

Overview of 10 Industry Sectors

HEALTHCARE

The **HEALTHCARE** sector provides medical services in hospitals, nursing homes and through doctor's offices and care centers. Jobs range from entry-level positions, such as Home Health Aide or Occupational Therapy Aide, to positions that require further education and advanced skills, such as Nurse, Physical Therapist or Dietician. There are many non-clinical jobs in Healthcare such as Medical Records and Health Information Technicians. People who are satisfied and successful working in this field usually like to help others. They are concerned about the welfare of patients and can deal with people of diverse backgrounds in stressful situations. People who are caregivers must be patient and comfortable with sickness and bodily functions. Almost all positions require attention to detail and good communication skills.



Photo: Minerva Studio/ Bigstock

Adapted from New York City Labor Market Information Service, City University of New York Labor Market Information Service, Mapping Your Future Health Care: Beyond Hospitals and Nursing Homes, https://www.gc.cuny.edu/CUNY_GC/media/365-Images/Uploads%20for%20LMIS/Information%20Tools/LTW/Health-Care-8-5x11-rearranged.pdf

TECHNOLOGY

People who work in the **TECHNOLOGY** sector focus on developing and maintaining computer hardware, software and networks. Hardware includes the physical parts of a computer, such as the microchips, screen, keyboard and mouse. Software includes the operating systems, such as Microsoft Windows, and the applications, such as Microsoft Word. Networks are groups of devices, such as computers and printers, which are connected to each other and to the Internet. Jobs generally fall into the following settings: jobs inside technology companies such as hardware engineers who work for Apple and jobs outside of technology companies, such as running a database for a hospital. Technology jobs require people who are flexible and quick learners. While there are entry-level Technology jobs that may only require basic training or a professional certification, most Technology jobs require at least a college degree.



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Adapted from Labor Market Information Service, May 2016



Short Sector Overviews

HEALTHCARE

The **HEALTHCARE** sector provides medical services in hospitals, nursing homes and through doctor's offices and care centers. There are entry-level jobs such as Home Health Aide or Occupational Therapy Aide (an Occupational Therapy Aide helps people who have been injured learn to do everyday tasks like cooking). Other jobs require more education and advanced skills, such as Nurse, Physical Therapist or Dietician. There are many non-clinical jobs that do not involve touching a patient. Examples are receptionists or people who work in the office to keep track of patient medical records. People who are happy and successful working in this field usually like to help others. They are concerned about patients and help people of different cultures and backgrounds in stressful situations. People who are caregivers must be patient. They must be comfortable with sickness and bodily functions. Almost all positions require attention to detail and communication skills.



Photo: Minerva Studio/ Bigstock

TECHNOLOGY

People who work in the **TECHNOLOGY** sector work with computers. They might work with computer hardware. Hardware includes the physical parts of a computer, such as the microchips, screen, keyboard and mouse. Instead, they might work with software. Software includes the operating systems, such as Microsoft Windows, and the applications, such as Microsoft Word. Finally, they might work with networks. Networks are groups of computers and printers which are connected to each other and to the Internet. If you work in this sector, you will might work inside a technology company—perhaps as a hardware engineers for Apple. Or you might work outside of a technology company, such as fixing computer problems in a hospital. Technology jobs require people who are flexible and quick learners. While there are entry-level Technology jobs that may only require basic training or a professional certification, most Technology jobs require a college degree.



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COMMUNITY AND SOCIAL SERVICES

Those who work in the **COMMUNITY AND SOCIAL SERVICES (CSS)** sector help people improve their lives by providing a wide variety of services. These might include Substance Abuse Counseling, Health Education and Mental Health Services. Police Officers, Firefighters and Sanitation Workers also fall into this group, because they help keep communities clean and safe. Many workers in this field help people who

COMPARE SECTORS:

Healthcare and Manufacturing

Healthcare

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Healthcare occupations are projected to add more jobs than any of the other occupational groups. This projected growth is mainly due to an aging population, leading to greater demand for healthcare services.

