Running head-POST GRADUATE DIPLOMA IN PUBLIC HEALT

PUBLIC HEALT MODULE TWO ASSIGNMENT

COURSE CODE; PGD 007

NAME OF STUDENT; JOHN MARIAL CHOL

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E-mail address; [banykueimarial@gmail.com](mailto:banykueimarial@gmail.com)

INSTITUTE; STRATEGIA NETHERLANDS

1. **Discuss the principles of emergency preparedness**

Emergency preparedness follows some basic principles as state below

**Emergency management must be**:

**Comprehensive** for example, it should consider all phases, all hazards, all stakeholders, and all impacts relevant to emergencies.

**Progressive;** emergency practitioners should foresee future emergencies and take preventive and preparatory measures to build strong disaster-resistant and disaster-resilient communities which will them less exposed to future disasters.

**Risk**-**driven**; it must use sound risk management principles such as identifying hazard, risk analysis, and impact analysis in assigning priorities and resources.

**Integrated**; emergency preparedness managers must ensure cohesiveness among all levels of government and all elements of a community.

**Collaborative** – emergency managers create and sustain broad and sincere relationships among individuals and organizations to encourage trust, advocate a team atmosphere, build consensus, and facilitate communication

**Coordinated** – emergency managers synchronize the activities of all relevant stakeholders to achieve a common purpose.

**Flexible** – emergency managers use creative and innovative approaches in solving emergencies challenges.

**Professional** – emergency managers value a science and knowledge-based approach; based on education, training, experience, ethical practice, public stewardship, and continuous improvement.

**Source**: adapted from (*Public Health Emergency Management Guidelines for Ethiopia 2012, p.1)*

1. **With the help of a diagram describe the emergency preparedness process**

Policy Development

Vulnerability Assessment

Plan for Emergencies

Train & Educate

Monitor & Evaluate

1. **Discuss three potential impacts of emergencies on communities and the immediate response/intervention for each**

Emergencies have great impacts on the communities as discussed below;

**Damage to the Health Infrastructure**; Natural disasters can cause serious damage to health facilities and water supply and sewage systems, having a direct impact on the health of the population dependent on these services.

In the case of structurally unsafe hospitals and health centers, natural emergency threaten the lives of occupants of the buildings, and limit the capacity to provide health services to disaster victims. For example the disaster which struck one of the American cities (*Mexico, 1985*) left 13 heath centers collapse, 866 lives lost and damage to hospital equipment such as bed and other essential facilities. Typical intervention to health infrastructure damage includes; search and rescue, giving first aid to casualties and finally rehabilitating or relocating the building after vulnerability analysis is carried out.

**Communicable Diseases outbreak**; emergencies do not usually result in massive outbreaks of infectious disease but also increase the potential for disease transmission.

For example, the most frequently observed increases in disease incidence are caused by fecal contamination of water and food; hence, such diseases are mainly enteric.

The risk of epidemic outbreaks of communicable diseases is proportional to population density and displacement. These conditions increase the pressure on water and food supplies and the risk of contamination (as in refugee camps), the disruption of preexisting sanitation services such as piped water and sewage, and the failure to maintain or restore normal public health programs in the immediate post-disaster period.

In the longer term, an increase in vector-borne diseases occurs in some areas because of disruption of vector control efforts, particularly following heavy rains and floods. Residual insecticides may be washed away from buildings and the number of mosquito breeding sites may increase.

In complex disasters where malnutrition, overcrowding, and lack of the most basic sanitation are common, catastrophic outbreaks of gastroenteritis (caused by cholera or other diseases) have occurred, as in Rwanda/Zaire in 1994.

The government, all agencies should set up intervention measures such including a surveillance and control system for infectious diseases and nutritional surveillance and children should receive appropriate vaccinations, and opportunities should be taken to provide basic Health education and hygiene promotion targeting populations in shelters, temporary camps, collective kitchens, or prepared food distribution centers.

