Student Resource 4.3

Reference Sheet: Public Health Careers

Career: Epidemiologist

Pathways: Health Informatics, Biotechnology Research and Development

**A deadly outbreak**

In 2011, one of the deadliest outbreaks of food-borne illness occurred in the United States. The culprit was cantaloupes contaminated with listeria, a harmful bacteria. Some people who ate the cantaloupes became very sick; others died. However, the problem could have become much worse. A team of experts was quickly able to determine that the cantaloupes were grown on a farm in Colorado. The farm ceased production, and grocery stores around the country removed the tainted fruit from their shelves.

What would have happened if that discovery hadn’t been made? No one can say for certain, but it’s likely that the death toll would have been much higher.

**Medical detectives**

Who were these experts who figured out what was making people sick? They were epidemiologists.

Many epidemiologists act like detectives. They investigate and describe what causes diseases among a population and how they spread. They also develop ways to prevent or contain diseases that have already begun to spread, as in the case with the cantaloupes. The range of diseases they investigate is wide, from food poisoning to cholera to cancer.

While some epidemiologists work in the field, others are involved with studying data and compiling statistics.

**What qualities and skills do epidemiologists have?**

Epidemiologists enjoy the challenge of thinking critically to solve difficult, serious problems. They are often called on in a time of crisis, so they must be able to work under pressure, knowing that their work is used to make major public health decisions.

Epidemiologists usually excel at math and statistics. Because they work with many different kinds of people, they also must have excellent communication skills.

**Where do they work?**

Epidemiologists work in hospitals, pharmaceutical companies, universities, or for the government. Some work in the field, which can be dangerous if they travel to places where disease is rampant.

**Sounds interesting! Sign me up.**

The path to becoming an epidemiologist is challenging but worth the hard work. Epidemiology is a growing field with excellent job prospects. According to US Department of Labor in 2010, the mean annual wage was $68,280. A bachelor’s degree and master’s degree from an accredited university or college in environmental health, public health, or health management sciences is required for most jobs.

**That sounds exciting and challenging. But how can I prepare now?**

You’ll want to work on getting the highest GPA possible. Also, epidemiologists need a solid background in math, biology, and chemistry. You’ll want to devote extra attention to those courses now. In addition, when you’re reading the news, look for stories about the work of epidemiologists. They will give you a deeper knowledge about the work that they do.

Career: Public Health Nurse

Pathways: Health Informatics, Therapeutic Services

**An important trip**

Marsha drove out of the city, through the suburbs, and into an area where farmland stretched all the way to the horizon. Finally, she turned off the highway into the parking lot of a modest community building. She gathered her materials, straightened her jacket, and walked purposefully into the center. A room of young mothers looked up when she entered. One woman was rocking her infant to sleep, while another was enjoying a moment of quiet while her baby played with blocks on the rug.

“Hola!” Marsha, a public health nurse, greeted everyone brightly and started the workshop on infant care.

**Hang on! I thought nurses only work in hospitals and medical offices.**

When we think of nurses, the image that often comes to mind is the bedside care qiver at the hospital. Here’s the key difference between a nurse and a public health nurse. A nurse focuses on direct individual patient care. A public health nurse addresses the health concerns of an entire community. In Marsha’s case, the community is young Spanish-speaking mothers who are farm workers. Public health nurses work with a variety of community populations, from senior citizens to children living in low-income households.

Public health nurses educate people about health issues, like proper nutrition and care for disabled family members. The also work to improve community health and safety by doing things like providing routine vaccinations and teaching senior citizens how to stay safe at home.

They understand that many factors affect our health, including our genetic makeup, our lifestyles, and the environment. Public health nurses don’t wait for people to get sick before providing care. They go to the people and try to prevent problems. They also work with authorities to try to increase access to care for at-risk populations.

**What qualities and skills do public health nurses have?**

Public health nurses are highly dedicated. Their work demands that they be comfortable working with large groups. They must be excellent listeners and communicators, since one of their goals is to make health information easy to understand. Public health nurses must also be sensitive to cultural differences.

**Where do they work?**

Public health nurses work at schools, community groups, senior centers, and in other community settings. Since part of their job is increasing access to care, they may travel to meet with patients in their homes or at community centers. For example, Marsha realized that mothers in the rural, farm community didn’t have the means to travel to the city to take classes on basic infant care. So, Marsha traveled to them.

