**Module one Assignment**

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1. In your own words, what is your understanding of public health and what are its key elements? Public health is a discipline of studies that is concern with ensuring that the population is living in good health and living a healthy lifestyle by working very closely with the population to create awareness of diseases and prevention methods through health promotion, prevention, protection to prevent disease, prolonging life and promoting individuals health by ensuring that the population is living longer in good health with the organized effort of the society for sustainability. The key elements of public health are preventing diseases, prolonging life and health promotion. Below are the key elements of the definition of public health:

* **Preventing disease**: As the common slogan, your health is in your hands, disease prevention is all about working with the society to create awareness that will have a change in their minds and attitude, equipping their understanding concerning best practices for preventing diseases. Examples, looking at malaria which is the number one leading cause of deaths among children here in Liberia and easily preventable. Educating the society about clearing their surrounding and homes to ensure that malaria breading sits vectors are destroyed and the requisite education for our society to use available treatable bed nets are some example of disease prevention. Best practices we educate society to keep them contracting diseases like hand washing, personal hygiene, and even sanitary practices are examples of disease prevention. Diarrhea diseases that is common among the population that lack public health personals to archive health for all. Diarrhea has accounted for more than 40% of deaths among camp residents since there had been limited numbers of public health professionals. Clear limitations exist in water treatment technologies, and few products are capable of treating turbid water.
* **Prolonging Life**: is working with the society to educate the population on wellness activities including practices that will aid them to improve the function and flexibility of the body organs to live long and still in good health. Initiating primary screening activities for the population and if found with chronic illness, placing the person or population on activities that will improve their health to live longer as compared to the absence of treatment and the activities. Looking at diseases that have no cure like other heart diseases and you need to be counsel to live with the disease and given some education as relates to activities and practices you need to do to keep living with the disease without breaking you down to death.
* **Health Promotion**: educating the individual or society to build their understanding and have adequate control to enhance health literacy, create supportive environments, and strengthen social networks that will also contribute to healthy living. Such activities can be done in individual’s homes, schools, workplaces, and health-care settings. Health promotion seeks to reorient health services in ways that contribute to the pursuit of better health after the change mind of the people. The basic strategies for health promotion for change include: Political, economic, social, cultural, environmental, behavioral and biological factors can all favor or harm health. Health promotion aims to make these conditions favorable, through advocacy for health. Looking at condoms education and distribution messages to the population is an example of promoting that health commodity that is capable of making the individual safe from unwanted pregnancy, HIV/AIDs, and other STIs. This promotion message alone can make the individual still healthy and make lots of achievements in his life that will develop him.

1. Explain the three population indicators that aid in decision making for public health practitioners

Indicators are a given situation of a reflection of a situation, according to WHO guidelines for health program evaluation, indicators are defined as variables which help to see changes and manage them. They sequentially measure over time to see the indication and direction and speed of changes and even serve to compare different areas and a group of people at the same movement in time. With public health practitioners, the aid of the following indicator in decisions making:

* Mortality indicators: The mortality indicators measure death rates among the population. With this indicator, the public health practitioners will be able to monitor and measure the crude death rate, infant mortality rate, child mortality rate, under-five proportionate mortality rate, maternal mortality rate and even disease-specific mortality rate to enable better decisions that will lead to better health outcomes as relating to morbidity indicators.
* Morbidity indicators: A morbidity indicator is describing the presence of disease in the population or the degree of risk of an event. The incidence rate, prevalence, and attack rate (AR) are common applications of this concept in epidemiology studies. This indicator will aide public health practitioners to know which disease, location and the specific population that is experiencing and affected by the disease or event including people that at higher risks so they can make a better plan for working with such populations to overcome the disease burden.
* Health care delivery indicators: are quantifiable characteristics of a population that aide public health practitioners in supporting evidence for describing the **health** intervention and impact among the population. **Health care delivery indicators** are often used by public health practitioners to guide **health care** policy and implementation guidelines. In health, intervention is planned and if activities are the plan, you need a system of measurement to report your planned intervention and keep making better decisions that will improve the way services are delivered and have a better outcome.

