Health Science

Preparing for Career Success in Health Science

CC9008

Career Clusters Prepare All Students for College, Technical Training and Careers

Career Clusters prepare learners of all ages for the information age as schools, colleges and employers strive for higher achievement in science, math and communication. One key to improving learner achievement is providing learners with relevant contexts for studying and learning. Career Clusters offer these contexts by linking school-based learning with the knowledge and skills required for continued success.

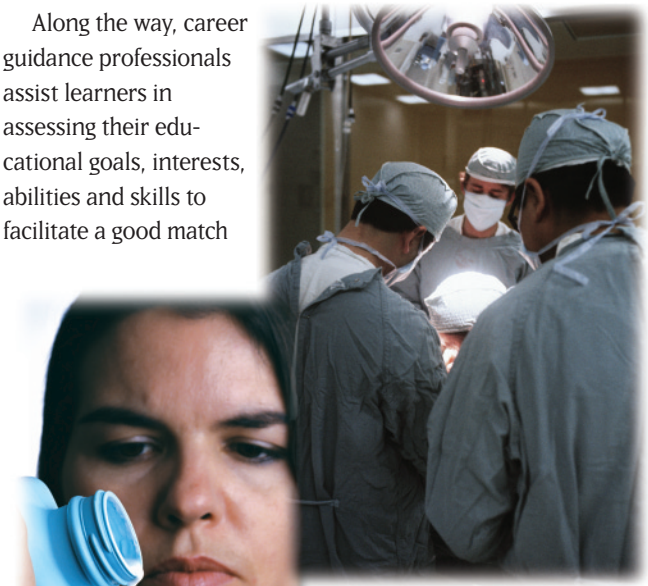
The Concept of Career Clusters

Career Clusters identify the knowledge and skills learners need as they follow a pathway toward their career goals. The knowledge and skills identified form a strong basis for learner success whether the learners are in high school, college, technical training, apprenticeship programs, or in the workplace.

How to Pursue Education and Training in Health Science

There are thousands of challenging educational and training opportunities within the high-skilled world of Health Science. Learners need a solid background in math, science, communications, and technical skills. Education and training can be obtained in high schools, technical colleges, two-year community colleges, four-year colleges, apprenticeship programs, and career technical schools/institutes.

Along the way, career guidance professionals assist learners in assessing their educational goals, interests, abilities and skills to facilitate a good match to the cluster's many pathway options. Learners participate in relevant educational opportunities framed in the context of the cluster. They gain knowledge and skills through coordinated workplace learning experiences such as site visits, job shadowing and internships. If they choose, they may achieve valuable skill certifications that lead to employment. Colleges and universities offer advanced degrees and industry certifications that prepare learners for professional and technical careers.



Career Pathways at a Glance

The Health Sciences Career Cluster is divided into five pathways. Pathways are grouped by common knowledge and skills required for occupations in these career fields. Each pathway provides instruction as a basis for success in an array of careers and educational pursuits.

The Five Pathways

- Therapeutic Services
- Diagnostic Services
- Health Informatics
- Support Services
- Biotechnology Research and Development

What Is the Health Sciences Career Cluster?

This Health Science Career Cluster orients students to careers that promote health, wellness, and diagnosis as well as treat injuries and diseases. Some of the careers involve working directly with people , while others involve research into diseases or collecting and formatting data and information. Work locations are varied and may be in hospitals, medical or dental offices or laboratories, cruise ships, medivac units, sports arenas, space centers, or within the community.

Employment Outlook

Health care is the largest and fastest-growing industry in the United States. The health care industry employs over 10 million workers in more than 200 careers. The current and projected health care workforce shortage is creating a health care crisis across the nation. Health care employment growth between 2000-2010 is projected to be 25.5 percent. A recent study commissioned by the American Hospital Association pointed out current vacancy rates that include 15.3 percent for imaging technicians, 13 percent for registered nurses, and 12.7 percent for pharmacists. The explosion of technology in health care and an unprecedented aging population contribute to the national health care workforce shortage.

Therapeutic Services

Overview

Careers in the Therapeutic Services Pathway are focused primarily on changing the health status of the patient over time.

Health professionals in this pathway work directly with patients; they may provide care, treatment, counseling and health education information.