Adapted from New York City Labor Market Information Service, City University of New York

Labor Market Information Service, Mapping Your Future Health Care: Beyond Hospitals

and Nursing Homes, https://www.gc.cuny.edu/CUNY_GC/media/365-Images/Uploads%20for%20LMIS/Information%20Tools/LTW/Health-Care-8-5x11-rearranged.pdf

Manufacturing

The Manufacturing industry uses raw materials or parts to produce a wide variety of finished goods, including clothing, computers and electronic equipment, aluminum, glass, concrete, and cars. Some manufacturers produce products that will be sold directly to the consumer. Some manufacturers make parts for other manufacturers to use. For example, one manufacturer may make the parts another business needs to assemble an airplane or a computer. Manufacturers make products in different ways, for example, some make items by hand, others produce items using the latest technology and/or produce large amounts of standardized products using an assembly line. Manufacturing employees usually work in factories.

Occupations in Manufacturing include:

- 1) Working as part of a team that assembles finished products or finished parts;
- 2) Inspecting, testing, sorting, sampling, or weighing raw materials, parts or products to see if they are damaged;
- 3) Operating machines to produce specific metal parts, instruments and tools;
- 4) Supervising and coordinating the activities of production and operating workers; and
- 5) Selling products to businesses or groups of individuals.

Most entry level jobs in Manufacturing require a high school diploma or equivalent and/or on-the-job or certificate training. Many Manufacturing companies provide additional training. Promotions within a company are common.

Adapted from New York City Labor Market Information Service, City University of New York

**COMPARE SECTORS (SHORT):**

Healthcare and Manufacturing

Healthcare

The **Healthcare** sector provides medical services in hospitals, nursing homes and through doctor's offices and care centers. There are entry-level jobs such as Home Health Aide or Occupational Therapy Aide (an Occupational Therapy Aide helps people who have been injured learn to do everyday tasks like cooking). Other jobs require more education and advanced skills, such as Nurse, Physical Therapist or Dietician. There are many non-clinical jobs that do not involve touching a patient. Examples are receptionists or people who work in the office to keep track of patient medical records. People who are happy and successful working in this field usually like to help others. They are concerned about patients and can deal with people of different cultures and backgrounds in stressful situations. People who are caregivers must be patient. They must be comfortable with sickness and bodily functions. Almost all positions require attention to detail and communication skills.

Healthcare occupations are projected to add more jobs than any of the other industries. This projected growth is mainly due to an aging population. As people get older, they have a greater need for healthcare services.

Manufacturing

The **Manufacturing** industry uses raw materials like wood, metal, plastic, or glass, or cloth parts to produce a wide variety of goods, such as clothing, electronics and cars, in factories and mills. Some manufacturers make products that will be sold directly to the consumer. Some manufacturers make parts for other manufacturers to use. For example, one manufacturer may make the parts another business needs to assemble an airplane or a computer. Manufacturers make products in different ways. Some make items by hand, while others produce items using the latest technology and/or produce large amounts of products using an assembly line. Manufacturing employees usually work in factories.

Manufacturing occupations include:

- 1) Working as part of a team that assembles products or parts;
- 2) Inspecting, testing, sampling, or weighing materials, parts or products to see if they are in good condition;
- 3) Operating machines to produce specific metal parts, instruments and tools;
- 4) Making sure the production process moves smoothly and supervising workers; and
- 5) Selling products to businesses or groups of people.

Most entry-level jobs in Manufacturing require a high school diploma or equivalent and/or on-the-job or certificate training. Many Manufacturing companies provide additional training. Promotions within a company are common.