2. Explain any five functions of a Public Health Personnel in emergency situations

In general, public health personnel attempted to coordinate and streamline emergency response at the level of the communities, workplaces and other endowments that may be at risk and to work effectively plan strategies to support emergency planning and preparedness at state and local levels. It also sought to enhance the capacity of the health care system to respond quickly and effectively. Reflected in that legislation was the expanding and evolving understanding of the challenge of public health generally and both the virtual inevitability of disaster and emergency events and the necessity of building resilient health care and social systems to endure and recover. They also should include a full range of prevention, mitigation, and recovery activities, and not just those designed to enable responses to public health events that are risking the population health. It also involves operational capabilities—the ability to quickly execute preparedness tasks. Although possessing capabilities requires capacity (infrastructure, personnel, plans, and so on), capacity alone does not ensure readiness. Public Health emergency requires continuous improvement, including frequent testing of plans through drills and exercises and the formulation and execution of corrective action plans. The personnel should also include the practice of improving the health and resiliency of communities. The public health personnel in emergency focus on many situations below are five situations as required.

* Preventing the spread of disease: Diseases are found where human lived due to the activities we carry on and the natural environment, we as human pollute the environments during our interaction that undermine our healthy living, as human we need to interact with our friends and families who status we may not know and we know. We handle lots of activities daily that have the possibility of being infected with some bacterial and if we do not disinfect our hands and other tools we usually used, we will keep spreading from one person to another and even ourselves. Again looking at the food we eat, the clothes we wear and the place we lived sometimes get contaminated by others and even ourselves. Now the roles of the public health personnel are to educate us as relates to practices and producers to keep our environments, food, clothes and other things clean and even treated to avoid the spread of disease. To have these met and have good health, the public health personnel will work with us through education, training, sensitization and health promotions that will build our understanding to keep our environment safe and free from diseases. Looking at one examples of preventing the spread of disease, the public health personnel will tell you more about HIV/AIDS, where it’s found, how you can get the disease and how you can prevent the disease by using condoms, being faithful to your partners and even avoiding sexual activities if you have not infected with the virus and with all this education will choose which method you want to use to keep being safe. Hands washing again is another example to stop the spread of disease, so the public health personnel have deep understanding of how we contract diseases and how we should prevent them through behavior change communications involving positive emotional humor, proper hands washing with running and treated water is a sample message that we think people should be accepting the spread of diseases.
* Preventing epidemics: The Ebola virus outbreak that took away the lives of our friends, families including lovesome was a better example epidemics that we could prevent, better to avoid the number of deaths we experienced here in Liberia between 2014 and 20116 where we discovered about 4,810 people died just in Liberia. So this was one major task that public health personnel could handle and ensure that our population is safe, aware and able to live and control an epidemic why they are working to halt it and experience no deaths during any disease outbreak and epidemics. Since Liberia herself could not prevent these great epidemics, the government at the time seek international support that could aide her in preventing such epidemics that lead to the creation of the UNMEER by the international communities which stand for the United Nations Mission for Ebola Emergency Response. Preventing the epidemics is where you have better surveillance systems with train public health technicians and other health workers who can educate your population through their effort to prevent disease and better systems to avoid such outbreak in time to come and such epidemics are public health emergency that needed more public health intervention to sojourn such epidemics. In such emergency, broader surveillance systems or border restrictions need to be strengthened through discussions with bordering countries and provisions of equipments like thermometers and other medical supplies that could enable assigned public health technicians to conduct primary screening for people who will be traveling from country to countries. Looking at the past Ebola epidemics, Liberia had no better surveillance systems and even now having no better systems, even though, more Liberians now developing interest in the field of public health but we need humanitarian assistance item of systems strengthening to be able to overcome those threats that have the potential to harm our population peace and security. In such situation the public health personnel could have detected the EVD virus earlier, could have even put in public health measures and educate the population earlier about signs and symptoms including preventive mentions and even had better systems in place to respond to such public health emergency with support from the communities herself. Finally, this emergency has shown the weakness in the Liberia health system and lessons to build a better and resilient health system. Today many schools offering degree in public health and enrollees highly increasing in the college while the schools struggle to more to find funding’s that will enable them recruit more qualify professors or instructors to build the capacity of students and have a resilient public health system to promote health, prevent and response to public health emergency that will place Liberia on the map to show high impact as relating to the vision 2030 agenda to Ensure healthy lives style and promote wellbeing for all at all ages, on systems and practices can make us to archive this vision.
* Preventing injury: The public health personnel are to ensure the population lives in good health with a sound mind. Looking at this vision and comparing it with the number of accidents cases that we usually experienced here in Harper where I lived that leave our population with remarkable injuries and deaths, the role of the public health personnel here is to do an assessment that will give deep understanding of the cause of such cases and provide education to the population to reduce the number of cases over time, meaning finding the root cause and working with the population to provide solutions that will prevent those injuries and allowing them to live a healthy lifestyle in peace.
* Promoting and encouraging healthy behaviors: is another role of the public health personnel and is mostly done through sensitization of the population due to chronic diseases such as heart disease, diabetes, and obesity which are among the most common and costly health conditions affecting the health of our population currently. Chronic diseases are often entirely preventable. Far from being inevitable, chronic diseases are associated with unhealthy and risky behaviors. And those behaviors are often shaped by the environments in which we live, work, learn and play. That means there are a variety of innovative and proven ways to make it easier for people to adopt healthy behaviors, make healthier choices and prevent the onset of costly chronic diseases. Here in Liberia, if people see you joking and you are not working, they laugh at you and even monk you by saying a lot about you. At my university where they offer physical education and wellness for two semesters, I sometimes asked myself a question, students have been taking this course for 10 years now and I am not seeing it practical in the life of even 1% of the student's population including students who are studying public health. With this issue, I noticed from my implementation science that the problem is closing the know and do caps. Meaning public health personnel should be more of an example of changes and best practices they want from the population. Now as public health personnel, we need to encourage and promote healthy behavior or activities that will have a better impact on the health of our population.
* Responding to disasters: As populations grow and occupy spaces that are vulnerable to a variety of hazards, disasters will increase in frequency and impact. Many professional and scientific fields are involved in the study of disasters and the field of disaster science rapidly is becoming an interdisciplinary endeavor. While some disciplines have been involved in working together to reduce the impacts of hazards on the population for a long time, others are just beginning to join the fray. One relative newcomer to the field is health sciences. This is not to imply that medicine and public health have not been involved in the reduction of disasters, however, their contributions have tended to occur in something of professional isolation, not as part of the multidisciplinary disaster management and response team