Sample Occupations

- Athletic Trainer
- Certified Nurse Assistant
- Dental Hygienist
- Paramedic
- Pharmacist
- Physical Therapist
- Physician
- Registered Nurse
- Respiratory Therapist
- Surgical Technician

Credentials

Many Therapeutic careers include levels of therapist, technician and assistant. Some careers, like Nurse Practitioner or Physical Therapist, require a master's degree. Other careers, like Physician or Dentist, require a doctoral degree.

Most Therapeutic careers require certification, registration or licensure by a National Professional Organization or by the state in which these health professionals practice.

Employment Outlook

Based on an aging population, increased use of technology, and a retiring workforce, the demand for health care workers will remain high through 2020. As the role of Therapeutic careers changes, professionals in this pathway will find increased opportunities

to work independently. Additionally, an increasing number of career opportunities are becoming available outside of the traditional hospital setting.

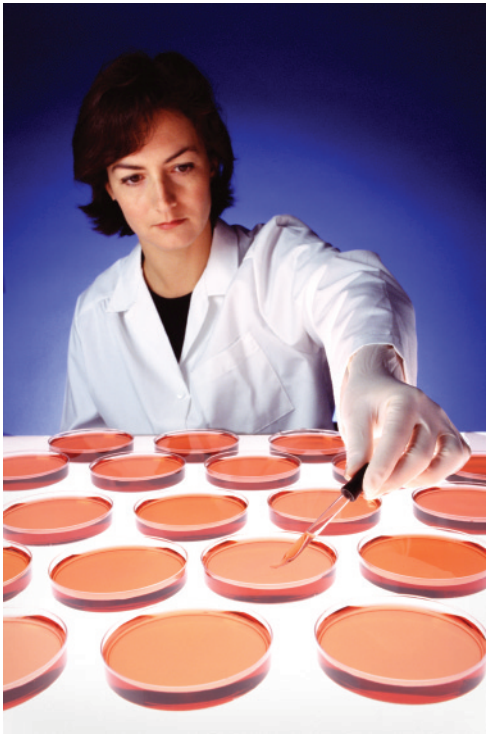
Diagnostic Services

Overview

Careers in the Diagnostic Services Pathway use tests and evaluations that aid in the detection, diagnosis and treatment of diseases, injuries or other physical conditions.

Credentials

Most Diagnostic careers require an associate or bachelor of science degree. Most states require certification, registration or licensure by a National Professional Organization. Many Diagnostic careers require a specialty certification in addition to an existing credential.

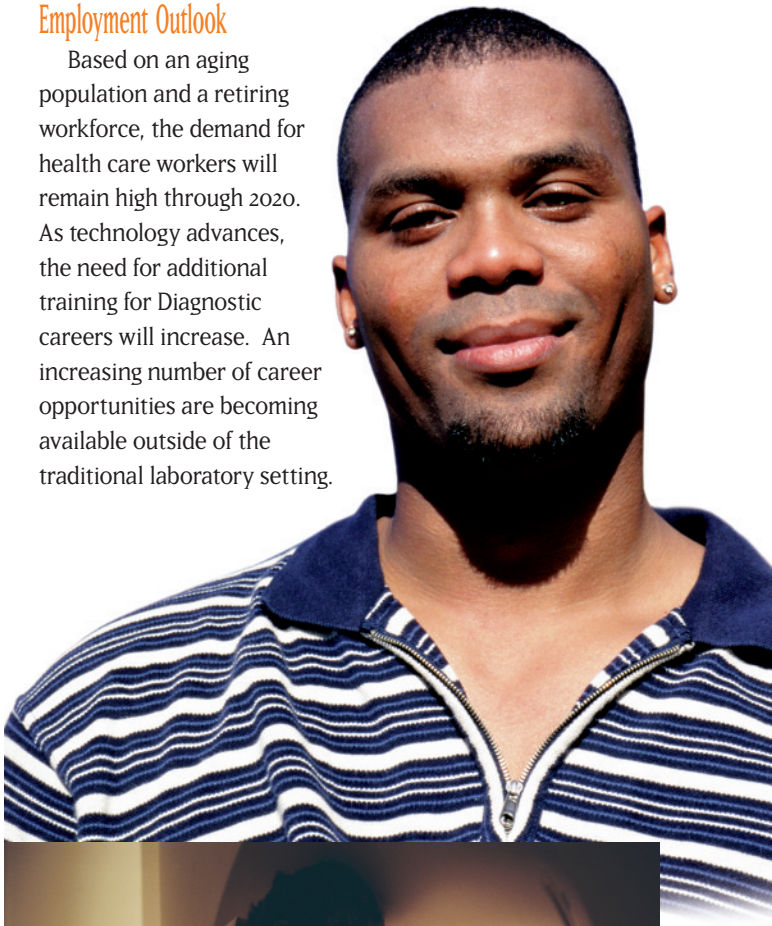


Sample Occupations

- Geneticist
- Medical Lab Technologist
- Nuclear Medicine Technologist
- Pathologist
- Phlebotomist
- Radiologic Technologist

