entry-level positions. | • Efficient placement of students and early notification of open slots. |  | • Order of magnitude cost: minimal. Other states have implemented online clinical placement scheduling systems so Connecticut would not have to break new ground. |  |  |
| Will require funding and time to develop pathways and to sustain the effort. | • Expansion of clinical placement sites |  | • Order of magnitude cost: minimal. |  |  |
|  |  |  |  |  |  |
| <strong>Expected outcome</strong> | • Improved awareness of health career pathways. | Improved contracting and scheduling will reduce time spent and increase throughput. | Should improve awareness of GED options as well as increase enrollment. |
| • Improved career mobility and reduced turnover. |  |  |  |
|  |  |  |  |
| <strong>How do you measure success?</strong> | • Number of career maps prepared for in-demand health care occupations. | • Time spent scheduling clinical placements. | • Decrease the number of persons without a high school diploma. |
| • Surveys of students completing training programs to determine career mobility. | • Number of clinical placement slots available | • Enrollments in the CT Adult Virtual High School. | • Number of students completing program. |
| • Reduced turnover rate. | • Number of clinical placements filled | • Surveys of students |  |
|  | • Number of waitlisted students. |  |  |
|  |  |  |  |
| <strong>Cost</strong> | Order of magnitude cost: minimal. Some of this work is already being performed by other state agencies and/or commissions. Resources needed to pull information together in a coherent fashion. | Order of magnitude cost: minimal. | Order of magnitude cost: minimal. |  |  |
|  |  |  |  |  |  |</p>
<table>
<thead>
<tr>
<th>Recommendation</th>
<th>#7. Establish a pilot program involving community colleges, feeder high schools, health care employers and high school students to increase awareness of health careers, identify student academic deficiencies, and develop a student academic improvement plan that will remediate deficiencies while the student is still in high school.</th>
<th>#8. Internships for college students enrolled in a health career program of study.</th>
<th>#9. Offer Merit based scholarships to Connecticut residents.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue Addressed</td>
<td>• Lack of awareness of health careers. • Lack of skills to be successful in post secondary education or work. • An Analysis of Available Data on Remediation Activities at Connecticut’s Public Institutions of Higher Education, <a href="http://www.ctdhe.org/info/oldreports/rptremediation.htm#TABLE%20ELEVEN">http://www.ctdhe.org/info/oldreports/rptremediation.htm#TABLE%20ELEVEN</a> • New England Resource Center and Institute for Higher Education Policy, Developmental Education and College Opportunity in New England, <a href="http://www.nerche.org/IHEP/Dev_Ed_Water_Working_Paper.pdf">http://www.nerche.org/IHEP/Dev_Ed_Water_Working_Paper.pdf</a></td>
<td>• Increase ties to Connecticut to stem “brain drain”. • Interns gain practical experience while earning an income. Note: There is a lot going on in this area – public health agencies – state and local and educational institutions routinely take in interns although payment is not always an option.</td>
<td>• Cost of tuition and other expenses act as a barrier to post secondary education. • Provides a financial incentive for students to remain in Connecticut to pursue post secondary education. • Levels playing field with other states who offer merit scholarships. • Stems “brain drain” in Connecticut.</td>
</tr>
<tr>
<td>Lead Agency</td>
<td>Worksites that provide the internship.</td>
<td>Connecticut Department of Higher Education, Office of State Treasurer</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>----------------------------------------</td>
<td>---------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Area Health Education Centers, Community Colleges, feeder High Schools, Hospitals, clinics and other health care worksites</td>
<td>Connects students to academic, cultural, and social opportunities in Connecticut and strengthens ties to the area.</td>
<td>Provides an incentive for Connecticut students to stay in Connecticut to pursue a degree. Reduce Connecticut brain drain. Removes cost as a barrier to post secondary education. Levels playing field with other states that provide merit scholarships.</td>
<td></td>
</tr>
<tr>
<td>Other stakeholders</td>
<td>Connecticut Department of Higher education, Post Secondary Education Institutions, foundations, community nonprofits</td>
<td>Post Secondary Education Institutions, high school guidance departments.</td>
<td></td>
</tr>
<tr>
<td>Workforce Investment Boards, Foundations, local community nonprofits</td>
<td>Internships expose students to academic, cultural, and social opportunities in Connecticut and strengthen ties to the area.</td>
<td>Provides real world learning experience. Provides source of</td>
<td></td>
</tr>
<tr>
<td>Pros</td>
<td>Students will learn soft skills/job readiness training, how to take vital signs, first aide/CPR/AED, intake, and a general health assessment.</td>
<td>Benefits to Individuals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposes students to a multitude of health care professions by shadowing health care professionals.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Students will be assessed to</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Mississippi Eminent Scholars Program
- [http://www.mississippi.edu/riseupms/search-results.php?article_id=228](http://www.mississippi.edu/riseupms/search-results.php?article_id=228)

### Missouri Higher Education Academic Scholarship Program

### Nevada Millennium Scholarship
- [https://nevadatreasurer.gov/MillenniumScholarship.htm](https://nevadatreasurer.gov/MillenniumScholarship.htm)

