Task 1 C228 V3

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Sentinel City 3.0 is a virtual simulation of a city and a community where various factors that impact a community’s health are simulated in order to analyze the virtual health and safety of its citizens. In the paper, various aspects of the city will be explored by means of a windshield survey to gain insights about its population’s overall health and wellbeing, its leading problems, and census data.

**(B) Needs Assessment**

**Demographics**

        The population of Sentinel City is about 634,246 people in which nearly one-third of the population falls under 18 years of age. Senior citizens that are above the age of 65 comprise 10% of the population, while the people above the age of 45 and below 65 also make up 10% of the city’s population. The remaining 50% lie between the age of 18 to 45. A quick analysis of the city’s demographics reveals that a vast majority, about 80%, of the population is White, while the remaining 20% comprises mainly of minorities such as Alaska Natives, African-Americans, and American-Indians. About 3.7% of the population comprises of Asians while African-Americans only make up 2% of Sentinel City’s population.

There are four major neighborhoods in Sentinel City, which include the Acer Tech Center, the Casper Park District, Industrial Heights, and the Nightingale Square. Each neighborhood has a varying population and a median household income. For instance, Industrial Heights has the lowest population at 38,855 people while income levels here are also the lowest in the city at $24,672, which is significantly lower than the city’s overall median income at $49,090. The population of Casper Park District is the highest at 352,643 people who have a median income at $80,134. Likewise, the population of Nightingale Square is 103,974 with the highest income levels in the city overall at $269,550. The population of Acer Tech Center is 168,390 with household incomes at $166,300, with each figure indicating the socioeconomic conditions of the respective neighborhood. Nearly 18.9% of the city’s population live under poverty, while each neighborhood has a number of citizens without insurance. Expectedly the highest number of uninsured people are in the Industrial Heights at 37.5%, followed by Casper Park District at 22.7%. The other neighborhoods, Nightingale Square and Acer Tech, have 0.7% and 1.5% uninsured people respectively

**Neighborhood Safety Assessment**

As various parts of the city were explored, it was clear that the safety standards of the city varied from one neighborhood to another, thus a range of safety and health hazards were observed. In the Industrial Heights neighborhood, Improper disposal, storage, and burning of trash are key contributors to the pollution and smell that can be observed in the area's vicinity. Factory smoke further=compounds the problem and together the resulting pollution and smell make the area a breeding ground for various infections and diseases. In addition, a number of stray cats and dogs can be observed within the city, along with the presence of rats, which can lead to rat-bite cases. A number of rat-transmitted infectious diseases such as rabies can spread as a result, not just through rat-bites but from airborne particles as well (National Research Council (US) Committee on Infectious Diseases of Mice and Rats, 1991). In addition, the other city hazard that was observed included gang-related violence, possession of controlled substances, and violent crime. The city has a number of uninhabited and abandoned buildings which often serve as a base for drug trade. Statistics showed that drug-associated crime increased by nearly 10% compared to last year, out of which nearly 16% of the total arrests occurred as a result of the suspect illegally possessing controlled substances. Additionally, if an emergency were to occur, the average responses time of emergency services was close to 7 minutes.

**Scavenger Hunt**

  In Sentinel City, a range of community resources are available for its citizens. Among these resources, the Department of Parks and Recreation provides several programs for adults and children like gardening, swimming lessons, nutrition programs, after-school programs, city sports leagues, summer programs, and adult-fitness programs. The Department is situated at Nightingale Square, which is a highly developed area within the city. The various forms of programs offered by the department are specifically targeted to improve the overall health and well-being of the community’s residents by providing them an opportunity to spend time in healthy pursuits. Although the Park offers a range of services, there have still been several reports of crime and public complaints. For instance, a number of citations were handed to violators in the Recreation Center's vicinity, among which 9% of the citations were for prostitution, 31% for trespassing, 11% for littering, while another 16% and 24% of the citations were handed for public intoxication and violence, respectively (Sentinel City Simulation, 2019). Additionally, there were also complaints about stray animals, cleanliness, and with regards to the homeless population in the vicinity.

The other community resources included a Healthcare System to address the needs of the Elderly population and Social Services offered by the City Hall within the Acer Tech area. These healthcare services included ambulatory care, vision, dental treatment, emergency, and integrated services, along with a pharmacy, and impatient and elderly care. Social services for the senior population includes senior transportation, meals on wheels, community centers, service animals, and general government assistance in the form of social and financial benefits (Sentinel City Simulation, 2019). Additionally, the healthcare system also provides housing for the elderly that includes adult living center units, long term care beds, swing beds, assisted living units, long term care beds, nursing home units, along with independent apartment units. Moreover, the Social Services offered by the City Hall include services such as healthcare assistance programs, protective services, and programs like SNAP and WIC (Sentinel City Simulation, 2017).

