**Case Study Reflection 4**

1. The coroner’s system in the years of the Mors murders was unstable. Testimony from experts conflicted and evidence was mishandled, leading to the dismissal of a suspect. Gettler and Norris came in after the new Medical Examiner Office was established. Charles Norris refined the system, firing old ME’s who did not keep records, and promoted better relationships with cops and hospital. People still did not have a lot of faith in toxicology and finding poison when a jury was easily convinced to find the suspects in the Jackson case not guilty, despite testimony from Gettler. Mary Frances Creighton was on trial twice in 1923, for the death of her brother and then the death of her mother-in-law. The evidence was circumstance in the case of her brother and there was doubt that evidence even killed Annie Creighton. This led to her being acquitted of both cases (98-102). Between 1923-1935, Norris improved the training for ME’s, teaching them how to sign death certificates and how to give testimony in court (234). Gettler was also refining his techniques for finding toxins in the body. In 1935, the death of Ada Applegate sparked Gettler’s attention after it was discovered that her and her husband lived with Mary Frances Creighton. Gettler was able to determine that Ada had more the three times the lethal amount of arsenic in her system and they charged Mary Frances Creighton and Everett Applegate with murder. They found that Mary Frances had killed her brother years prior with the pesticide Rough on Rats, which Gettler also found in Ada Applegate’s body. After an easier trial than previous years, both were convicted and sentenced to death. This shift shows how toxicology was respected more in the court and a defense attorney had even complained that the strong reputation of the forensic lab would have convinced the jury no matter what.
2. In 2013, Flint Michigan announced that they would be building a new pipeline to deliver water from Lake Huron to Flint. This way the water could be treated in Flint instead of Detroit and was projected to save the city 200 million dollars over 25 years, helping the city through their economic issues. The pipeline started drawing water from the Flint River and reports started coming in on a change in the water’s color, smell and taste. Chlorine was used to treat the water for bacteria, but this did not react well with the lead pipes that were used. Anti-corrosion chemicals can be used in the water to protect the pipes from leaching lead, but they did not use them when switching the water source to the Flint River. Lead started breaking off into the water and the chlorine that was supposed to kill of the bacteria reacted with the metals from the pipes instead, rendering the disinfectants useless against the bacteria. Even worse, more chloride ions were in the water which increased corrosion of the pipes. The city added more chlorine to try to kill the bacteria which started reacting with other compounds in the water from the Flint River and formed trihalomethanes. Trihalomethanes have been linked to various health issues and cancer. The city tried adding ferric chloride to reduce the amount of trihalomethanes, but it added to the corrosion problems and the bacteria levels grew to a deadly point. There was an outbreak of Legionnaires’ Disease where at least 91 people got sick and 12 people died. Dangerous amounts of lead were found in the water of people’s homes in 2015, leading to various health issues. These mostly seemed to effect children as lead exposure caused impaired cognition, hearing problems, delayed puberty, and behavioral disorders. The city officials and employees were responsible for the crisis. Most of the issues originated with the failure to use anti-corrosion chemicals with lead pipes that were known to leach metal. The pipes used from Detroit to treat their water had these anti-corrosion chemicals and have not had issues with lead poisoning. The corrosion of metals into the water rendered chloride useless as a disinfectant so while the metal concentration increased, the bacterial growth increased as well leading to varying health issues. This crisis is an example of an environmental injustice. Flint was a poorer city, suffering from an economic decline originating from the downsizing of General Motors. The residents of the city were exposed to dangerous environmental conditions in an effort for the city to save more money.
3. Environmental injustice is the disproportionate exposure of minority or low-wealth communities to poor environmental conditions that have detrimental effects on the health of people in those communities. A comprehensive study done on the nationwide release of toxin from over 20,000 facilities that 4% of these are “super polluters” that produce hundreds of times of the amount of toxins as the rest. The study also found that most of these “super polluters” are near minority or low-wealth communities. Researchers even refer to these areas as “sacrifice zones” as these facilities usually operate without much backlash, despite the negative impacts they have on the health of those in the communities (1). More recently, Covid-19 has exposed the disproportionate health regulations in low-income communities. There is a higher death rate for Covid-19 among individuals with long-term exposure to “fine particle air pollution,” which low-income and minority communities are more likely to be exposed to. Other detrimental environmental conditions include lead poisoning like in Flint Michigan, causing heart and kidney problems which could be deadly if the individual also contracted the coronavirus. (2). New York cases highlighted how minorities are suffering a harder impact from Covid-19. Hispanic and African Americans together made up over half of the city’s total cases and about 62% of the city’s fatalities (3). There is a clear issue in the status of the environment minority communities are exposed to. Neighborhoods are often referred to as “sacrifice zones” for large polluting facilities to operate under the radar. Most of the time, environmental injustices are ignored by everyone except for those who are directly affected. Covid-19 brought these unfair treatments more to the forefront because of how widespread it is. It is impossible to ignore how minority communities tend to make up the majority of cases or fatalities in certain areas because they have underlying conditions caused by pollution around them that others do not suffer from.

Work Cited

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