**This sounds like a great job for me. What do I need to do?**

To become a public health nurse, you must first train as a registered nurse. You will need a bachelor’s degree in nursing. Courses that will help with your career are public health, public policy, and health administration. After you graduate, you will need to pass a national licensing exam called NCLEX-RN. If you want to have a supervisory role, you may need to enroll in graduate classes.

The job outlook for public health nurses is excellent! It is a growing field. Public health nurses are registered nurses, and the mean annual salary for registered nurses was $67,720, according to the US Department of Labor in 2010.

**This information helps me with my plan. But what can I do now?**

In addition to working toward obtaining a high GPA, begin getting practice in the field by volunteering with a local community group that works with public health issues, such as a home health provider, hospice, or health advocacy group.

Career: Public Health Policy Advisor

Pathway: Health Informatics

**A historic moment**

On March 23, 2010, history was made. President Barak Obama proudly signed his name on a document, while a crowd of colleagues, supporters, and journalists enthusiastically gathered around him. As the cameras flashed, President Obama signed into law a heavily debated health care reform bill called the Patient Protection and Affordable Care Act. The bill addressed two of the nation’s major problems: improving access to health care for all Americans and controlling the rising costs of health care.

It was a long, complicated road to creating the bill and making it law, and it couldn’t have been done without the work of public health policy advisors.

**What role did they play?**

Public health policy advisors are charged with the challenging task of coming up with ideas for solutions to community health problems. These ideas are presented to local, state, and federal government officials, members of the Congress, and even the president. Some of these ideas become laws, addressing issues such as health care reform, tobacco sales, and rights for people with disabilities. Their daily work can involve preparing policy reports, public hearing testimonies, and conference presentations on public health topics.

**What qualities and skills do public health policy advisors have?**

Public health policy advisors must be excited about public policy. They spend a lot of their time conducting and analyzing research, so they must have excellent writing and research skills. Because they usually work collaboratively with other advisors and policy makers, they must be team oriented. They often work under pressure and should be able to multitask and think on their feet.

**Where do they work?**

Legislative public health policy advisors work in government and nongovernment agency offices.

**This sounds like my dream job. What do I need to do to make it a reality?**

People take different paths to become public health policy advisors. Some earn a master’s degree in public policy or public health. Others obtain a law degree. All have a strong background in studying medicine, accounting, economics, management, and politics. According to the job search site Indeed.com in 2011, the average salary for a public health policy advisor was $92,000.

**How can I prepare for the career now?**

You want to plan for admission into the best possible college available to you. This means striving for a high GPA. Economics and sociology classes will help you prepare for the coursework in college. Consider applying for a summer internship at a government or nongovernment agency that specializes in public health policy. The experience of participating in the day-to-day operations of an office will give you a better sense if this is the career for you.

Career: Health Educator

Pathway: Health Informatics

**A victory race**

The runners were sweaty and exhilarated as they crossed the finish line. Manuel thought to himself that many of the runners resembled professional athletes. From looking at them, you would have no idea that they were living with HIV. People in the crowd stopped by the booth where Manuel was working. He passed out brochures he had written about the importance of getting routine HIV tests and how to protect yourself from the disease. People asked him questions about the medication available to keep AIDS in remission and government studies that were being done to find a cure. Manuel gave them answers.

**A meaningful job**

Manuel is a health educator. Health educators help people make positive lifestyle changes. There are illnesses that can be prevented through lifestyle changes. For example, wearing sunscreen can help prevent skin cancer. There are other illnesses that can be best treated with early detection, like breast cancer. Health educators teach people about these issues. They work on education campaigns for issues like AIDS, smoking, and alcohol abuse.

Like Manuel, many health educators develop and write educational material, such as videos, pamphlets, brochures, or curriculum for classes. They organize events, such as classes, health screenings, or activities that raise awareness about a health issue, like the AIDS run. They also can serve as a liaison between community groups and government organizations. Part of their job may be finding funding for health education programs. This type of work includes writing grant proposals.

