



# College Connections

# cicu

## CAREERS IN HEALTH CARE

**R**ecent data show that there were 14.3 million jobs in health care fields in the U.S. in 2008. By 2018, it is estimated that there will be an additional 3.2 million new health care jobs. Many of these positions call for education beyond high school; how much postsecondary education is required will depend on the specific career.

When considering careers in health care, most students will immediately think of doctors and nurses. But this growing field offers opportunities in so many more areas! Of the 14.3 million health care jobs in 2008, 40 percent were in hospitals, 21 percent were in nursing and residential care facilities, and 16 percent were in physicians' offices.

Health care professions can be grouped in the following broad categories:

**Therapeutic services**, or treating a particular disease or medical problem. This kind of work is performed by anesthesiologists, chiropractors, doctors, pharmacists, psychiatrists, and registered nurses, among many others.

**Diagnostic services**, or identifying a particular medical problem or disease. Those involved in diagnosing illnesses can include audiologists, cytotechnologists, medical laboratory technicians, mammographers, radiologists, etc.

**Health informatics**, or managing health care data or information. This work can be done by clinical account managers, health educators, medical historians, medical librarians, patient advocates, data analysts, and research support specialists.

**Research and development**, or investigating, discovering, and revising facts, theories, and applications in medicine. Examples of researchers are biochemists, cell biologists, forensic pathologists, pharmaceutical scientists, product safety specialists, and toxicologists.

Specific college requirements for various health care occupations may differ, but there are steps all middle and high school students can take to prepare themselves for a career as a health care professional:

- **Take challenging math courses.** Proficiency in math will be necessary for other course work.
- **Take as many science courses as possible.** High school students should have at least a year each of biology, chemistry, and physics.
- **Look at the familiar professions of doctor and nurse – and beyond.** Find the right fit. Learn about nursing and the work of a physician and the many other health care careers available.

- **Consider performing community service or volunteer work in a hospital or other health care facility.** Hands-on experience with patients and health care workers can help students decide what kinds of careers are right for them.
- **Shadow a health care professional on the job.** Find out from teachers, school staff, or adult mentors about opportunities to shadow health care workers.
- **Work hard at English language skills.** Working in health care will require the ability to read and understand complex material and to speak and write clearly and succinctly.
- **Seek out an after-school or summer enrichment program in biological science or health care-related fields.** Many independent colleges and universities offer such programs for middle and high school students; one place to begin researching them is [www.nycolleges.org/pdfs/2010OutreachandEnrichmentProgramsV050610.pdf](http://www.nycolleges.org/pdfs/2010OutreachandEnrichmentProgramsV050610.pdf).

Sources: "How Should We Prepare Students for Health Care Careers?," American Medical Association, [www.ama-assn.org/ama/pub/education-careers/careers-health-care/health-care-careers-e-letter/how-should-we-prepare-students-health.shtml](http://www.ama-assn.org/ama/pub/education-careers/careers-health-care/health-care-careers-e-letter/how-should-we-prepare-students-health.shtml)

Bureau of Labor Statistics/U.S. Department of Labor, [www.bls.gov/oco/cg/cq035.htm](http://www.bls.gov/oco/cg/cq035.htm)

New York's Private Colleges and Universities Outreach and Enrichment Programs for junior high and/or high school age students, [www.nycolleges.org/pdfs/2010OutreachandEnrichmentProgramsV050610.pdf](http://www.nycolleges.org/pdfs/2010OutreachandEnrichmentProgramsV050610.pdf)  
National Consortium for Health Science Education, [www.healthscienceconsortium.org](http://www.healthscienceconsortium.org)  
Bureau of Labor Statistics, Career Guide to Industries, 2010-11 Edition, [www.bls.gov/oco/cg/cqs035.htm](http://www.bls.gov/oco/cg/cqs035.htm)

### TOP 10 FASTEST GROWING OCCUPATIONS, 2010-2018

1. Biomedical Engineer\*
2. Networks System and Data Communications Analyst
3. Home Health Aide\*
4. Personal and Home Care Aide
5. Financial Examiner
6. Medical Scientist\*
7. Physician Assistant\*
8. Skin Care Specialist/Personal Care Services
9. Biochemist/Biophysicist\*
10. Athletic Trainer\*

\*Health care-related fields.

Source: Bureau of Labor Statistics/U.S. Department of Labor, <http://www.bls.gov/news.release/ecopro.t07.htm>

## EXPLORING HEALTH CARE CAREERS

### American Nurses Association

<http://nursingworld.org/>

Information about the nursing profession including continuing education.