Moreover, a scavenger hunt revealed that the needs of the city's homeless people are addressed by the Interfaith church, and for whom meals are provided by the soup kitchen, who serve nearly 40,000 meals on a month to month basis among which 12% are veterans and 64% of the recipients are homeless. Furthermore, the city offers child adoption and care services, along with centers that aim to provide sexual health education to teenagers. As a result, the teenage pregnancy rate has fallen by 55% over the recent years among the 500 live births recorded during this time. Moreover, the Casper Park Area is home to an Affordable housing project where low-income citizens are offered affordable apartments ranging from two-bedroom, one-bedroom and studio apartments. Among these, 26% of single bedroom apartments are so far occupied, while studio units are almost half occupied. The occupying rate for 2-bedroom apartments is nearly 43% now (Sentinel City Simulation, 2017). Comparing this locality’s crime statistics to other areas indicates that the housing projects are relatively safer areas, in which only 14 out of the total 2414 reported crimes were reported from there (Sentinel City Simulation, 2019).

**Windshield Survey**

        Most of Sentinel City was explored through the Windshield survey, which refers to a collection of observed information about the community through public transportation in order to obtain a complete virtual experience of the city. All four neighborhoods were explored as part of the windshield survey as the bus moved from Industrial Heights to Acer Tech Center, Casper Park District to Nightingale Square. The transition from one neighborhood to the other was seamless, however, there was some difficulty in ascertaining which neighborhood the bus had entered without viewing the accompanying map. A large portion of the city is comprised of multi-level brick, or concrete, older-looking buildings that are connected, with Affordable Housing Units at the Casper Park Area. There were little to none single-family houses that contained yards at any of the neighborhoods.

One of my key observations in the survey was with regards to the living and housing conditions in the city. Most apartments seem dated and clearly needed repairs. Moreover, graffiti could be observed on the walls of a number of apartments, indicating that law enforcement with regards to this violation was weak. In addition, a number of buildings had piles of garbage heaped outside which indicated that waste disposal was inadequate within these locations. The Affordable Housing Project seems a promising program to address the needs of low-income families, however, most of them were not occupied. Besides that, stray animals could be seen moving along the streets and walking by people and pedestrians. In a street, I observed some abandoned cars around which some people had gathered and built a fire. Moving further along, I saw people standing in lines outside the Soup Kitchen as they awaited for their turn to receive a free meal. Not far from there, a few protestors had gathered outside the City Hall. Most of the citizens used buses for transportation, although a faint sound of a train crossing could also be heard indicating a train station nearby. In addition, the city also had a schoolyard where children were playing, along with a daycare, a grocery store, some restaurants, and a local broadcast-radio station. Most people that could be heard talking spoke English.

**(B1) Data Analysis**

**Interpretation of Data Analysis**

After performing a windshield survey and scavenger hunt to obtain information about the resources and facilities in the city, along with its various demographics, an analysis of the available data is needed to create meaningful insights. For instance, the figures on the community's food and nutrition intake and habits reveal that 70% of the calories consumed by the population are within their homes, and thus earing at restaurants is not as commonplace. There are a few safety and health regulations that have been violated by the restaurants such as improper disposal of food waste that seems to contribute to the area’s smell. Poor sanitation and the piling up of trash can be noticed in several parts of the city, as a result of improper waste management, serving as an infestation ground for various diseases.

The data also demonstrates that the park’s budget has seen a decline, while dental cavities among children and infants have increased by around 50-60%, which is substantially higher than the U.S. national average (CDC, 2014). Further observations indicate that eye diseases have become increasingly common within the adult population, nevertheless, the percentage of adults who show up for regular eye exams remains low. Further health statistics indicate that an increasing number of emergency cases are occurring outside normal business hours that the emergency department has had to address, especially on the weekends. Cases that are frequently reported during these hours include headaches, abdominal pain, cough, and injuries.

Analyzing the nature of these illnesses and conditions while observing the overall environment of the city puts the city’s problems into perspective. Poor air quality is a major health concern as is evident from the smell around the restaurants and the grocery store. The pollution in the air can be a cause of a number of respiratory conditions such as COPD, asthma, or lung cancer (Healthy People 2017). The CDC (2014) suggests that strokes and other heart disease associated mortality is linked to air-borne particles caused pollution. The food security of the citizens is also a cause for concern. The Interfaith church is currently delivering nearly 40,000 meals each month to homeless children and adults, along with the elderly and the disabled (Sentinel City, 2017). It indicates, that Sentinel City’s citizens are in a period of economic hardship as a result of which they have become increasingly reliant on welfare.

**Sentinel City Health Concerns**

**(C1) Three Problem Areas**

A number of problems have been observed after a survey. A key issue related to violent assaults and gang-related violence within the city. The figures from police records indicated that aggravated assault is a leading crime in Sentinel City. However, recent years have seen the overall rate decrease in the gross number of violent crimes. Secondly, the residents of the Affordable Housing units frequently report factory smoke, and the smell originating from trash, as a leading concern for them. In addition, the rising number of diagnosed STD rates along with increasing teen pregnancy figures is a cause for major concern. It was observed that not all higher education institutes within the city offer appropriate sexual health-related services for their students.