Comparing Sectors

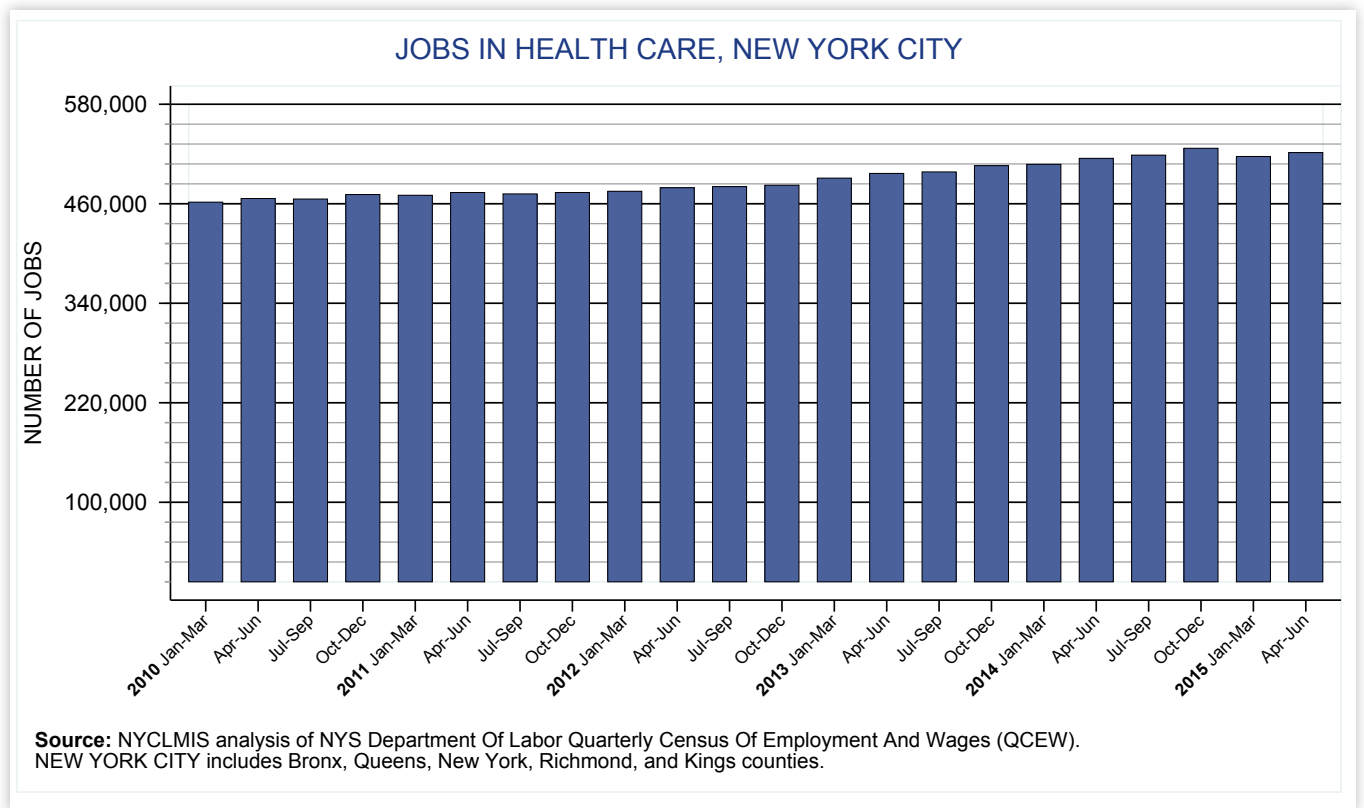
Work in groups to compare the two industry sectors that you have read about. Write the names of each industry at the top of each column. Work together to answer the questions for each industry.

| QUESTIONS | Industry #1: | Industry #2: |
|--|--------------|--------------|
| Where do people in this industry work? In what kind of settings do they work? | | |
| What skills do people in this sector need? What are employers looking for? | | |
| What levels of education are needed? | | |
| Brainstorm and list all the jobs in this industry that you can think of. | | |

Discuss the following questions as a group:

- What do the two industries have in common?
- How do they differ?

Total Jobs in Healthcare, New York City*



*** ADAPT TO YOUR REGION**

*RAENs will provide regional adaptations.

Healthcare Careers Brainstorm

Students brainstorm careers in Healthcare with which they are already familiar, including the name of the occupation and primary responsibilities. Healthcare is used as an example here, but this activity can be done to start students thinking about careers in any sector.