### New Mexico Legislative Lottery Success Scholarship
- [http://fin.hed.state.nm.us/content.asp?CustComKey=194781&CategoryKey=194782&pn=Page&DomName=fin.hed.state.nm.us](http://fin.hed.state.nm.us/content.asp?CustComKey=194781&CategoryKey=194782&pn=Page&DomName=fin.hed.state.nm.us)

### South Carolina LIFE Scholarship
- [http://www.che.sc.gov/New_Web/GoingToCollege/LIFE_Hm.htm](http://www.che.sc.gov/New_Web/GoingToCollege/LIFE_Hm.htm)

### Tennessee Education Lottery Scholarship Program
- [http://www.tn.gov/CollegePays/mon_college/lottery_scholars.htm](http://www.tn.gov/CollegePays/mon_college/lottery_scholars.htm)

### West Virginia PROMISE Scholarship
- [http://wvhepcnew.wvnet.edu/index.php?option=com_content&t ask=view&id=65&Itemid=0/home.aspx](http://wvhepcnew.wvnet.edu/index.php?option=com_content&task=view&id=65&Itemid=0/home.aspx)
<table>
<thead>
<tr>
<th><strong>Cons</strong></th>
<th>Funding support needed</th>
<th>Funding support needed</th>
<th>Requires funding to implement and to sustain effort.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expected outcome</strong></td>
<td>• Students better prepared to enter college.</td>
<td>• Students better prepared and gain practical experience.</td>
<td>• Increased number of students pursuing post secondary education in Connecticut.</td>
</tr>
<tr>
<td></td>
<td>• Reduce the number of students requiring remediation.</td>
<td>• Strengthen ties to Connecticut.</td>
<td>• Increased educational attainment levels in Connecticut.</td>
</tr>
<tr>
<td></td>
<td>• Increase number of students pursuing health careers.</td>
<td>• Increased number of paid internships offered in Connecticut.</td>
<td>• Number of students pursuing education.</td>
</tr>
<tr>
<td></td>
<td>• More interest in health careers.</td>
<td>• Number of students completing an internship.</td>
<td>• Number of students staying in Connecticut to pursue education.</td>
</tr>
<tr>
<td></td>
<td>• Enhanced readiness for college- number of students requiring remediation.</td>
<td>• Survey of interns regarding post graduation plans.</td>
<td>• Number of scholarships issued.</td>
</tr>
<tr>
<td></td>
<td>• Better ties between AHEC, high schools, community colleges, and worksites.</td>
<td>• Graduation rate.</td>
<td>• Graduation rate.</td>
</tr>
<tr>
<td><strong>How do you measure success?</strong></td>
<td>Order of magnitude cost: minimal. Framework for program has already been developed by other entities. Funding needed for student stipends, teacher/guidance counselor salaries, coordination/outreach/evaluation.</td>
<td>Order of magnitude cost: minimal. Funding for be needed for student stipends, teacher salaries, coordination and outreach.</td>
<td>Order of magnitude cost: Substantial.</td>
</tr>
<tr>
<td></td>
<td>• Number of students completing an internship.</td>
<td>• Number of students pursuing education.</td>
<td>However, research indicates that the return on investment is significant in terms of wages earned and income taxes paid.</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Recommendation</th>
<th>#10. Implement and fund a nurse residency program to take the novice learner from new graduate to more competent provider.</th>
<th>#11. Expand Distance Learning Offerings in nursing and allied health field.</th>
<th>#12. Create Regional Partnerships of healthcare workforce stakeholders.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Issue Addressed</strong></td>
<td>• Newly licensed RNs are not fully prepared to perform common tasks in a basic practice setting.</td>
<td>Distance learning expands the state’s capacity to produce nursing and allied health graduates without significant investments in physical infrastructure. Provides another method to deliver training to adult learners.</td>
<td>• Fragmented efforts to align the region's supply of and demand for health workers and address specific opportunities for action.</td>
</tr>
<tr>
<td></td>
<td>• Wisconsin Nurse Residency Program, <a href="http://wnrp.org/">http://wnrp.org/</a></td>
<td>• <a href="http://www.indstate.edu/distance/nursing-masters.html">Indiana State University Masters in Nursing</a></td>
<td>• <a href="http://www.baltimorealliance.org/">Baltimore Alliance for Careers in Health Care</a></td>
</tr>
<tr>
<td></td>
<td>• <a href="http://www.vnresidency.com/">Virginia Nurse Residency Program</a></td>
<td>• <a href="http://www.charteroak.edu/prospective/online/">Charter Oak College</a></td>
<td>• <a href="http://www.wfscapitalarea.com/index.php?option=com_content&amp;task=category&amp;sectionid=11&amp;id=47">Austin Health Industry Steering Committee</a></td>
</tr>
<tr>
<td><strong>Other Stakeholders</strong></td>
<td>Allied Health Workforce Policy Board, CT Nursing Board of Examiners.</td>
<td>Post secondary education institutions, applicable licensing boards.</td>
<td>Hospitals, Post Secondary Institutions, Clinics, applicable nonprofit nursing and allied health entities, etc.</td>
</tr>
<tr>
<td><strong>Pros</strong></td>
<td>Enhance the expertise of the nursing workforce, to reduce practice errors, and to minimize the burnout caused</td>
<td>Provides another option for adult learners to gain access to higher education.</td>
<td>a) Coordinate efforts among key stakeholders (employers, the workforce development system, and</td>
</tr>
</tbody>
</table>
by stress in under prepared professional nurses.\textsuperscript{32}