### ExploreHealthCareers.org

<http://www.explorehealthcareers.org/en/index.aspx>

Sponsored by the American Dental Education Association (ADEA), this site contains explanations of the wide variety of health care careers.

### Healthcare Careers Directory

<http://www.ama-assn.org/ama/pub/education-careers/careers-health-care/directory.shtml>

This American Medical Directory contains information on more than 80 health care careers.

### Healthcare Practitioner and Technical Occupations/Bureau of Labor Statistics

[http://www.bls.gov/oes/current/oes\\_stru.htm#29-0000](http://www.bls.gov/oes/current/oes_stru.htm#29-0000)

The site includes descriptions of each occupation, average hourly and annual wages, types of

industries and employers offering employment in the occupation, and more. A second list covering Healthcare Support Occupations can be found at [http://www.bls.gov/oes/current/oes\\_stru.htm#31-0000](http://www.bls.gov/oes/current/oes_stru.htm#31-0000).

### NYS Department of Labor

[www.labor.ny.gov/stats/strain.shtml#Disclaimer](http://www.labor.ny.gov/stats/strain.shtml#Disclaimer)

Contains information on the certification and licensure required for jobs in health care and in other occupations.

### Student National Medical Association (SNMA)

[www.snma.org](http://www.snma.org)

A student-run organization focused on the needs and concerns of pre-med and medical students of color.

## SELECTED PROGRAMS IN HEALTH CARE AT INDEPENDENT COLLEGES AND UNIVERSITIES

**S**tudents interested in health care occupations have a number of programs of study available to them at the 100+ independent colleges and universities in New York. To discover many of the colleges that offer a bachelor's degree program, minor, or major area of concentration in other areas of study, you can search a database containing more than 500 academic programs located on New York's private (independent) colleges and universities' admissions and financial aid Web site, [www.nycolleges.org](http://www.nycolleges.org). Although the list is not exhaustive, it is a good place to start. Here's how to search:

- At the site's home page, click on "Academic Programs"
- At Step 1, select a degree level (Associate or Bachelor's); we'll pick "Associate" as an example
- At Step 2, choose an area of study; we'll select "Health Professions and Related Technologies" here
- At Step 3, you'll see a list of the programs of study offered; as an example, we'll click on "Nursing"

A list of colleges and universities will appear at the bottom of the screen. 15 independent colleges offer an associate-level degree or program in nursing. Click on one of the colleges to go to its campus profile and a link to the college's Web site.

This database is a general listing to start you on a search for academic programs. Always be sure to consult with the colleges directly for details about their programs and to distinguish registered degree programs from minors or major areas of concentration offered within larger programs.

### ASSOCIATE DEGREE PROGRAMS

Includes programs such as **Dental Assisting/Hygiene, Diagnostic Medical Sonography, Health Institution Management, Massage Therapy, Medical Assistant, Medical Record Technology, Nuclear Medical/Radiological Technology, Nursing, Occupational Therapy Assistant, Pharmacy Technician, Physical Therapist Assistant, Respiratory Care/Inhalation Therapy, and Surgical Technology**. These are offered at 23 independent colleges and universities in New York State.

### BACHELOR'S DEGREE PROGRAMS

There are 56 independent colleges and universities that offer bachelor's and/or graduate degrees in health care related fields. Some of the degree areas are listed below. Visit [www.nycolleges.org/programs.php](http://www.nycolleges.org/programs.php) for a list of institutions and Web links.

**Bioethics:** Study of the ethical and moral implications of advances in the biological sciences.

**Community Health:** Study of the health characteristics of individual geographical communities in order to improve public health.

**Cytotechnology:** Study of human cells, with concentration on detection of signs of cancer and other abnormalities.

**Diagnostic Medical Sonography (Ultrasound):** The use of ultrasound equipment to create images of internal body structures in order to make diagnoses.

**Health/Clinical Sciences:** Examination and analysis of bodily fluids, cells, and tissues in the laboratory.

**Health Care Administration/Services/Systems:** The organization, administration, and delivery of health care services.

**Medical Technology/Biomedical Sciences/Clinical Laboratory Science:** Specialized chemical, microscopic, and bacteriological testing of blood, tissue, and fluids.

**Nuclear Medicine Technologist:** Uses radioactive elements for the diagnosis and treatment of disease.

**Nursing:** Provides services to promote, maintain, and restore health and well-being to individuals unable to provide such services to themselves.