MATERIALS

- *Healthcare Careers Brainstorm* worksheet

EXPLAIN

- 1 We will be using the Healthcare sector as an example to think broadly about jobs within a sector and to consider which jobs within a sector you might be interested in. While you'll be thinking about careers in the Healthcare sector, you can use the same strategy to think broadly about careers in any sector.
- 2 There are dozens of careers in Healthcare, and more are being created all the time, as technology impacts how medical care is done, as research makes new treatments possible, and as people live longer.
- 3 Distribute *Healthcare Careers Brainstorm*. Ask students to read the instructions and the samples filled in on the handout. Then ask them to explain the assignment. With a partner, they should list as many Healthcare careers as they can in the left column and write a description of what that person's job duties are in the right column.
- 4 List additional Healthcare jobs in the left column that you've heard of, but are not sure what exactly the job entails—you can leave the duties on the right side blank.
- 5 List additional Healthcare duties, even if you are not sure of the name of the career—you can leave that part blank. See the examples on the worksheet.
- 6 Ask for volunteers to share the jobs and job roles they identified and write them on the board, having a whole class discussion about careers in Healthcare.

EXAMPLES OF HEALTHCARE CAREERS INCLUDE:

- EMT
- Medical Interpreter
- Home Health Aide
- Substance Abuse Counselor
- School Nurse
- Lab Technician
- Medical Assistant
- Dietician
- Speech Therapist
- Physical Therapist
- Medical Biller

Overview of Education/Training Requirements by Sector

Healthcare

Entry-level Healthcare jobs in a home setting, such as Home Health Aide often have minimal educational requirements. Many Home Health Aide companies provide training before placing aides with clients. Entry level Healthcare jobs in a hospital, residential or other Healthcare facility will commonly require a High School Diploma or Equivalent and advanced certification training.

Healthcare workers need additional education and training for higher-level positions. For example, some people start as Receptionists in community health centers and with more education can become Medical Assistants. Some Medical Assistants eventually become Registered Nurses, but this requires graduating from a college or university with a Bachelor's degree. People in technical positions can go from being Laboratory Technicians to Laboratory Technologists and then into managing a laboratory. Each of these promotions requires advanced education and credentials.

Adapted from Labor Market Information Service, Mapping Your Future Health Care: Beyond Hospitals and Nursing Homes, https://www.gc.cuny.edu/CUNY_GC/media/365-Images/Uploads%20for%20LMIS/Information%20Tools/LTW/Health-Care-8-5x11-rearranged.pdf

Bureau of Labor Statistics, Occupational Outlook Handbook, <https://www.bls.gov/ooh/home.htm>

Technology

Although there are a few entry-level Technology jobs that may only require basic training or a professional certification in addition to a High School Diploma or Equivalent, most Technology jobs require at



From <http://inside.akronchildrens.org/2013/07/09/a-day-in-the-life-is-service-desk/>

least an Associate's or a Bachelor's degree. Entry-level jobs requiring post-secondary training or an Associate's degree include Help Desk Specialists and Field Technicians. Help Desk Specialists work with users to solve their technological problems such as connecting to the internet, updating software, and resetting passwords. Field Technicians install, replace or repair equipment for users including computers, printers, keyboards and other hardware. Currently, there is a huge demand for higher-level Technology positions and the demand is expected to increase in the future. Examples of higher-level Technology positions include Programmers and Web Developers. These jobs require a Bachelor's degree and a substantial amount of technical knowledge and expertise.

Adapted from Labor Market Information Service, Mapping Your Future: Information Technology, [https://www.gc.cuny.edu/CUNY_GC/media/365-Images/Uploads%20for%20LMIS/Information%20Tools/LTW/Information-Technology-\(IT\)-8-5x11-rearranged.pdf](https://www.gc.cuny.edu/CUNY_GC/media/365-Images/Uploads%20for%20LMIS/Information%20Tools/LTW/Information-Technology-(IT)-8-5x11-rearranged.pdf)



Community and Social Services

Because the Community and Social Services field is so big and varied, there are many different types of career paths. Many entry-level jobs such as Community Outreach Workers, Beauticians, Barbers and Recreational Aides require a High School Diploma or Equivalent or less. Training however, is often needed to work without a lot of supervision. Other jobs, such as Police Officer or Firefighter often require some college and passing a civil service test before being eligible for employment.

The pathways to promotion are equally varied. Some people begin as Developmental Disabilities Aides, providing direct care to clients to help them live as independently as possible and can then become Job Coaches, specializing in assisting individuals with disabilities to learn and accurately carry out job duties and eventually, with more education, Rehabilitation Counselors who help clients overcome or manage the personal, social, or psychological effects of living with disabilities on employment or independent living.

