**DIPLOMA IN PUBLIC HEALTH**

D012-DIPLOMA IN PUBLIC HEALTH

ADMISSION NUMBER: ACPM DIP/067/2018

MODULE FOUR

SUBJECT: PUBLIC HEALTH DATA AND SURVEILLANCE

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Assignment Four

Q1: **Define data, why is it paramount to/for public health professionals to take comprehensive individual data?**

1. Data is a facts and statistic collected together for reference or analysis, the quantities, characters or a symbols on which operation are performed, being store and transmitted in the form of electrical signal and recording on magnetic, optical or mechanical recording media.
2. According to English Wiktionary, it defines data as the numbers but can means words, sound and images metadata is data originally, data is plural of the Latin word, datum” from dare meaning Give”
3. Data is distinct pieces of information including formatted in a special way, means computer information that is transmitted or store into a form that is efficient for movement or processing, it is acceptable for data to be used a singular or plural subjects. Raw data is a term used to describe data in its most basic digital format, all these definitions brings us to one thing about DATA.

The paramount for public health professional to take comprehensive individual data, to know the individual level data about the patients profile, health care needs and treatment services as the household survey have become a primary sources of data in developing countries, statistical information is widely recognized as of paramount importance, dissemination to the public of comprehensive, timely, accessible and reliable. As public health data is the ongoing systemic collection, analysis and interpretation of data, closely integrated with the timely dissemination of these data to those responsible for preventing and controlling diseases and injuries. Therefore surveillance system that generate specific data on disease and geographic areas are imperative because they help to measure the relative importance of a health events and help the organization or government make more informed and decision about taken and action in time. Surveillance system generate data that public health officials understand existing and emerging infectious and nan-infectious diseases. Without understanding of the health problem (etiology, distribution and mechanism of infections) it will be difficult to ameliorate the health problem, data and health programming, data, public policy and funding.

Q2: Identify six institution or organization that provide health services in country or state and briefly discuss the role played each of them.

The institutions or organization that provided health services defer from country to country according to health policy of that particular country. In south Sudan, the health organization can be described within six key function where the health system must perform the following.

* Governance
* Financing
* Human resources
* Service delivery
* HIS
* Pharmaceutical management.

Governance; the set of tradition and institutions by which authority in a country is exercised. This definition encompasses;

1. The process by which government are selected, monitored and replaced;
2. The capacity of the government to effectively formulate and implement sound policies;
3. The respect of citizens, private organizations and the state for the institutions that govern economic and social interactions among them.

Health Financing; the mobilization, accumulation and allocation of money to cover the health needs of the people, individually and collectively in the health institutions (WHO 2000)

Human resources for health; all people engaged in actions whose primary intent is to enhance health (WHO 2006)

Services delivery; the way in which inputs are combined to allow the provision of a series of intervention or health actions (2001).

Health institutes Services (HIS); The directorate of medical training and professional development is responsible for the pre-services and training of medical cadres in South Sudan or abroad

Pharmaceutical and management; the mandate of the directorate to ensure that every person is equal opportunity and access to quality, safe effective and affordable pharmaceutical products and medical supplies in the country.

South Sudan have three or four institutions that can provides health services such as;

Ministry of health, is comprised of nine directorates and the medical commission, those directorates are headed by director general, responsible for planning and budgeting within the directorate overseeing daily operations.

The state level; Leadership, joint assessment, planning, M&E and operational research, sectoral and interpectoral coordination, annual management work plans referral system and epidemiological surveillance

County and municipality level; health coordination, assessment and analysis of local health and managerial needs, monthly management work plans, implementation of health care and services, supervision, guidance and monitoring, referral and Epidemiological surveillance

Community level (PHCC<PHCU and Communities), implementation of basic public health services, community participation, referral system, daily, weekly work plans by health centers and unit and outreach.

All these are done by training medical personal and professionals.

Refe: Elizabeth A. [www.olocollage.edu,Health](http://www.olocollage.edu,Health) policy for the government of south Sudan,2006-2011.

Q3. **Discuss the principles of public health in the concept of health system management.**

The health system management are widely consider to superior performance in terms of quality and safety as a results of effected communications and standardized protocols although these outcomes have not been fully demonstrated despite the growing enthusiasm for integration, information-related imitation is dispersed and not easily accessible, with evidence informed decision making as an expectations in health care management and policy.

The following are principles with successful management process and models. These principles were independent of types of management models, health care context or population served from many principles.