Employment Outlook

Based on an aging population and a retiring workforce, the demand for health care workers will remain high through 2020. As technology advances, the need for additional training for Diagnostic careers will increase. An increasing number of career opportunities are becoming available outside of the traditional laboratory setting.



Health Informatics

Overview

Careers in the Health Informatics Pathway include many different levels of health care related employment. This pathway includes health care administrators who manage health care agencies as well as those individuals who are responsible for managing all of the patient data and information, financial information, and computer applications related to health care processes and procedures.

Sample Occupations

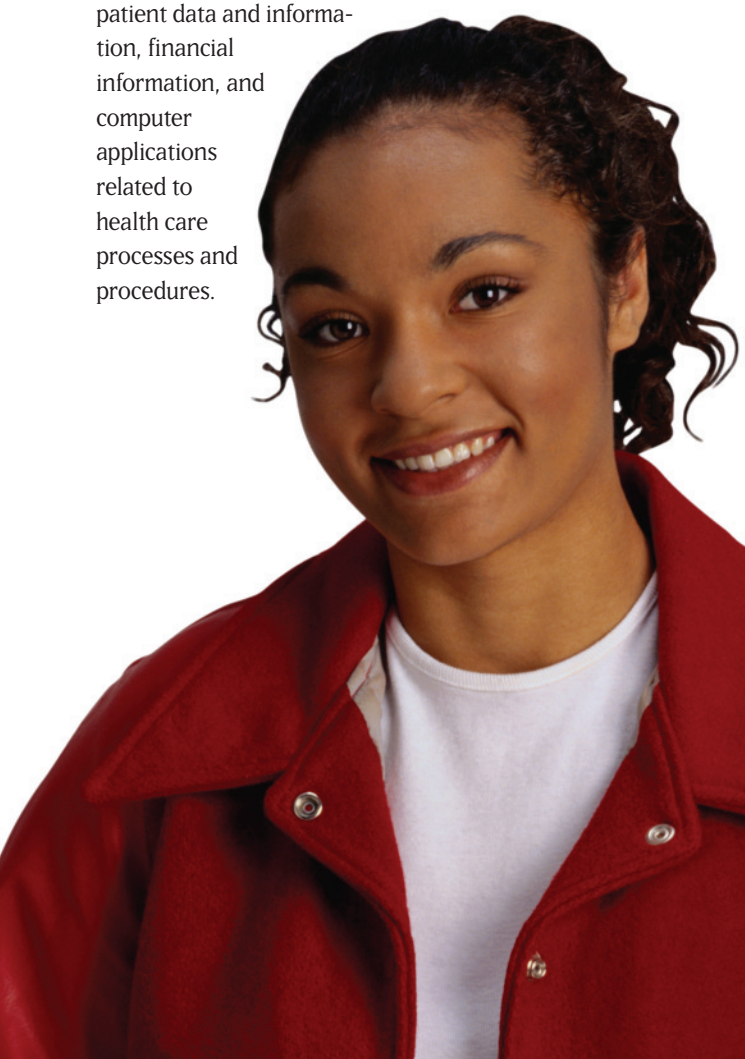
- Admitting Clerk
- Data Analyst
- Health Care Administrator
- Health Information Coder
- Medical Biller
- Medical Information Technologist
- Medical Librarian
- Reimbursement Specialist
- Transcriptionist

Credentials

Some Health Informatics careers require an associate or bachelor's degree in computer science; however, many of these careers simply require on-the-job training and/or certification.

Employment Outlook

Based on an increasing reliance on electronic information, the demand for these workers will remain high through 2020. Many career opportunities are available throughout the health care system.



Support Services

Overview

Careers in the Support Services Pathway provide a therapeutic environment for the delivery of health care. Support Services offers a full range of career opportunities from entry level to management, including technical and professional careers.