**Water Supply and Sanitation**; drinking water supply and sewerage systems are particularly vulnerable to natural hazards and the disruptions that occur in them posing a serious health risk. The systems are extensive, often in disrepair, and are exposed to a variety of hazards. Deficiencies in established amounts and quality of potable water and difficulties in the disposal of excreta and other wastes result in the deterioration of sanitation, contributing to conditions favorable to the spread of enteric and other diseases.

Typical interventions in the aftermath of disasters include strengthening the monitoring and surveillance of water quality, vector control, excreta disposal, solid waste management, health education, and food safety.

A first priority is water supply. It is often preferable to have a large quantity of reasonably potable water than a smaller amount of high-quality water ([UNHCR 1998](https://www.ncbi.nlm.nih.gov/books/NBK11792/)). Massive distribution of water purification disinfectants can be effective if the public is already familiar with their use and not confused by the availability of many different brands and concentrations of donated chemicals.

1. **It is important to communicate with the public in anticipation of a disaster. Describe the communication process identifying all those involved in the process.**

**Communications** is the means of passing or relaying information between organizations, people, and the community. Adequate communications is essential to all aspects of response and recovery operations.

They are communication plans are discussed below,

Launch quickly the communication, brief senior management on the situation, identify and brief the company/community spokesperson on the situation, prepare and issue statements to the media and other organizations, organize and facilitate broadcast media coverage, communicate situation information and procedural instructions to employees and other stakeholders, communicate with employee families and the local community, then finally continually adapt to changing events associated with the emergency

1. **Define the term hazard,**

A **hazard** can be defined as a potentially damaging physical event, phenomenon or human activity which may cause the loss or life or injury, property damage, social and economic disruption or environmental degradation.

Hazards are group into the following

**Physical Hazards**: These are the most common hazards and they include extremes of temperature, ionizing or non-ionizing radiation, excessive noise, electrical exposure, working from heights, and unguarded machinery.

**Mechanical Hazards**: These are usually created by machinery, often with protruding and moving parts.

**Chemical Hazards**: These appear when a worker is exposed to chemicals in the workplace. Some are safer than others, but for workers who are more sensitive to chemicals, even common solutions can cause illness, skin irritation, or breathing problems.

**Biological Hazards**: These include the viruses, bacteria, fungus, parasites, and any living organism that can infect or transmit diseases to human beings.

**Ergonomic Hazards**: Including considerations of the total physiological demands of the job upon the worker, even beyond productivity, health, and safety.

**Psychosocial Hazards**: These may arise from a variety of psychosocial factors that workers may find to be unsatisfactory, frustrating, or demoralizing.

1. **What is the difference between hazard exposure and hazard vulnerability?**

**Hazard vulnerability** can be expressed as the degree of loss resulting from potentially damaging phenomenon or hazard (Niekerk, 2002) whereas **hazard exposures** are threats when there are no protective measures taken. For example, an electrical distribution board is an electrocution hazard. If it is protected by a cover, locked out and a safety warning placed on it, its risk is reduced and it poses fewer hazards.

1. **List and define the four phases of emergency management**

**Mitigation phase** refers to measures that reduce the chance of an emergency happening, or reduce the damaging effects of unavoidable emergencies. This is achieved through risk analysis, which results in information that provides a foundation for typical mitigation measures include establishing building codes, zoning requirements, and constructing barriers such as levees. Effective Mitigation efforts can break the cycle of disaster damage, reconstruction, and repeated damage. It creates safer communities by reducing loss of life and property damage

**Preparedness phase** are the measures that ensure the organized mobilization of personnel, funds, equipment, and supplies within a safe environment for effective relief

**Response phase** is the set of activities implemented after the impact of a disaster in order to assess the needs, reduce the suffering, limit the spread and the consequences of the disaster, open the way to rehabilitation. Response actions may include activating the Emergency Operations Center, evacuating threatened populations, opening shelters and providing mass care, emergency rescue and medical care, firefighting, and urban search and rescue.

**Recovery phase** deals with all the actions taken to return a community to normal or near-normal conditions, including the restoration of basic services and the repair of physical, social and economic damages. Typical recovery actions include debris cleanup, financial assistance to individuals and governments, rebuilding of roads and bridges and key facilities, and sustained mass care for displaced human and animal populations

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