| Cons | Will require funding to implement. | • Funding will be required to translate curriculum to an on-line format.  
• Approval may be required by the Connecticut Board of Governors, Connecticut Department of Higher Education delaying implementation of training.  
• Some post-secondary institutions may resist distance learning. | Will require funding to support operation of the group. |
| --- | --- | --- | --- |
| Expected outcome | • Raise competency of newly licensed nurses in clinical setting.  
• Increased retention of newly licensed nurses. | • Increase supply of health care workers. | • Enhanced working relationships between entities, improved coordination. |
| How do you measure success? | • Retention rate of nurses who completed residency versus those did not complete a residency.  
• Survey of nurses who participated in residency program. | • Enrollment numbers  
• Retention rate  
• Completion rate  
• Licensing exam pass rate. | • Participation in Regional partnerships.  
• Number of joint actions undertaken |
| Cost | Order of magnitude cost: Moderate.  Program has already been developed. Funding needed for implementation and evaluation. | Order of magnitude cost: Moderate. Funding required to translate curriculum to on line platform. Connecticut has in-house expertise. | Order of magnitude cost: minimal to moderate. Funding needed to staff regional partnerships and to undertake initiatives. |

\textsuperscript{32} American Association of Colleges of Nursing,  
\url{http://www.aacn.nche.edu/Education/pdf/NurseResidencyProgramExecSumm.pdf}
<table>
<thead>
<tr>
<th><strong>Recommendation</strong></th>
<th><strong>#13. Centralized faculty resource center indicating faculty openings and information on how to become a faculty member.</strong></th>
<th><strong>#14. Central Resource for Immigrants with foreign health care experience to help them gain employment in the regional health care industry.</strong></th>
<th><strong>#15. Promote use of Simulation in nursing and allied health education by developing a statewide plan documenting its current and future use, faculty development needs, and a build out plan.</strong></th>
</tr>
</thead>
</table>
| **Issue Addressed** | • Increase awareness of open faculty positions.  
• Increase awareness of the process on becoming a faculty member. | • lack of English language proficiency  
• Non-recognition of foreign professional credentials resulting in under-employment of documented immigrants.  
• need for linguistically and culturally competent workforce.  
• Addresses issue of racial and ethnic health disparities by providing a diverse workforce. | • No statewide plan or long term vision on use of simulation in education.  
• Provides a supplemental learning experience to better prepare students for clinical placements.  
• Exposes students to situations that they may not experience in clinical placement. |
| **Exemplars** | • Bay Area Nursing Resource Center  
• Massachusetts Nursing Center,  
[http://www.nursema.org/become_faculty.html](http://www.nursema.org/become_faculty.html). | • Boston’s Welcome Back Center for foreign-born nurses  
[http://www.bhcc.mass.edu/inside/18](http://www.bhcc.mass.edu/inside/18)  
• San Francisco Welcome Back Center,  
• San Diego Welcome Back Center,  
[http://www.hccr.edu/welcomebackcenter.org/](http://www.hccr.edu/welcomebackcenter.org/)  
• Puget Sound Welcome Back Center,  
[http://gateway.highline.edu/index.htm](http://gateway.highline.edu/index.htm)  
• Providence Rhode Island Welcome Back Center,  
[http://www.ride.rpi.edu/adulteducation/Rhode%20Island%20Welcome%20Back%20Center.aspx](http://www.ride.rpi.edu/adulteducation/Rhode%20Island%20Welcome%20Back%20Center.aspx)  
• New York Welcome Back Center,  
• Suburban Maryland Welcome Back Center,  
• Workforce Investment Board (WIB) Tool Kit Case Study: The Welcome Back | • Bay Area Simulation Collaborative:  
• University of Connecticut, Simulation lab in Stamford, CT,  
[http://today.uconn.edu/?p=8862](http://today.uconn.edu/?p=8862)  
• Fairfield University Simulation Lab,  
[http://www.fairfield.edu/son/son_lrnc.html](http://www.fairfield.edu/son/son_lrnc.html)  
• Simulated Teaching and Learning Initiative (STLI), funded by a grant from the State of Connecticut Allied Health Education Initiative,  
• Creating Simulation Communities of Practice,  
• Yale University Patient Simulation,  
[http://www.yale.edu/its/media/av/patient_simulation.html](http://www.yale.edu/its/media/av/patient_simulation.html)  
• Hartford Hospital simulation training in cardiology,  
[http://www.harthosp.org/nursing/CardiovascularEducation/default.aspx](http://www.harthosp.org/nursing/CardiovascularEducation/default.aspx) |
<table>
<thead>
<tr>
<th>Initiative</th>
<th><a href="http://wibtoolkit.net/resources/documents/CSwelcome.pdf">http://wibtoolkit.net/resources/documents/CSwelcome.pdf</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Stakeholders</td>
<td>Allied Health Workforce Policy Board, nonprofit allied health organizations</td>
</tr>
<tr>
<td>Pros</td>
<td>Increased awareness of available faculty positions and credentials needed to become a faculty member.</td>
</tr>
<tr>
<td>Cons</td>
<td>Funding is needed to develop and maintain website.</td>
</tr>
<tr>
<td>Expected outcome</td>
<td>Increase awareness of faculty positions and how to become an educator in Connecticut.</td>
</tr>
<tr>
<td>How do you measure success?</td>
<td>Reduce faculty vacancy rate in nursing and allied health field.</td>
</tr>
<tr>
<td>Cost</td>
<td>Order of magnitude cost: minimal.</td>
</tr>
<tr>
<td>Recommendation</td>
<td>#16. Develop pilot apprenticeship programs in healthcare field.</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Issue Addressed | • Allows student to “earn while they learn” thus expanding the pool of potential health care workers  
• Expands post secondary educational options.  
• Incumbent workers have the challenge of finding post secondary training opportunities that can be successfully incorporated into their work-life schedules.  
• Dislocated workers face the twin challenges of acquiring new skills and replacing lost wages. | • Resource for student who need extra help understanding a concept.  
• Many students entering post secondary education need remediation.  
• Students seeking remediation are most likely to drop out. |
| Exemplars | • United States Department of Labor/ETA,  
• USDOL/ETA,  
• Northwest Michigan Health Care Apprenticeship and Career Pathway Credentialing,  
http://www.nwm.org/downloads/healthcareapprenticecareercredentialingpathway.pdf | • University of Minnesota’s Web Anatomy,  
http://msijensen.cehd.umn.edu/WEBANATOMY/  
• Health Tutorials,  
http://www.khake.com/page92.html  
• Explore use of YouTube as a tutoring tool. |
| Lead Agency | Connecticut Department of Labor, State Department of Higher Education, and employers. | Department of Higher Education, Department of Labor, Charter Oak College |
| Other Stakeholders | Workforce Investment Boards, Connecticut Allied Health Workforce Policy Board, Post secondary education institutions | Post secondary institutions |
| Pros | To employers  
• Effective recruitment tool to select and train workers to meet their industries’ needs.  
• Provides employers with a pipeline of skilled workers with industry-specific training and hands-on experience.  
• Professionalizes entry-level healthcare occupations and prepares individuals for the challenge of higher level career specific skilled needs.  
• Some states provide tax benefits for certain occupations.  
• Workforce development grants might be available in some states.  
• Registered Apprenticeship programs are customizable to match employers’ needs and highly flexible to always meet employers’ changing requirements.  
• It is a cost effective method of training (apprentices produce while they learn)  
• Reduces turnover (apprentices know they have jobs with a future); | Provides 24/7/375 access to students needing remediation. |
• Healthcare professionals trained through Registered Apprenticeship gain knowledge, hands-on experience and confidence, which in turn improves the quality of patient care.
• The model is helping to increase diversity, according to healthcare providers, not only for the entry-level occupations but also as a pipeline and career ladder to higher level jobs. A goal of many of the providers is to create a workforce that approximates the composition of the patients they serve.