For a resolution of these issues, there are specific objectives and goals set forth by the Healthy People 2020 initiative that lists various solutions to minimize these problems in US cities. One major objective in the initiative is the prevention of unintentional injuries and violence, or to minimize the magnitude, effects, and consequences of injuries and violence (Healthy People, 2014). To address these issues, the Healthy People 2020 initiative aimed to increase efforts to prevent, detect, and treat respiratory health associated conditions efficiently and quickly, while aiming to enhance educational efforts to promote better respiratory health by 2020. Furthermore, to counter rising teen pregnancies and STD rates, the objectives are to promote healthy sexual behavior, strengthen the community’s capacity, and increase access to sexual healthcare in order to reduce STD prevalence and their associated complications. These real-world objectives directly correlate with the problems observed from our Sentinel City survey.

**(C2) Discussion of Community Resources**

Sentinel City provides a range of community resources for its citizens. The Parks and Recreation Bureau offers various courses for the elderly population to enable and encourage them to lead healthier lifestyles. These include swimming, gardening, nutrition, and fitness courses. In addition, a range of health services are available such as dentistry, pharmacy, and emergency services to cater to the needs of the community. Sentinel city suffers from a high level of STD prevalence; thus, to mitigate the effects the Better Health clinic offers pregnancy and STD-related screenings and contraceptive services to the community. However, those who are affected by these problems also need effective sexual health education in their middle school, along with awareness about drugs related problems and mental health. The better health clinic has also started educational programs in this regard offering valuable advice and tools to prevent unwanted pregnancies and sexually transmitted diseases. The Sentinel City Healthcare Department is responsible to provide primary healthcare to the community besides that.

Other community services provided by the city include City Hall-Social Services that includes Fire, Water, and Waste management services along with an animal control department. The homeless and the disabled are provided free meals from the Soup Kitchen, which now also serve the needs of veterans, senior citizens, and children that need meals. In addition, Sentinel City has started a vaccination drive in which eight primary providers, four pediatric providers, and nearly 60% of the city’s pharmacies would provide vaccination services to the community. Information about such services is available to the community online or distributed by means of fliers.

**(C3) Primary Prevention Topic**

A primary prevention focus on Child Health would be greatly beneficial for Sentinel City. A key reason is that nearly 50% of the infants and children within the city have been vaccinated only, and there is an urgent need to prevent any potential outbreaks or diseases from spreading by enhancing efforts towards vaccinations. Many families disregard vaccinations either out of misleading information or have certain fears about them. Thus primary prevention would include educating them on the benefit vs. risk involved in the process while being respectful of their feelings. Although, there have been instances where vaccines have led to complications, however, if the right procedures and guidelines are followed, then vaccines are the best primary prevention method to eliminate infectious disease. Better efforts to enhance education and awareness with regards to vaccination will help alleviate the fears many have regarding vaccination. It is also important that the healthcare system forms a trusting relationship with the parents of the child, which requires that providers be transparent about the immunization process and help develop trust in the system (CDC, 2014).

**(D) Application of Assessment Strategies between Simulation and My Community**

As I traveled through Sentinel City's virtual environment, I learned to appreciate how various community-based resources holistically work together to address the health needs of the community and their overall wellbeing. I also gained an understanding of the range of direct and indirect factors and contributors to public health such as pollution, insurance, access to services, and median income, etc (Thomas, 2017). Furthermore, I learned how to observe and interpret various health statistics to derive trends which would then provide me with key insights related to the risks and hazards faced by a community and whether resources are sufficiently available to address those risks. The understanding I gained from interacting with the simulated environment can be applied into my own community as I enter the nursing profession. It would also help me as a professional to interact with local community leaders to address the actual needs of the community with regards to their health and wellbeing.

The windshield survey allowed me to take note of some of the issues that I usually do not take note of when I walk by my town in the real world. In any community, a number of different resources and components work together to address its various needs. The demographic assessment, scavenger hunt, the safety inventory, along with the windshield survey are useful tools to understand the various needs of the communities, in order to find areas of concern and develop mitigating measures accordingly. Hence in my profession as a nurse, when I gain access to various statistics of the community I serve, I would be able to divert and concentrate my efforts on those areas where attention is genuinely required. These will also include primary prevention measures that will enable the community to engage in lifestyles and behaviors that prevent them from acquiring infections and illnesses in the first place. Furthermore, the survey and assessment have allowed me to develop an understanding of the needs of uninsured and lower income groups and compare them to the problems and issues faced by those with a higher socioeconomic background. Additionally, I also understood that merely having resources to address the needs of the community are not enough and that patients and individuals have to be educated to make them aware of the resources available for their needs so that they are able to effectively utilize them to enhance their overall health and wellbeing.

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