Someone can begin as a Recreation Assistant leading activities such as arts and crafts, sports, music, or games in a senior center, nursing home, youth program, camp, or fitness center and eventually move into a supervisory position. With experience, it is also possible to move into Program Manager and other administrator positions. Many community based or other non-profit organizations promote people already working in their organization from entry-level to higher-level positions. This is called “promoting from within.” Other jobs require additional education or civil service testing for promotion in addition to experience.

Adapted from Labor Market Information Service, Mapping Your Future: Social and Community Service, https://www.gc.cuny.edu/CUNY_GC/media/365-Images/Uploads%20for%20LMIS/Information%20Tools/LTW/Community-Soc-Serv-8-5x11.pdf



Photo: <http://www.theedadvocate.org/wp-content/uploads/2016/07/High-School.jpg>

Education and Childcare

Some entry-level positions, such as Teaching Assistant and Child Care Worker, require a High School Diploma or Equivalent, additional training and clearance through a criminal history background check. However, most positions, including many non-teaching ones such as School Secretary, require an Associate’s or Bachelor’s Degree. For most jobs in Education, the more school you have completed, the more money you will earn.

A Bachelor’s or Master’s degree is required for many full-time teaching positions. These jobs usually come with benefits, such as healthcare insurance and paid vacation. Many Education professionals, such as Teachers and School Social Workers or Counselors, must become licensed by the state in order to work in public school settings. As with licenses in many fields, this requires years of study, supervised work experience, and passing statewide exams.

Written by the Labor Market Information Service (LMIS) and Ellen Baxt.

On the Job: Community Health Worker Specialized outreach worker reduces barriers to care

By Tara Bannow / *The Bulletin*

Adapted from: <http://www.bendbulletin.com/health/3004536-151/on-the-job-community-health-worker>

Elva Lopez is invaluable to Mosaic Medical. If patients with complicated cases—severe health issues and personal hardships such as homelessness—go off the providers’ radar and can’t be reached by phone, she goes out and tries to find them. Sometimes that means going to their homes. If they don’t have homes, she goes to where they might be. “We’ll just go,” Lopez said. “We’ll meet under a bridge. We’ll jump under a couple fences, if need be, to get a hold of the patient.”

Lopez is a Community Health Worker. She connects patients with important services and other necessities that are not directly related to the treatment of their physical health conditions. In many cases, it’s helping them enroll in health insurance. It’s helping them find affordable housing. It’s helping them pay for their medications. It’s finding a place where they can get dental care.

Asked the full list of things she does, Lopez’s eyes widen. “There are so many!”

Many factors to health

The factors that contribute to a person’s health extend well beyond treatments and medications. If people lose their homes or jobs, they probably aren’t going to be thinking about going to the doctor, said Elaine Knobbs, Mosaic’s director of programs and development.

“They have some crisis in their life and all of a sudden they’re staying with someone else and their lab work and prescriptions aren’t at the top of their minds,” she said. “They’re thinking, ‘What am I going to eat?’ But at the same time, we don’t want them to get sicker.”

Lopez said her job is to remove those social, financial or logistical barriers so people can focus on improving their health. For example, she’s working with a patient who wants to start exercising again but has an ostomy, a surgically created opening in the abdomen to allow waste or urine to leave the body. “She needs to start feeling better. She wants to do that,” Lopez said. But patients with ostomies have pouches covering the openings that collect the waste but aren’t waterproof. Lopez and her team at Mosaic were recently approved funding for a device that will cover the opening and allow the patient to swim.

In another case, Lopez helped secure funding through state and federal programs to fix an electric wheelchair for a patient. The process, however, took two years.

Lopez also helped get dentures for an uninsured patient who suffered from depression because of her bad teeth. She wouldn’t smile and often held her hand



over her mouth. Lopez connected the woman with insurance and got her an appointment to have the dentures fitted. “She got her dentures and, my gosh, no more depression, none of that,” Lopez said. “She goes out in the community now and just does for herself. She was going downhill so much, and it was just one little thing: dentures.”

