HEALTH SURVEILLANCE:

Health surveillance (often referred to as epidemiological/clinical/syndromic surveillance) is defined by the WHO - WORLD HEALTH ORGANIZATION as the continuous, systematic collection, analysis, and interpretation of health-related data needed to plan, implement, and evaluate public health practice. This type of surveillance can be used to identify emerging health problems in good time and to bring active solutions in a timely manner. [1]

THE OBJECTIVES OF HEALTH SURVEILLANCE COULD INCLUDE:

- Gauging the burden of disease
- Assessing the health status of the population
- Setting public health priorities
- Mapping the natural history of the disease
- Determining the geographic distribution of disease
- Fulfilling national requirements
- Maintaining an updated registry
- Helping to ensure that preventive measures have been taken.
- Recognizing outbreaks and epidemics
- Defining a problem
- Generating hypotheses
- Promoting research
- Tracking changes in infectious agents
- Recognizing changes in health practices
- Facilitating planning
- Giving situational awareness to the medical community to support specific disease prevention programs.
- Guiding public health policies and programs
- Assessing control and prevention efforts

TYPES OF HEALTH SURVEILLANCE SYSTEMS:

The surveillance systems for public health may be passive or active. A passive surveillance system consists of regular, continuous reporting of diseases and conditions by all health care facilities in each area. In contrast, an active surveillance system involves visiting healthcare facilities and reviewing healthcare providers and medical records to identify a specific disease or health condition. While passive surveillance systems are less time-consuming and costly, they carry the risk that some diseases may be underreported. An active surveillance system is best suited for epidemics or when a disease is to be eradicated. [2]

Active surveillance: -

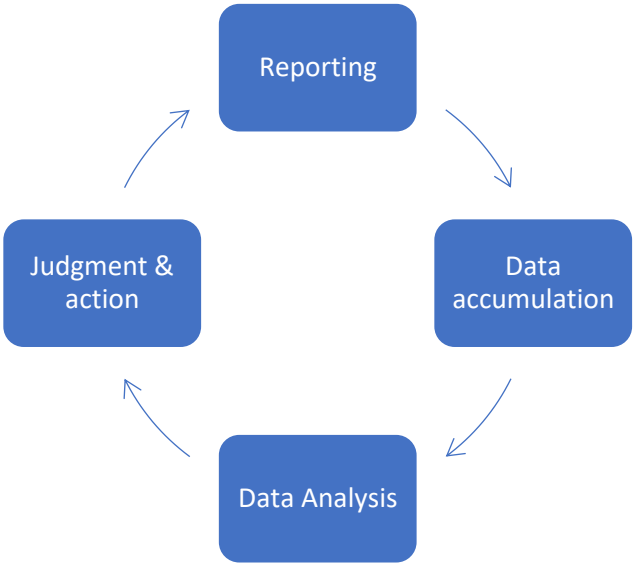
- Incentives are offered to health workers in the form of individual feedback or other incentives.
- Frequently monitors the reporting frequency of individual health workers; healthcare workers who regularly fail to report or fill in the forms incorrectly receive targeted feedback to improve their performance.
- The active monitoring requires much more time and resources and is therefore less often used in emergencies.
- It is however often more complete than passive monitoring.
- It is frequently used when an outbreak has started or is suspected, to closely track the number of cases.

Passive surveillance: -

- With passive surveillance, illness data is often collected from all potentially reporting health workers.
- The health authorities do not encourage reporting by reminding health workers to report illnesses, and do not provide feedback to individual health workers.
- Passive surveillance is the most common type of surveillance in humanitarian emergencies.
- Most surveillance for communicable diseases is passive.
- The Surveillance Coordinator may train health workers on how to fill in the surveillance forms, and even send someone to collect the forms from health facilities on a regular basis.
- Still, the passive surveillance is often incomplete because there is little incentive for health workers to report.

STEPS IN THE PERFORMANCE OF SURVEILLANCE

However, surveillance includes SUCH integrated steps:



Reporting

There must be someone recording the data. Typically, these are healthcare providers who deliver clinical services, e.g., physicians, nurses, clinic staff, etc. They complete a form in which they enter various information about the patients treated in their practice.

Data accumulation

Well, someone must be responsible for collecting and compiling the data from all the reporters. Frequently, this is someone in the Ministry of Health, local health authorities, or the organization that coordinates surveillance.

Data analysis

To calculate disease rates, change in disease rates, etc., somebody must look at the data. Often this is an epidemiologist with special data analysis and computer skills.

Judgment and action

Based on the results of the analysis, someone must decide what to do. These are often the health authorities at the local, provincial, or national level. In emergencies, it is often a joint opinion of local and national health authorities, the organization that coordinates health care, and all organizations that provide health care services.

If one of these steps fails or is not available, you have no useful information to take the appropriate (and sometimes necessary) action on public health. [3]

Now, when are we going to do surveillance?

- If you require continuous data to make immediate clinical and health policy decisions

AND

- If the basic infrastructure and staff are in place to collect, transmit, and analyze the data.

AND

- Be prepared and have the resources to act based on the data.

Taken together, the public health surveillance is an important tool for ministries of finance, health, and for donors to effectively and efficient allocate resources and manage public health interventions. To be useful, public health surveillance must be approached as a scientific endeavor, applying rigorous methods to address critical problems in this public health practice. All through surveillance needs in developing countries appear to differ from those in developed countries, the fundamental problems are similar. In an era when we face SARS and avian influenza, there is an undeniable need to integrate global networks, and research into how these

problems are addressed is essential. Collaboration among practitioners, researchers, nations, and international organizations is necessary to meet the global needs of public health surveillance. The data collected in a public health surveillance system can be used to estimate the magnitude of a problem, identify groups at higher risk for worse outcomes, examine relationships between risk factors and outcomes, develop interventions, and, with continued surveillance, assess the efficacy of interventions in changing complications or outcomes. The findings from analyses of surveillance data can be useful for many purposes, including public health and patient advocacy, informing prioritization and allocation of health care resources, assuring the availability of better population health data, and supporting quality assurance and quality improvement in health care.

Monitoring is critical to public health, with surveillance systems needed to conduct surveillance efficiently and effectively. The main outcome of surveillance systems is information that inspires action; consequently, the systems need data of sufficient quality and with resolution and timeliness to meet public health goals. In many ways, Surveillance provides a working model for what has been termed a "learning health system." Its repeated cycle of observation, data analysis to identify opportunities for improvement, and implementation of change provide a means for rapidly transforming data into actionable information to improve population health.

Monitoring and the systems that enable monitoring have been the focus of applied public health research for decades; in recent years, though, interest in monitoring methods has increased in the context of changing public health goals and new ways of accessing and processing data. Today, Surveillance systems are used in many areas beyond infectious diseases, and this increasing breadth of application and associated methodological requirements (e.g., high-speed signal detection, acquisition of data integration) is driving innovation and contributing to the scientific basis of public health surveillance. Researchers have emphasized the importance of assessing key features of surveillance systems for decades; now, they are increasingly recognizing that routine monitoring of key system processes and outcomes is necessary to support data interpretation, ensure quality and directly targeted assessment activities.

Upcoming surveillance system improvements must be guided by public health goals and should be rigorously evaluated to determine their impact and, more ideally, their costs. The public health surveillance professional should focus on ways to use data in new ways ((as expressed in the system's goals)); exploit the opportunities offered by informatics to improve data quality and system efficiency and effectiveness; establish routine monitoring of system performance; and use sound study designs to evaluate the impact of innovations on desired outcomes. This revitalized approach to surveillance systems will be critical to improving public health practice and promoting population health. [4,5,6]

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