**What qualities and skills do health educators have?**

Health educators have excellent communication skills and are comfortable presenting in front of large groups. Since many health educators are responsible for planning programs, they must be organized and skilled at handling logistical tasks, like arranging speakers. Health educators have a desire to teach and make a difference in people’s lives. Since writing is often a big part of their job, health educators are creative and skilled writers. Health educators are seen as role models by some of the people they work with, so having positive personal health habits is important.

**Where do they work?**

Health educators work in a range of settings, including schools, public meetings, clinics, religious organizations, public health departments, and nonprofit organizations.

**I think I’d really enjoy this job. What do I need to do to become a health educator?**

A bachelor’s degree is required, but a master’s degree is preferred for health educators who work in public health. Many students pursue a master’s in health education after receiving a bachelor’s degree in a related field, such as nursing or psychology. To teach a health education course in a school setting, you need teaching certification. Some health educators visit schools to provide information on particular issues; a teaching certificate isn’t always necessary for professionals in this role.

Health educators may choose to become a Certified Health Education Specialist (CHES), a credential offered by the National Commission of Health Education Credentialing, Inc. In 2010, according the US Department of Labor, the median annual salary for a health educator was $45,830.

**How can I prepare for the career now?**

In addition to working toward obtaining a high GPA, begin getting practice in the field by volunteering with a group that does health education. For example, most health awareness events, like the AIDS run, need volunteers.

Career: Environmental Health Scientist

Pathways: Health Informatics, Biotechnology Research and Development

**A strange scent**

DeShawn, an inspector at the public health agency, had received two calls and three emails in an hour. Citizens were reporting an unusual smell at a popular park. One grandfather who emailed wondered: Could a sewage pipe be leaking? DeShawn knew it was a problem that needed investigating. He spoke to his supervisor, gathered his equipment to take soil, water, and air samples, and then got in his truck to head over to the park.

**Protecting the environment and the public**

DeShawn is an environmental health scientist. These scientists are responsible for helping to reduce the threat to public health that is caused by environmental hazards, such as unsafe food and water, waste and sewage disposal, and pollution.

Environmental health scientists who are at the beginning of their careers, like DeShawn, often work as inspectors. They investigate problems and do routine checks at places like summer camps, restaurants, swimming pools, and hospitals. They spend a lot of time in the field taking and analyzing measurements of air, food, water, and soil.

Scientists with more experience work with private companies to help them follow environmental regulations, such as building near sensitive parts of the ecosystem. Others organize training programs and provide education about environmental health issues. They may have a specialty, such as radiation protection.

**What qualities and skills do environmental health scientists have?**

It’s important that environmental health scientists are in good health. They also usually have a passion for science and a deep interest in public health. They are skilled at working on computers and have good communication skills.

**Where do they work?**

Many environmental health scientists work for local public health agencies. Others work for private companies and different government organizations.

**I think this might be the job for me. How can I make it happen?**

A bachelor’s degree in environmental health is required for the job. Coursework includes biology, chemistry, physics, microbiology, mathematics, epidemiology, biostatistics, and behavioral science. In addition to the degree, most states require a state-specific license or registration. In 2010, according to the US Department of Labor, the median annual salary was $61,700.

**How can I prepare for the career now?**

To be accepted to a college with a strong environmental science program, you’ll want to do well in all of your science classes. If there is a subject that you’re struggling with, get extra help now. Tell your science teachers about your career interest, and ask them to recommend reading you can do or movies you can watch after class to expand your knowledge.

Career: Communications Specialist

Pathway: Health Informatics

**Beating the clock**

Shelana scanned her to-do list. There were almost a dozen items she needed to get done that afternoon. The skin cancer awareness organization she worked for had received a last-minute donation of 500 bottles of sunscreen to give away at the Healthy Lives event. Shelana had to write a press release to email to local blogs so that they could let their followers know about the giveaway. She had to contact the radio station and try to arrange an interview between the director of her organization and the evening show host, and then she had to prepare notes for the director so that he would be prepared for the interview. Shelana checked her watch and smiled. It was a lot to get done, but she thrived under that kind of pressure.

**Getting the news out**

Shelana is a communications specialist. Communications specialists help build positive relationships between public health organizations and the public. Public health organizations want and need the public’s support to do effective work. To have the public’s support, they need to inform the public about the work that they do. That’s where people like Shelana come in. The donation of the sunscreen was great news for the organization, but without someone like Shelana, the public would not know about it.