3. You have been appointed the head of Public Health in an emergency area with dilapidated sanitation facilities as well as the infrastructure has been destroyed. Explain some of the diseases as well as conditions that you are likely to encounter, and the therapeutic measures that you will put in place to ensure that people in that place lead a dignified life?

Where sanitation facilities and infrastructures are destroyed, open defecations and bad wastes practices will be common among the population that may increase the high risks and threats of contracting diseases, establishing point-of-use water treatment with PUR will reduce some of those diseases that may include:

1.   **Diarrhea** cases will be common among the population because the population will be finding their means for defecation that may contaminate the water sources. Now during the time, people will attempt using this same water, due to such contamination running stomach will occur while people from the population will be defecating three or more times a day. This condition is linked to several viruses, bacteria, and protozoans and ultimately depletes a person of water and electrolytes which, for many without oral rehydration solution, leads to death. One of the most important factors in eliminating diarrheal deaths, next to proper sanitation facilities, is hand washing activates which need to organize public health personnel. Public professionals will now come in with health messages that will give the population a deep understanding of the sources of such caused by the diseases and best practices to overcome it. Walking with the population and stakeholders to use available to build or repair some infrastructure that can be used, even train community health promoters that will keep educating the population.

2.   **Cholera** is an infectious disease that causes severe watery diarrhea and even quick to cause death if untreated due to the Weak health system that the Nation is now building. And all these are results of a lack of sanitary infrastructure and education for the population. Eating food or drinking water that is contaminated with a bacterium called Vibrio cholera will be common among the population in an emergency area with dilapidated sanitation facilities as well as the infrastructure that has been destroyed due to human interaction with the environment. Contact with waste from an infected individual either directly or through food and water perpetuates the cycle of infection will be at an alarming rate. Restoring proper sanitation will be the first line of defense needed to curb this disease before continuing education.

3.   **Dysentery** can be caused by either bacteria or an amoeba and presents an [infection of the intestines](https://www.nhs.uk/conditions/dysentery/), this disease can be easily spread throughout the population without a system to separate waste from food and water. Working with the population and other stakeholders to ensure that those dilapidated sanitation facilities, as well as the infrastructure, has been destroyed be investigated and if rebuilding findings from such assessment be prioritized to ensure that the population use and maintain those facilities properly and stay healthy.