To employees
• Apprentices receive income while training that is guaranteed to increase as their training progresses.
• Apprentices benefit from real-world application of theory-based instruction as they work in their own job settings. The subject content and time requirements of an apprenticeship program depend on the occupation and the needs of the employer and are designed to ensure increased job competency over time.
• Apprentices receive highly skilled technical training in the apprenticeable occupation. Instruction is often provided onsite by the employer, at local training centers or at local community colleges and, increasingly, through distance and computer-based learning.
• Apprentices work and learn under the direction of qualified personnel, or mentors, who are experienced and proficient in their field. Mentors are not necessarily supervisors, but coaches who help apprentices learn skills they need to do their jobs successfully.
• Upon completion of an apprenticeship program, apprentices receive a Certificate of Completion from DOL (or State Apprenticeship Agency recognized by DOL) that is accepted throughout the industry and the country.\(^3\)

<table>
<thead>
<tr>
<th>Cons</th>
<th>Will need funding to develop health care related apprenticeships and to sustain the effort.</th>
<th>Will need funding to develop and maintain website.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected outcome</td>
<td>Increase health care talent pipeline</td>
<td>Improved graduation rate for students enrolled in nursing/allied health programs.</td>
</tr>
</tbody>
</table>


| How do you measure success? | • Enrollment  
• Retention rate  
• Number Completing apprenticeships  
• Licensing exam pass rate  
• Follow up surveys with employers and apprentices | • Student retention rate  
• Student graduation rate  
• Number of students passing licensing exams.  
• Customer surveys |
|---|---|---|
| Cost | Order of magnitude cost: Moderate to substantial.  
Some costs could be offset by DOL grants | Order of magnitude cost: Minimal to moderate depending on scale. |
Appendix A
American Medical Association
Listing of Healthcare Occupations
The AMA's Health Care Careers Directory

The AMA’s Health Care Careers Directory lists information about 81 careers in health care and more than 8,000 accredited educational programs in those fields, listed in the following categories:

Allied health

- Anesthesiologist assistant
- Anesthesia technologist/technician
- Athletic trainer
- Cardiovascular technologist
- Electroneurodiagnostic technologist
- Emergency medical technician-paramedic
- Exercise science (personal fitness trainer, exercise physiologist, and exercise science professional)
- Kinesiotherapist
- Medical assistant
- Medical illustrator
- Orthotist and prosthetist
- Perfusionist
- Polysomnographic technologist
- Respiratory therapist
- Surgical assistant
- Surgical technologist

Complementary and alternative medicine and therapies

- Chiropractic
- Massage therapist

Communication sciences

- Audiologist
- Speech-language pathologist

Counseling

- Counselor
- Genetic counselor
- Rehabilitation counselor

Dietetics

- Dietitian/nutritionist
- Dietetic technician

Dentistry and related fields

- Dental assistant
- Dental hygienist
- Dental laboratory technician
- Dentist

Expressive/creative arts therapies

- Art therapist
- Dance/movement therapist
- Music therapist

Health information and communication

- Cancer registrar
- Health information administrator
- Health information technician
- Medical coder
- Medical librarian
- Medical transcriptionist

Laboratory science
• Blood bank technology-specialist
• Clinical assistant
• Clinical laboratory scientist/medical technologist
• Clinical laboratory technician/medical laboratory technician
• Cytogenetic technologist
• Cytotechnologist
• Diagnostic molecular scientist
• Histotechnician
• Histotechnologist
• Pathologists’ assistant
• Phlebotomist

Medical imaging
• Diagnostic medical sonographer
• Magnetic resonance technologist
• Medical dosimetrist
• Nuclear medicine technologist
• Radiation therapist
• Radiographer
• Registered radiologist assistant

Nursing
• Nurse

Pharmacy
• Pharmacist
• Pharmacy technician

Physician assisting
• Physician assistant

Physician
• Doctor of medicine and Doctor of osteopathic medicine

Podiatry
• Podiatrist

Psychology
• Psychologist

Therapy and rehabilitation
• Occupational therapist
• Occupational therapy assistant
• Physical therapist
• Physical therapist assistant
• Therapeutic recreation

Veterinary medicine
• Veterinarian
• Veterinary technologist and technician

Vision-related professions
• Ophthalmic assistant/technician/technologist
• Ophthalmic dispensing optician
• Optometrist
• Orientation and mobility specialist
• Orthoptist
• Teacher of the visually impaired
• Vision rehabilitation therapist

Appendix B
Articulation Agreements
Attached for review is a compendium of the existing system, institutional and program level agreements between the CSUS, and its universities, with the Connecticut Community College (CCC) System, and its colleges.

The agreements are (in chronological order):

**General System to System Agreements**
Resolution and excerpt from the minutes of the January 15, 1973 minutes of the BOT for Regional Community Colleges meeting concerning transfer students between institutions in the State System of Higher Education; 6/4/1973


Articulation and Transfer Agreement between the Connecticut State University System and the Connecticut Community College System for a Pathway to Teaching Careers, 9/2004
Memorandum of Understanding between CCC and CSU, 3/29/2007

**Individual University/College(s) Agreements**
General Articulation Agreement between CC-TC and Eastern Connecticut State University, 8/11/1993

Articulation Agreement for Transfer of Selected Associate’s Degree Programs as Minors for Degree Programs in the School of Arts and Sciences between Central Connecticut State University and CC-TC System, 8/1993

Articulation Agreement for Transfer of Associate Degree Programs in Industrial and Engineering Technology to Degree Programs in the School of Technology between Central Connecticut State University and the CC-TC System, 8/1993

Articulation Agreement for Human Services Programs and the B.A. major in social work between CC-TC and Central Connecticut State University 12/22/1993

**Southern Connecticut State University Transfer Articulation for Selected Associate’s Degree Programs as Minors for Degree Programs in the School of Arts and Sciences, 6/2/1994**

Articulation Agreement for Transfer of Associate Degree Programs in Business at Community and Technical Colleges to Bachelor of Science degree programs in business at Central Connecticut State University, 6/7/1995

Articulation Agreement for the Hospitality Management Program at Manchester Community Technical College and BA in Special Studies International Hospitality and Tourism Studies at Central Connecticut State University, 2/10/1998

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Sustinet Healthcare Workforce Task Force
Briefing Paper
Articulation Agreement between Tunxis Community College and Central Connecticut State University, 4/14/2005

Articulation Agreement between Central Connecticut State University and Northwestern Community College regarding Northwestern’s Liberal Arts and Studies: Biology Concentration and Central’s B.S. in biomolecular Sciences, 8/30/2005

Naugatuck Valley Community college and Western Connecticut State University Transfer Compact, 6/19/2007

Norwalk Community College and Western Connecticut State University Transfer Compact, 6/19/2007

Southern Connecticut State University School of Nursing Articulation Agreement between Associate’s Degree in Nursing/Diploma programs and the BSN Program at SCSU, unsigned and undated

Articulation Agreement between Department of Communication Central Connecticut State University and Interpreting for the Deaf Program, Northwestern Connecticut Community College, undated

The Transfer Compact between Eastern Connecticut State University and the CC’s of Asnuntuck, Capital, Manchester, Quinebaug, and Three Rivers, brochure

Source: Connecticut Department of Higher Education, Report to the Joint Standing Committee of the General Assembly Having Cognizance on Matters relating to Higher Education and Workforce Enhancement on Special Act 07-07, AN ACT CONCERNING PUBLIC INSTITUTIONS OF HIGHER EDUCATION SYSTEM TRANSFER AND ARTICULATION PROCESS,
Appendix C

Apprenticeships in Healthcare
Apprenticeships in the Healthcare Setting

Since the beginning of the recession in March 2008, Connecticut has hemorrhaged over 100,000 jobs. Many of these jobs will not return as industry restructures to stay competitive. One possible approach to this issue is to develop apprenticeships in the health care industry.

