

PUB 101 – Dr. Amato
Spring 2021
Writing Assignment #8
Due 4/12/2021 by 11:59 PM EST

Instructions: Be sure to answer all parts of each question and respond in your own words. Your response should not be mostly quoting from other sources. Please provide a reference or works cited page for any references or citations you use throughout this written assignment. Expected word counts are provided for each question.

Questions: There are many factors that contribute to health and health inequalities. Recall this week's lectures (Week 10 - Chapters 20-23) covering environmental health. In the lectures, we zoomed out in class 19 and thought broadly about the environment intersecting with health and in class 20 we zoomed in and thought about the specifics of air, water, and waste.

1. Identify the agency responsible to ensuring environmental health in the United States, and list three main functions of the agency. (*suggested length: 100 words*)

The agency responsible to ensure environmental health in the United States is United States Environmental Protection Agency (EPA). The main functions of this agency include investigating environmental risks based on scientific information, administering federal laws protecting human health and cleaning up contaminated lands to ensure clean air, water and land in the United States. In order to make this happen, they allocate their budget to state environmental programs, educational institutions and others to prevent the waste. Also, laboratories throughout the nation identifies environmental problems. Lastly, they sponsor partnerships with businesses, non-profit organizations and local government to help purify contaminated lands.

2. Explain one way air pollution can impact population health, or in other words, influence health outcomes on a community level. Be sure to identify a specific pollutant or air pollution hazard and link it to a population level health outcome. (*suggested length: 100 words*)

Air pollution is associated with most of lung diseases that have become a leading cause of death. Carbon monoxide is one type of hazardous gases that impact population health. It is a highly toxic gas that is produced the most from motor vehicle exhaust. It is especially fatal to patients who are suffering from cardiovascular disease as it blocks red blood cells to carry oxygen in the body. Since more vehicles are being produced and used than before, carbon monoxide level is increasing every year. As people are more exposed to carbon monoxide, they are prone to experiencing headaches and permanently impaired mental systems.

3. Explain one way water pollution (or contamination) can impact population health, or in other words, influence health outcomes on a community level. Be sure to identify a specific pollutant or water pollution hazard and link it to a population level health outcome. (*suggested length: 100 words*)

Water pollution can endanger human health significantly as we cannot live without drinking water. In fact, water pollution is associated with air pollutants as they are deposited by rain. For example, major portion of PCBs, which are one of the hazardous gases, in the Great Lakes are deposited via rain. As more environment from spills from electrical equipment and improper disposal have been

released into the water, this can impact human health nationwide. They can affect human skin and cause chloracne, which is a yellow skin lesion that lasts for years, or cancers that can eventually lead to death.

4. Explain one way hazardous waste can impact population health, or in other words, influence health outcomes on a community level. Be sure to identify a specific pollutant and link it to a population level health outcome. (*suggested length: 100 words*)

Hazardous waste can also impact population health in the United States. Coal ash is one of the hazardous wastes that are detrimental to the environmental health. It is waste that is produced from coal-burning power plants and factories. They contain metal contaminants that generate free radicals to cause oxidative stress and carcinogenesis when they enter human body. They are often stored as dumps near river, which can leak into water and influence population health. Major spill in Tennessee River showed how large amount of people can be influenced by this contaminant when it spreads via water.

Citation

Amato, Katharine. "Video 3 Waste". PUB101: Introduction to Public Health. University at Buffalo, Buffalo, April 2021. Lecture Recording.