4.   **Typhoid fever**: Typhoid fever is a [life-threatening infection](https://www.who.int/mediacentre/factsheets/typhoid/en/) caused by bacteria Salmonella Typhi through contaminated food or water and sometimes from direct contact with someone who infected. Unlike many waterborne diseases, antibiotics and new vaccines can provide treatment and limited immunity. Yet, without proper water, sanitation and hygiene typhoid infection will persist and antibiotic-immune typhoid will spread which will make treatment of the disease more complicated. Working with the population and other stakeholders to ensure that those dilapidated sanitation facilities, as well as the infrastructure, has been destroyed be investigated and if rebuilding findings from such assessment be prioritized to ensure that the population use and maintain those facilities properly and stay healthy.

5. Malaria: isa life-threatening disease caused by parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes. It is preventable and curable. Now living an emergency area with dilapidated sanitation facilities as well as the infrastructure has been destroyed, the population will not manage their waste well and the environment will turn into breeding sites for mosquitos since those mosquitos diet and will be harmful to the population health and may be contributing to the prevalence of malaria causes. Working with the population and other stakeholders to ensure that those dilapidated sanitation facilities, as well as the infrastructure, has been destroyed be investigated and rebuilding facilities and taking into account findings from such assessment be prioritize to ensure that the population use and maintain those facilities. Provision of bed nets with education on usages and working with the population to treat their environmental health.

6.     **Malnutrition** in children is another health problem associated with just open defecation. Once a child is a victim of one of the diseases passed on due to the lack of proper sanitation and hygiene facilities in the setting, the child will start to lose a lot of fluids and lack of appetite for food and sucking. As a result, it gives rise to many cases of malnutrition in children that will lead the parents spending time and money for treatment that will lead the family to poverty. Working with the population to restore those infrastructures in modern forms and educating the population to reduce diseases and providing safe drinking water.

4. What are the negative impacts of open defecation and as a Public Health officer how will you curb the habit from a society that is deep-rooted in the same.

The negative impact of Open defecation are mortality and morbidity among population including poor nutrition, poverty, and large disparities in human health, Therefore, eliminating open defecation is important for preventing and promoting health among communities as public health practitioners. It’s also some of the required efforts of public health personals to eliminate poverty and the burden of disease among our population, due to the facts that disease make you sick and if you are sick you may not be able to carry on the normal activities that will enable you to continue your normal or planned activities and later bring poverty in the sense that you will use you useful time to seek treatment for yourself families friends and loved ones. Working with the population to understand the negative impact of open defecation on the environment and the population. Using locally available materials to household construct their own latrines to overcome open defecation that reduces disease burden and improve public health. Extending to international donors and county stakeholders with a SMART proposal that focuses on training community health promoters volunteers, building latrines that will be maintained by the community herself and even generate income sustainability.

5. Public health is about partnership between the different players. Explain how the role of international non-profit/NGO in terms of

i) recruitment ii) training iii) funding and iv) monitoring for public health projects contribute to the success or failure of those projects in the developing countries

Looking at the definition of public health, which mentioned the joint effort of the community people, meaning to have something done in the community, its require working with a group of people organizations like national and international NGOs including the community herself and the role of each of those parties in the following include:

1. Recruitment: since people are already living within the community and character issues and commitment is a key to development and teamwork; recruitment process should involve community people by submitting letter of recommendation that is signed by the community leaders and if it community volunteers, let those people be recommended by their own community leaders for sustainability.
2. Training: national and international NGOs should put more interest in training community leaders, volunteers and other community groups that will aid in the reaching the health messages to the community herself in a sample way that will be sustainable.
3. Funding: the role of the National and International NGOs is to assess the communities health needs and communicate it to donors that are will and ready to support community public health issues and community and human development. Funding should be used as planned in the program operational and strategic plan.
4. Monitoring for public health projects contributes to the success or failure of those projects in the developing countries: monitoring is a form of oversight of interventions to track and determine desire planned outcomes of the intervention that will enable you to report the impact of the intervention. Now the roles of the national and international NGOs are to develop a logical framework and employ qualified staff that will actively be involved with outcomes of the project. Present indicators trends among program staff to design better strategies that will promote improving the plan of intervention with the communities involvement.

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