Apprenticeships combine paid on the job training with classroom instruction. The United States Department of Labor has identified a number of “apprenticeable occupations in the health care industry. Given the current state of the economy, the “earn while you learn” model represents a possible solution for individuals who need to replace wages and simultaneously acquire new skills. Apprenticeship programs in the state of Connecticut are administered by the Connecticut Department of Labor, Office of Apprenticeship Training.

<table>
<thead>
<tr>
<th>Apprenticeable Healthcare Occupations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambulance Attendant (EMT)</td>
</tr>
<tr>
<td>Biomedical Equipment Technician</td>
</tr>
<tr>
<td>Certified Nursing Assistant Lattice</td>
</tr>
<tr>
<td>Certified Nursing Assistant I</td>
</tr>
<tr>
<td>Certified Nursing Assistant Advanced</td>
</tr>
<tr>
<td>Certified Nursing Assistant Geriatric</td>
</tr>
<tr>
<td>Certified Nursing Assistant Restorative</td>
</tr>
<tr>
<td>Certified Nursing Assistant Dementia</td>
</tr>
<tr>
<td>Certified Nursing Assistant Mentor</td>
</tr>
<tr>
<td>Contour Wire Specialist, Denture</td>
</tr>
<tr>
<td>Dental Assistant</td>
</tr>
<tr>
<td>Dental Equipment Installation and Service</td>
</tr>
<tr>
<td>Dental Laboratory Technician</td>
</tr>
<tr>
<td>Electro-medical Equipment Repairer</td>
</tr>
<tr>
<td>Emergency Medical Technician</td>
</tr>
<tr>
<td>Embalmer</td>
</tr>
<tr>
<td>Health Care Sanitary Technician</td>
</tr>
<tr>
<td>Health Support Specialist</td>
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<tr>
<td>Health Unit Coordinator</td>
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<tr>
<td>Home Health Aide</td>
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<tr>
<td>Home Health Director</td>
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<tr>
<td>Laboratory Assistant</td>
</tr>
<tr>
<td>Laboratory Technician</td>
</tr>
<tr>
<td>Long-term Care Nurse</td>
</tr>
<tr>
<td>Manager</td>
</tr>
<tr>
<td>Medical Assistant</td>
</tr>
<tr>
<td>Medical Laboratory Technician</td>
</tr>
<tr>
<td>Medical Secretary</td>
</tr>
<tr>
<td>Medical Transcriptionist</td>
</tr>
<tr>
<td>Nurse, Licensed Practical</td>
</tr>
<tr>
<td>Optical Instrument Assembler</td>
</tr>
<tr>
<td>Optician</td>
</tr>
<tr>
<td>Optician (optical goods)</td>
</tr>
<tr>
<td>Orthotics Technician</td>
</tr>
<tr>
<td>Orthotist</td>
</tr>
<tr>
<td>Orthodontic Technician</td>
</tr>
<tr>
<td>Paramedic</td>
</tr>
<tr>
<td>Pharmacist Assistant</td>
</tr>
<tr>
<td>Pharmacy Support Lattice</td>
</tr>
<tr>
<td>Pharmacy Service Associate Level I</td>
</tr>
<tr>
<td>Pharmacy Support Technician Level II</td>
</tr>
<tr>
<td>Lead Pharmacy Technician Level</td>
</tr>
<tr>
<td>Podiatric Assistant</td>
</tr>
<tr>
<td>Prosthetics Technician</td>
</tr>
<tr>
<td>Senior Housing Manager</td>
</tr>
<tr>
<td>Surgical Technologist</td>
</tr>
<tr>
<td>Veterinary and Laboratory Animal Technician</td>
</tr>
</tbody>
</table>

Health Information Technology Occupations

Health Unit Coordinator
Medical Coder
Medical Transcriptionist
Information Assurance Specialist
Information Management
IT Project Manager
IT Generalist

Appendix D

Connecticut’s
Public Higher Education System

Excerpts:

University of Connecticut, Program Approval Process,
http://provost.uconn.edu/policies_procedures/

Community College System, Program Approval and modification process,
http://www.commnet.edu/academics/

Connecticut State University System, Outline of Academic Program Approval Process,
www.southernct.edu/.../New_process_for_program_approval_092008.doc
Academic Program Approval or Modification Process

Academic Degree Program Approval Process

The Provost's office has defined the following process to be followed for the approval of a new academic program:

- Academic Department institutes program proposal [Notification of Intent of a New Academic Degree Program (WORD File)];
- Department and school/college approves program proposal;
- Proposal forwarded to either the Vice Provost for Research and Graduate Education for a graduate program or the Vice Provost for Undergraduate Education for an undergraduate program;
- Approved program forwarded to Vice Provost for Academic Administration for circulation to the Council of Deans and placement on the UConn Board of Trustees agenda;
- Academic Affairs Committee of the UConn Board of Trustees approves program;
- Board of Trustees approves program;
- Provost's Office submits BOT approved program for Department of Higher Education (DHE) approval. This includes circulation of the program summary to all institutions of higher education in Connecticut. The two step approval is as follows:
  - Evaluation of the program by DHE Advisory Committee on Accreditation (This Committee is comprised of academic officers/faculty representatives from institutions of higher education in the state)
  - Recommendations of Licensure of the program by the DHE Board of Governors Academic Affairs Committee; followed by the DHE Board of Governors approval of the program
- Two years after Licensure, program is reconsidered for final Accreditation. Programs generally come up for Accreditation two years after they were granted Licensure. Note: program cannot award degrees unless it has been Accredited.

If you have any questions about this process, please contact the Vice Provost for Research and Graduate Education (for a graduate program) or the Vice Provost for Undergraduate Education (for an undergraduate program).

Updated: April 2010
The process of creating or modifying academic programs is generally initiated by faculty action at the department level at each CSUS university. Local governance processes and procedures are followed, involving approvals at several levels such as department, school, curriculum committee and faculty senate. The office of the Provost/Academic Vice President (AVP) approves and prepares the final proposal which should follow the guidelines of the Board of Governors of Higher education:

- Application for Licensure of a Program of Higher Learning Within an Accredited Connecticut Institution of Higher Learning
  [Link](http://www.ctdhe.org/Regs/PDFs/ProgramApplication.pdf)
- Application for the Approval or Reapproval of Institutions and Programs of Higher Learning
  [Link](http://www.ctdhe.org/Regs/PDFs/InstitutionApplication.pdf)

Once a proposal has been prepared by the university the following review steps take place:

1. The University Provost, Vice President for Academic Affairs submits program proposal with his/her endorsement to the Sr. Vice Chancellor for Academic and Student Affairs for review.

2. The Sr. Vice Chancellor recommends to the Chancellor after review and agreement with the university.

3. The Chancellor, after review and agreement with the Sr. Vice Chancellor, approves that the proposal may go forward and be considered at a Council of Academic Vice Presidents (COAVP) meeting.

4. The Sr. Vice Chancellor recommends that the program be presented for discussion with the COAVP, and the COAVP may make suggestions for strengthening or modifying. University representatives able to address the details of the program are present, typically the Dean of the school, the department head and/or a group of faculty generating the proposal.

5. After this review (and having taken suggestions for revision and vetting the proposal through the university and the Chancellor), the Sr. Vice Chancellor recommends it for submission to the Board of Trustees Academic Affairs (BOTAA) Committee. The BOTAA Committee discusses the proposal and may also make suggestions for modifications. If they approve the program, the committee moves a resolution recommending the program to the Board of Trustees (BOT) for approval. The committee may make further suggestions for
revision, or the proposal may be sent back to the university to address concerns and incorporate revisions, in which case the proposal must be resubmitted to the Committee. University representatives able to address the details of the program are present, typically the Dean of the school, the department head and/or a group of faculty generating the proposal.

6. The proposal is reviewed by the BOT and a resolution is passed authorizing CSUS to seek approval of the program to be offered at the university from the Board of Governors of Higher Education (BOGHE). The BOT may also make suggestions for modification which must be vetted through the university and the Academic Affairs department of the System office before proceeding.

7. Once a signed copy of the BOT resolution is available, the Academic Affairs department of the System Office generates a transmittal letter to the Provost/AVP communicating the BOT authorization. The Sr. Vice Chancellor will then begin the process to seek BOGHE approval on behalf of the University.

8. The university generating the proposal shares a summary of the program via e-mail for comments with Presidents and Chief Academic Officers at all Connecticut colleges and universities. A compilation of responses is generated and attached to the proposal. This is shared with the system office.

9. The Sr. Vice Chancellor sends a letter and all materials to the Commissioner of the Department of Higher Education (DHE) on behalf of the university (with a copy to the Provost of the university) requesting review of the program. This step should be completed at least nine months in advance of the date for which authorization to operate is requested.

Once the proposal is at DHE, the following steps take place:

1. The proposal is reviewed by the Commissioner of DHE through a Planning Assessment which includes conformance with institution’s role and mission, need for the program, unnecessary duplication, cost effectiveness and availability of resources. If the finding is positive, the Commissioner proceeds with the review, otherwise the Commissioner offers the institution an option of withdrawing.

2. DHE does a preliminary Quality Assessment which includes an evaluation of compliance to program approval standards. DHE Planning and Quality assessments can occur concurrently.