**Occupational Therapist:** Helps people with physical or emotional problems and limitations engage in meaningful activities.

**Pathologist's Assistant:** Assists pathologists with dissections, preparation of tissue samples, examination of medical records, performance of lab tests, and administrative tasks.

**Physical Therapist:** Treats physical injury or dysfunction with exercise to help individuals regain or improve physical abilities.

**Physician Assistant:** Performs medical and diagnostic tasks under a doctor's supervision.

**Radiological Sciences/Technologist:** Uses x-rays, sound waves, radio waves, and magnetic imaging in medical diagnoses.

**Respiratory Therapy/Cardio-Respiratory Science:** Study of assessing and treating breathing disorders such as asthma, bronchitis, emphysema, and chronic pulmonary disease.

**Speech-Language Pathology and Audiology:** The field of hearing, including anatomy of the ear, hearing impairment, and treatment of individuals with hearing loss.

**Sports/Exercise Studies/Athletic Training:** Movement and sport studies; effects of exercise on the human body, and the use of athletic training to treat and prevent physical injury.

**Therapeutic Studies:** The use of recreational activities to improve physical, mental, and social health.

**Toxicology:** Study of poisons and their effects on living systems.

## FEATURED CAMPUS: ALBANY COLLEGE OF PHARMACY AND HEALTH SCIENCES

**T**he demand for pharmacists is growing, with job opportunities for pharmacists expected to increase by 17 percent between 2008 and 2018 – faster than the average for all occupations. Increasing numbers of older people, who use more prescription drugs than younger people, along with scientific advances likely to lead to the development of new drugs, will spur the demand for pharmacists.

Founded in 1881, the Albany College of Pharmacy and Health Sciences offers the Doctor of Pharmacy degree as well as 4-year bachelor's degrees in Pharmaceutical Sciences, Health and Human Sciences, and Biomedical Technology. Students have opportunities to do research with faculty in such areas as cancer, infectious disease, obesity, and other medical problems and can earn master's degrees in Pharmaceutical Sciences, Pharmacy Administration, Health Outcomes Research, Biotechnology, and Cytotechnology. Graduates are prepared for careers as pharmacists, biochemists, toxicologists, hospital administrators, healthy policy analysts, physician assistants, and research scientists in the rapidly expanding field of health care.

In addition to careers in pharmacy, students can also pursue joint degree programs with Albany Medical College and Albany Law School.

The College's unique enrichment program, the ACPHS Academy, promotes math and science education for at-risk elementary school students, who are bused to the College twice a week for classes taught by local teachers. Albany College of Pharmacy students assist the teachers and serve as mentors. Bringing students on campus provides them with a college experience and shows how college can be part of their futures. 67 percent of the ACPHS Academy's 2008 4<sup>th</sup> graders achieved the highest test score on New York State's standardized science exam.

Other independent colleges and universities offering programs in pharmacy include: Cornell University, D'Youville College, Long Island University/Brooklyn Campus, St. John Fisher College, and St. John's University/Queens Campus and Touro College. A number of colleges offer students the opportunity to tailor their undergraduate program in preparation for entry into a pharmacy program (pre-pharmacy). Still others have formal cooperative degree programs where students begin at the undergraduate institution and then transfer into the graduate program to complete the pharmacy degree.

Sources: Albany College of Pharmacy home page, <http://www.acphs.edu/Default.aspx>; Occupational Outlook Handbook: 2010-11 Edition, Bureau of Labor Statistics/U.S. Department of Labor, <http://www.bls.gov/oco/ocos079.htm>  
The Independent Sector, Spring 2010, <http://www.cicu.org/CMT/reports/TheIndependentSectorSpring2010.pdf>

© 2010 *College Connections* is published by the Commission on Independent Colleges and Universities (CICU) Outreach Programs

CICU is a statewide association representing 100+ independent (private, not-for-profit) colleges and universities in NYS. Its Outreach Programs has offered free admissions, financial aid and access resources for 25+ years.

Address: 17 Elk St., PO Box 7289, Albany, NY 12224 Phone: 518.436.4781. Fax: 518.433.8825. Web: [www.nycolleges.org](http://www.nycolleges.org) - Admission and financial aid information for students, families, and counselors. [www.cicu.org](http://www.cicu.org) - Higher education information for policymakers. E-mail: [colleges@nycolleges.org](mailto:colleges@nycolleges.org)