Communications specialists contact media organizations, such as new sites, TV shows, and radio programs. They write press releases and contact reporters. They arrange programs between people in their organization and the public, and they prepare speeches and presentations.

**What qualities and skills do communications specialists have?**

Communications specialists often work under tight deadlines, so, like Shelana, they must be able to keep a cool head and work well under pressure. They also must be able to clearly and simply communicate ideas that may be complicated or controversial. They are creative thinkers and enjoy solving problems. Communications specialists have excellent writing and research skills, and they often have outgoing and enthusiastic personalities. Teamwork is a big part of what they do.

**Where do they work?**

Some communications specialists own their own businesses and are hired by organizations to work on particular projects. Others are employed by hospitals, nonprofit public health agencies, and government agencies.

**This sounds like the job for me. What can I do to make it happen?**

A bachelor’s degree is required for the job. Most communications specialists receive a degree in public relations, journalism, or another communications field. They usually take courses in advertising, business administration, finance, political science, psychology, sociology, and creative writing. In college or soon after graduation, many communications specialists hold internships, which make them more desirable candidates.

College students who are interested in a career as a communications specialist can become members in local chapters of the Public Relations Student Society of America or in student chapters of the International Association of Business Communicators.

In 2010, according to the US Department of Labor, the mean annual salary was $59,150.

**How can I prepare for the career now?**

Working on improving your written and verbal skills is a great way to prepare for studying in this field. You may also want to consider working on the student paper or school website.

Career: Corporate Medical Director

Pathways: Health Informatics

**Managing health and safety**

Miki arrived at the company headquarters in Atlanta at 9 a.m. sharp. She began her morning with a teleconference meeting with the company’s regional director in Bangladesh. He told her that several workers had complained about the safety of a new machine in the factory. She asked him to make investigating the issue a priority. Then she met with two executives at the headquarters who were who traveling to Egypt for a conference. She prepared them for staying safe in their foreign destination. The flu season was about to begin, and Miki knew how quickly a bug could spread around the office. Her last task of the morning was to make arrangements for a local clinic to provide flu vaccines to all employees who wanted them.

**The well-being of employees**

As the corporate medical director for a large multinational company, Miki is responsible for monitoring the health of the company’s work force, not just in their US headquarters but in every country where they operate, like Bangladesh. Companies employ corporate medical directors because they know that employees can only perform their jobs well when they are safe and healthy. The well-being of the company’s employees is the concern of the corporate medical director.

Corporate medical directors are involved with making sure that government safety standards are met. They oversee substance-abuse testing and counseling, and they deal with workers’ compensation investigation and disability management. They create and maintain safety policies and procedures. Corporate medical directors don’t just respond to problems; they try to prevent problems from occurring. That’s what Miki was doing when she arranged for the flu vaccine.

The responsibilities of the corporate medical director vary depending on the type of company. If the company does its work mostly in offices, common health problems may be injuries related to computer work, and stress and anxiety. If the company does factory work, the problems may be related to the physical design of the workplace.

**What qualities and skills do corporate medical directors have?**

Corporate medical directors must have strong leadership skills. They must be able to communicate clearly with different kinds of people, from factory workers to representatives from health insurance companies. Like Miki, they are often working on many projects simultaneously, so they must be comfortable multitasking.

**Where do they work?**

Corporate medical directors work in both the public and private sector. They work for government organizations, large corporations, transportation organization, agricultural businesses, and factories.

**This job sounds very interesting. What kind of education and training do you need?**

There are different paths you can take to becoming a corporate medical director. Many corporate medical directors have a master’s degree in public health. Others have backgrounds in occupational medicine, industrial hygiene, toxicology, epidemiology, or ergonomics. According to the job search site SimplyHired.com, in 2011 the average salary was $75,000.

**How can I prepare for the career now?**

You’ll want to do well in all of your science classes. If there is a subject that you’re struggling with, get extra help now. See if your school career counselor can help put you in contact with a corporate medical director in your area. Tell that person you may be interested in the career, and ask for advice about areas of study to pursue or colleges to attend.