And there’s the patient who brings Lopez nearly to tears to think about: a homeless man who initially came to the clinic very angry. “He felt like everybody was just pushing him away,” she said. It turned out the man had an enlarged heart and had been told he was going to die from the condition, Lopez said. He simply wanted to know that his two children would have a place to live and someone to look after them once he was gone. Lopez secured housing for the kids and the man, in addition to a caregiver who agreed to stay with the kids. She also secured insurance through the state for the man. “He eventually did pass away, but he got better before that actually happened,” she said. “For me, that’s one of the stories that has stayed with me for the longest time. Even if it’s not helping the patient now, it’s helping them somewhere in their lives.”

Community need

Not everyone can do what Lopez does. It requires an extensive knowledge of the community and a wealth of connections to the various local organizations that provide the services patients need. Lopez was one of Mosaic’s first employees when it opened in 2002, starting as an Outreach Worker and then transitioning to become a Community Health Worker nine years ago.

Many community colleges have Community Health Worker training programs, after which students can apply for certification through the state. The challenge now is getting the entities that pay for health care to provide reimbursement for Community Health Workers, she said. As a federally funded community health center, Mosaic already gets funding for outreach workers, which it uses to pay Community Health Workers, Knobbs said. But for other clinics, paying for such positions is a challenge, she said.

On a recent Friday, Lopez spent the morning documenting what happened at a home visit the previous day. Then she met with a couple of patients who were transitioning into assisted living facilities to see what help she could offer. She checked in with another patient who needed vision help. She called up some patients to see how they were doing. She did a home visit for a patient her team hadn’t been able to reach.

On a typical day, Lopez said she sees between five and 12 patients, depending on which Mosaic clinic she’s working at. The most important thing about being a Community Health Worker is having a passion for helping people, Lopez said. “We love it,” she said. “We love what we do. This is our calling, and not many people can say that. It’s what we were born to do.” •

Assessing Job Wages (Healthcare)

The two jobs are very different. Analyze the chart to answer the questions below.
Show all of your calculations.

| | HEALTH INSURANCE SALES | AMBULANCE DRIVER |
|---------------------|---|---|
| Hours | 2–7 Wednesday and Thursday 12–9 Friday and Saturday 10–5 Sunday + increased seasonal hours | 5am–5pm Tuesday, Wednesday, Friday and Saturday |
| Pay Rate | \$8.75/hr base pay* | \$9.50/hour* |
| Commission or Bonus | 10% commission on every sale | |
| Breaks | ½ hour unpaid break | Breaks between emergency calls |
| Commute | 45 minutes by subway* | 15 minute walk from home |
| Duties | Sell health insurance plans in the community including at colleges, health fairs and mobile units.* | Transporting EMTs and patients from a patient’s location to the hospital on emergency calls.* |



*RAENs will provide regional adaptations.

| HEALTH INSURANCE SALES | AMBULANCE DRIVER |
|--|---|
| <p>Paid hours per week, excluding additional seasonal hours</p> | <p>Paid hours</p> |
| <p>Weekly pay before commission</p> | <p>Weekly Pay</p> |
| <p>Number of sales you think you can make per week</p> | |
| <p>Weekly earnings if you meet your selling target and the average health plan costs \$4,980* per year.</p> | |
| <p>Weekly transportation costs</p> | <p>Weekly transportation costs</p> |

| | | |
|---------------------------------|--|--|
| Commute | The family's home is a 45-minute subway ride from your house. | The childcare center is located a 10-minute walk from your house. |
| Responsibilities | Care for two two-year old children, one from each of two families, in one of the family's homes, including feeding them prepared meals, taking them on outings such as to parks, zoos and elsewhere, keeping them safe and engaged in their surroundings. Cleaning up after the kids is required, such as washing their dishes and keeping their toys organized, but no other housework is required. The nanny has a contract with each family and communicates with each family during each work day. | Assist a Pre-K class of 18 four-year olds with one Head Teacher and one Paraprofessional. Duties include setting up activities and organizing materials, helping children wash their hands, use the bathroom, help with activities, take attendance, clean up from activities, ensure children's safety in the classroom and on daily trips to playgrounds or other locations, help children resolve conflicts with one another. |
| Professional Development | None | Offers ongoing professional development free of charge, such as courses in child development, conflict mediation and group facilitation skills. |