Sample Occupations

- Biomedical/Clinical Engineer
- Central Services Technician
- Dietary Technician
- Environmental Services Technician
- Hospital Maintenance Engineer
- Materials Management Technician

Credentials

Support Services careers have workers at varying levels of education. Some may require an associate or bachelor of science degree. Most offer extensive on-the-job training, and there is ample opportunity to gain job-related experience to advance in a Support Services career.

Employment Outlook

Job growth is projected for careers in this pathway as the health care industry expands. The demand for entry-level workers, qualified managers and supervisors will provide numerous job opportunities.

Biotechnology Research and Development

Overview

Careers in the Biotechnology Research and Development Pathway involve bioscience research and development as it applies to human health. These scientists may study diseases to discover new treatments or invent medical devices used to directly assist patients or to improve the accuracy of diagnostic tests.

Credentials

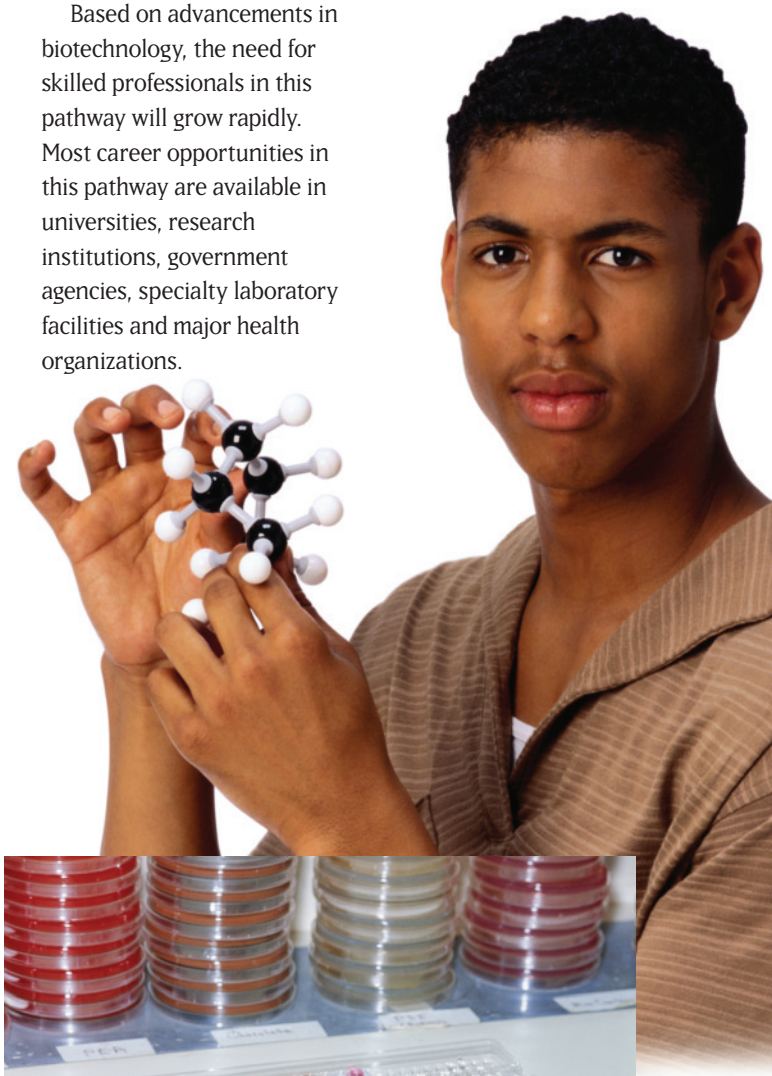
Most entry-level careers in Biotechnology Research and Development require a master's degree. Few certifications or licensures are required for these careers at this time.

Sample Occupations

- Bioinformatics Specialist
- Biostatistician
- Microbiologist
- Molecular Biologist
- Pharmacist
- Research Assistant

Employment Outlook

Based on advancements in biotechnology, the need for skilled professionals in this pathway will grow rapidly. Most career opportunities in this pathway are available in universities, research institutions, government agencies, specialty laboratory facilities and major health organizations.



The 16 Career Clusters

Agriculture, Food & Natural Resources
Architecture & Construction
Arts, A/V Technology & Communications
Business, Management & Administration
Education & Training
Finance
Government & Public Administration
Health Science
Hospitality & Tourism
Human Services
Information Technology
Law, Public Safety & Security
Manufacturing
Marketing, Sales & Service
Science, Technology, Engineering & Mathematics
Transportation, Distribution & Logistics

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