1. Comprehensive services across the care continuum; cooperation between health care and social care organization, access to care continuum with multiple points of access and emphasis on wellness, health promotion and primary care.
2. Patient Focus; patient centered management (philosophy) focusing on patient’s needs, patient engagement and participation, population-base needs assessment focusing on defined population and geographical locations affected.
3. Geographic coverage and rostering; maximize patient accessibility and minimized duplication of services, roster responsibility for identified population right of patient to choose and exile.
4. Standardized care dietary through inter professional team across the continuum of care, provider-developed evidence based care guideline and protocols to enforce one standard of care randomized regardless of when patients are healed.
5. Performance management, committed to equality of services, evaluation and continuous care improvement, diagnosis, treatment and care intervention linked to clinical outcomes.
6. Information Systems; state of the art information system to collect, track and report activities, efficient information systems that communication and information flow across the continuum of heath care.
7. Organizational Culture and Leadership; organization support with demonstration of commitment, leaders with vision who are able to instils a strong cohesive culture.
8. Physician Management; these are the gateways to manage health care delivery systems, pivotal in the creation and maintenance of the single point of entry or universal electronic patient record and engage physician in leading role participation on board to promote good services.
9. Governance Structure; strong focused diverse governance by a comprehensive membership form all stakeholders group, organizational structure that promote coordination across settings and levels of health care such as primary, secondary and tertiary.
10. Financial Management; aligning services funding to ensure distribution for different services or level of services, funding mechanism must promote under-professional teamwork and health promotion, sufficient funding to ensure adequate resources for sustainable changes for bather health care.

“Esther suter, PHD, MSW/Nelly D. oelkcanda, WHO, Adair CE simpson L. Bird sell performance measurement System in health and mental health services.

Q4. Give merits and demerits of Public health surveillances.

Public health surveillance is the continuous systemic collection, analysis and interpretation of health relate data needed for the planning, implementation and evaluation of public health practice.

The merits of public health surveillance defer, but according to center for disease control and prevention had mentioned two level of agencies that can provided public health surveillance, state and federal.

Merits

Hospital discharges; ongoing data collection, availability, valuable for monitoring use and cost of hospital services and detailed information on diagnosis, procedures and external cause may be used to measure morbidity and injuries. Important statistics such as birth certificates, birth and death cohort files, standardized manner of data collection, near complete coverage of vital events, many nasality and mortality indictors may be derived from sources. Rich data sources for health and nutrition information for women and children provides incidence and prevalence of health condition information contains data for condition risk factors and national wide samples.

Collects specific exposure data for a group of select individuals suspected to be exposed at high levels, or for a regional or national random sample of the population. Allows examination of exposure differences in space and time that includes trends for exposures if collected repeatedly or continuously. Individual-level exposure measurements available Specific exposures of relatively high data quality. Collect data on one or more diseases and exposures simultaneously for a representative regional, national, or international sample using standardized methods. Longitudinal data for exposure and disease avoid problems of temporal ambiguity

Investigation of outcomes beyond those of original interest often can be undertaken.

Demerits of public health surveillance.

The demerits of public health surveillance are unduplicated counts may be difficult to determine it data set contains no individual identifiers. Not available in all states, often takes time between data collection and delivery, data availability for analysis. Risk behavior, pregnancy condition and neonatal outcome data may be incomplete, data reporting be incomplete or inconsistent due to differences in recording and cause of death may be coded inconsistently sampling, errors of estimates for small population. Geographic specificity limited to the region of country, delays in data collection due to poor means communication and lack of professional and poor financing. Collect one or more diseases and exposures over time. Longitudinal data for exposure and disease avoid problems of temporal ambiguity. Investigation of outcomes beyond those of original interest often can be undertaken. Individual-level exposure estimates available High-data quality Extremely high financial investment necessary over extended periods; costs depend on data collection protocol, sample size, length of observation period, etc. A cohort is by definition a restricted group of individuals that may or may not be representative of a population of specific interest (e.g., those highly exposed to an environmental agent or those within a susceptible age or ethnicity.

(WHO 1978, 1993) QA/QCquality assurance/quality control.

Q5. AS a newly employed research manager, briefly explain what type of epidemiological studies you would think of in order to describe the association between the occurrence of disease and factors that influence the occurrence.

Epidemiology is the study of the distribution and determines of disease in the population, it is the key quantitative discipline that underpins public health which is often define as the organized efforts of society to prevent disease and to promote health. The relationship between epidemiology and public health has long, can explain patterns of disease occurrence in human population and the factors can explain influence.

There are types of epidemiological studies.

* Cohorts study
* Case control study
* Occupational epidemiological study
* Cross-sectional study. Etc.

Epidemiology is concerned with the health states of population, communities and groups. The health states of individual is the concern of clinical medicine, may simply describe the distribution of health states (extent, type and severity) within a population. This is descriptive epidemiology, alternatively epidemiology. The basic strategy is to compare the distribution of disease between group or between population, looking for associations between hypothesized risk factors ( genes, behaviors, lifestyle, environment exposure) and health states. This association may or may not indicate that the hypothesized risk factor has cause the disease as altercated below

Exposure outcome

Risk factors Association Disease

Independent variable dependent variable

Epidemiological studies of health and disease in the community had two groups

1. To describe the distribution, the pattern and the natural history of the disease in the general population.
2. To identify factors that may be causal in a disease process and to evaluate strategies for the control, management and prevention of descriptive study may take the form of case reports case cerise and there are number of factors that influence the amount of clinical evidence, epidemiological studies the strength of the relationship between two during a specific time interval, mortality, the occurrence of death in the population.

While the factors that influence the occurrence are biological, physical, chemical factors that contribute the occurrence of disease. Analytical epidemiological study is a quantitative comparative study, investigating the relationship between a study factors and an outcome.