3. The proposal undergoes comprehensive review by the Advisory Committee on Accreditation (ACA), a 12 member committee with representation from all constituent units of higher education, using the program approval standards. The proposal is approved for consideration at the full BOGHE meeting or recommendations are made for modifications and further review.
4. Upon ACA approval, the proposals are typically placed in the Commissioner’s Consent Agenda. In cases that required further discussion, or on request by a BOGHE member, proposals are placed as action items for the board. Final approval is granted through BOGHE resolution.

As Recommended By:

| COAVP   | DATE: 9/9/08 |
| COP     | DATE: 9/10/08 |
COMMUNITY COLLEGES OF CONNECTICUT
ACADEMIC PROGRAM
PLANNING AND APPROVAL PROCESS

Karen Sue Grosz, Academic Officer

February 21, 1998
Revised September 14, 1999
Revised April 18, 2000
### GUIDING PRINCIPLES FOR ACADEMIC PROGRAM DEVELOPMENT

1. **Characteristics of a Statewide Program**

2. **Characteristics of a Cooperative Program**

3. **Characteristics of a Local Program**

### Academic Programs—Associate Degrees

- **Types of Degrees Awarded in the System**

  - Associate in Arts
  - Associate in Science
  - Associate in Applied Science

### Semester Hour Requirements

- **General Education Requirement**

- **College “Residency” Requirement**

### Program Announcements

- Preliminary Program Announcement
- Circulation of Degree Program Proposal Summary

### Board of Governors’ Requirements for the Associate Degree Program Proposal

1. Objective
2. Educational Planning Statement
3. Administration
4. Finance
5. Faculty
6. Curricula and Instruction and Learning Outcomes
7. Resource Centers and Libraries
8. Admission Policies
9. Facilities and Equipment

### Resource Summary

1. Institution
2. Program
3. Name/Date
4. Internal Transfers
5. New Students
6. Tuition & Extension Fund
7. Other New Revenues
8. Faculty & Support Staff
9. Library
10. Equipment

### Academic Programs—Certificates

- **Types of Certificate Programs**
  
  - Certificate Programs of More Than 30 Semester Hours
  - Stand-alone Certificate Programs
  - Certificate Programs of Up To 30 Semester Hours
SEMESTER HOUR REQUIREMENTS
GENERAL EDUCATION REQUIREMENT
COLLEGE “RESIDENCY” REQUIREMENT
PROGRAM ANNOUNCEMENT
CERTIFICATE PROGRAM APPROVAL FORM ................................................... 14
Part A
1. College
2. Program Title
3. Proposed Implementation Date
4. Characteristics and Objectives
5. Curriculum and Learning Outcomes
6. Description of Career-Ladder Opportunities
7. Estimated Enrollment
8. Estimated Completions
Part B
1. Relationship to Mission, Role, Scope & to Similar Programs in the System and in other Institutions in Region
2. Description of Efforts to Establish Cooperative Program
3. Evidence of Need
Resources Required
Faculty
Staff Support
Library
Equipment

ACADEMIC PROGRAMS—PROGRAM OPTION ................................................. 15
SEMESTER HOUR REQUIREMENTS
PRELIMINARY PROGRAM ANNOUNCEMENT
FOR A PROGRAM OPTION
APPLICATION FOR A NEW OPTION TO
AN EXISTING ASSOCIATE DEGREE PROGRAM
1. College
2. Name of Parent Program
3. Curriculum Outline (side-by-side with parent program to the left and proposed new option to the right)
4. Objectives and Learning Outcomes of New Option
5. Relationship to Existing Degree/ Certificate Programs in System and in Other Institutions in College Service Region
6. Resources Required to Initiate New Option
7. Sample Program with Multiple Options

ACADEMIC PROGRAMS—MODIFICATION OF EXISTING PROGRAM ...... 17
RECOMMENDATION TO MODIFY A PROGRAM
1. Description and rationale for the proposed program modification (include curriculum)
2. Relationship of the modification to approved programs
3. Background for change (history)
4. Enrollment information
   • actual specialized course enrollments for the past two years
• estimates of enrollments in the proposed program for the next two years (substantiate)
5. Resources (specific existing and new costs which will be used to support the program)
• faculty (state credentials and current teaching assignments)
• library (holdings in area of specialization and related fields)
• specialized equipment
• other pertinent information
6. Professional accreditation (when relevant)

ACADEMIC PROGRAMS—SUSPENSION/TERMINATION OF DEGREE OR CERTIFICATE PROGRAMS OR PROGRAM OPTIONS

18

RECOMMENDATION TO SUSPEND/TERMINATE A PROGRAM

Title of Program
1. College
2. Reason(s) for Recommendation to Discontinue Program
3. Dates of Last Program Evaluations
   • for system
   • for BOG licensure/accreditation
   • for special accreditation
4. Statement of Modifications and/or Additional Resources Required to Sustain Program Viability
5. Current Enrollment
6. Degrees Granted (past three years)
7. Proposed Duration of Phase-out Period
8. Specific Provisions to Enable Currently Enrolled Students to Complete Program
9. Similar Degree/ Certificate Programs offered by other Community Colleges and by Other Institutions in College Region
10. Feasibility of Transferring Program to Another Community College or Consolidating Program with Similar Program at this or Another System Institution

ACADEMIC PROGRAMS—DHE/BOG PROGRESS REPORT FOR DEGREE PROGRAMS

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