## POH 107: Detection, Identification, and Monitoring of Pandemics

**Module Overview**

Terms used in disease surveillance, outbreak, cluster, mortality, morbidity, measurable factor, Types of surveillance, active surveillance, passive surveillance, syndromic surveillance, integrated surveillance sentinel surveillance, event based surveillance; Components of surveillance, scope and cycles of surveillance, surveillance methods; Data and data sources in surveillance; interpretation of data and dissemination of information; Ethical and legal issues in surveillance; sharing agreements, data management, storage and security, guidelines and policies for equitable sharing of data, data ethics and intellectual properly, technical tools for data sharing, the diversity of data and their management, the identification of the components of good data management plans on how to support.

Outbreak investigation, requirements for an outbreak, sources of outbreak information, purposes for outbreak investigation, steps for Outbreak investigation, preparation, case definition, hypothesis, control measures and communication findings, including attach rates.

**Mode of Delivery**

This includes lectures: problem-based learning using interactive tutorials, small group discussions and written assignments, plenary presentations, case studies, videos, experiential learning through independent/reflective study and field visits and placements and online peer discussions using video clips and conferencing.

**Instructional Materials and/or Equipment**

*Materials:* Lecture notes and slides, video clips, handouts, case studies, reference materials (textbooks, journals, policy document-guidelines), institutional placements and field visits

*Equipment:* LCD projectors, laptops, white board, markers and flipcharts, LCD, printers, internet access for e-resources

**Core Reference Materials**

1. Nap, R. E. (2010). *Controlling Disease Outbreaks: The Changing Role of Hospitals*. Nova Science Publishers.
2. Arias, K. M. (2009). *Outbreak Investigation, Prevention, and Control in Health Care Settings: Critical Issues in Patient Safety: Critical Issues in Patient Safety*. Jones & Bartlett Learning.
3. Centers for Disease Control and Prevention. (2012). *Lesson 1: Introduction to Epidemiology*. Retrieved from https://www.cdc.gov/csels/dsepd/ss1978/lesson1/index.html
4. The UK Faculty of Public Health. (2016). *The steps in outbreak investigation including the use of relevant epidemiological methods*. Retrieved from https://www.healthknowledge.org.uk/public-health-textbook/disease-causation-diagnostic/2g-communicable-disease/outbreak-investigation

**Recommended Reference Materials**

1. Dicker, R. C., Coronado, F., Koo, D., & Parrish, R. G. (2006). Principles of epidemiology in public health practice; an introduction to applied epidemiology and biostatistics.
2. Teutsch, S. M., & Churchill, R. E. (Eds.). (2000). *Principles and practice of public health surveillance*. Oxford University Press, USA.
3. German, R. R., Horan, J. M., Lee, L. M., Milstein, B., & Pertowski, C. A. (2001). Updated guidelines for evaluating public health surveillance systems; recommendations from the Guidelines Working Group.
4. Health Emergency and Disaster Risk Management Framework. Geneva: World Health Organization; 2019.