

## Glossary of Terms

*In the context of disease outbreak investigation, key terms are defined as follows:*

**Agent** (of disease) – the cause of a disease: a factor, such as a microorganism, chemical substance, or form of radiation, whose presence, excessive presence, or (in the case of deficiency diseases) relative absence is essential for the occurrence of the disease. A disease may be caused by a single agent or a combination of two or more agents.

**Analytic study** – A study designed to examine associations and possible causes, and test hypotheses. Analytic studies are often used to identify or measure the effects of risk factors or the health effects of specific exposures. Individuals in the study population may be classified according to whether or not they develop a specific disease and when, and by attributes such as age, race, sex, and various aspects of the environment, personal behaviors or activities. Common types of analytic studies include cohort and case control.

**Attack rate** – A cumulative incidence of illness; an attack rate is found by dividing the number of people who were exposed and became ill by the total number of people who were exposed.

**Case-control study** – An observational epidemiologic study of persons with the disease of interest and a suitable control (comparison or reference) group of persons without the disease. In short, the past history of exposure to a suspected risk factor is compared between “cases” and “controls,” persons who resemble the cases in such respects as age and sex but do not have the disease or condition of interest.

**Case definition** – A set of diagnostic criteria that must be fulfilled in order to identify a person as a case of a particular disease.

**Case-finding** – Case finding, also called “contact-tracing,” is a standard communicable disease control procedure to locate and treat persons who have been exposed to risk of communicable disease during an epidemic, an outbreak of disease such as food poisoning, or who have had close or intimate contact with a known case of a communicable disease such as HIV, syphilis or TB.

**Active** case-finding includes visits, phone calls, interviewing cases to identify contacts or other ill people. **Passive** case-finding involves reviewing communicable disease reports (e.g., HAN) or sending out information (e.g., blast fax, news release) and asking people to self-report illness.

**CD** – Communicable disease

**CDC** – Centers for Disease Control and Prevention (federal agency)

**Cohort** – Any designated group of persons who are followed or traced over a period of time with respect to certain factors, as in a cohort study.

**Cohort** (*verb*) – The practice of grouping patients with a specific disease or illness, or potentially exposed to disease. Healthcare personnel or staff may be assigned to care for a cohort of patients to further limit opportunities for transmission of illness.

**Cohort study** – In a cohort study, the investigator selects a group of exposed individuals and a group of non-exposed individuals and follows up on both groups to compare the incidence of disease (or rate of death from disease) of the two groups. Cohort studies usually involve observation of large numbers of people over a long period of time, often years, comparing incidence rates in groups that differ in exposure levels.

**Control group, controls** – Persons in an epidemiologic study (as in a case-control study) selected for comparison to persons in an affected group (for example, matched controls may be the same age, sex, race or socio-economic status as the affected group).

**Control measures** – Ongoing operations, actions or programs aimed at reducing or eliminating incidence or prevalence of a communicable disease or other condition.

**Descriptive epidemiology** – Study of the occurrence of disease or other health-related factors in human populations with regard to persons and their basic characteristics (age, sex, etc.), place, and time. Characterizing an outbreak by time, place, and person is called **descriptive epidemiology** because you describe what has occurred in the population under study.

**DIS, or Disease Intervention Specialist** – A public health worker trained in the detection of communicable diseases. DIS conduct field investigations of communicable diseases by locating and counseling persons exposed to, infected with, or having a positive test for communicable diseases, and provide information to physicians, local health departments, and medical laboratories about the diagnosis and treatment of patients and the prevention, detection, and reporting of communicable diseases.

**Duty of care** – Legal obligation to adhere to established standard of care to protect the public's health.

**Epidemic** – A term often used interchangeably with the term 'outbreak', but is typically reserved to describe illness in a larger number of people over a wider geographic area.

**Epidemic curve, or "Epi curve"** – A graphic plotting of the distribution of cases by time of onset.

**Epidemiological investigation** – An investigation into the occurrence of a disease to determine cause(s) and other influencing factors in order to control and/or eliminate spread of the disease.

**Epidemiology** – The study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to control of health problems, with the aim of promoting, protecting and restoring health.

**Epi Team** – An Epi Team consists of the members of an agency who are best skilled in working together toward problem solving. Such a team will usually consist of the Health Director and/or Medical Director, members of the nursing staff, health educators and/or media response personnel, environmental health specialists, lab staff, and administrative support staff. The responsibilities of this team include coordinating routine and non-routine disease surveillance activities; conducting epidemiologic investigations; gathering and analyzing information from investigations; recommending appropriate public health interventions for disease control to the health director; and educating the public about disease prevention and control measures.

**Exposure period** – Potential time of exposure to an agent.

**Force multipliers** – People who may be called in to assist with an outbreak investigation

**Hospital-based Public Health Epidemiologist (PHE)** – North Carolina’s PHE program seeks to enhance communication among clinicians, hospitals, and the public health system to improve the detection, control and prevention of disease and adverse health events. The program is composed of a director and 10 PHEs based in North Carolina’s 10 largest hospital systems. The PHEs are responsible for the surveillance, detection, and monitoring of community-acquired infections and potential bioterrorism events; assisting LHDs with public health investigations; educating clinicians regarding diseases of public health importance; enhancing communication among clinicians, hospitals, and the public health system; and conducting special studies.

**Hospital discharge records** – Records summarizing patients’ stays in a hospital that include length of stay by final diagnosis, surgical operations, specified hospital service (i.e., medical, surgical, etc.), and outcomes such as “death” or “discharged alive from hospital.”

**Hypothesis** (plural: hypotheses) – A supposition, arrived at from observation or reflection, that leads to testable, refutable predictions or conjectures.

**ICS** – Incident Command System, a component of the National Incident Management System (NIMS), a unified national framework for incident management. Designed for hospitals and the healthcare system, ICS enables effective and efficient incident management via the integration of a combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure. ICS is structured to facilitate activities in five major functional areas: command, operations, planning, logistics, and finance administration.

**Incubation period** – The time period between invasion by an infectious agent and the appearance of the first sign or symptom of the disease in question.

**Isolate** – (*noun*) In microbiology, a pure culture of an organism.

**Isolation** – Separation, for the period of communicability, of infected persons or animals from others to prevent or limit the transmission of the infectious agent to those who are susceptible or who may spread the agent to others. The seven categories of isolation are strict isolation, contact isolation, respiratory isolation, TB isolation, enteric precautions, drainage/secretion precautions, and blood/body fluid precautions.

**Line list** – The line list is a method of systematically recording information related to an outbreak investigation. A line list table this information for each person involved: a unique ID number; personal information (name, address, phone number); demographic information (DOB, age, gender, occupation); clinical information (date of report, date of onset of illness, symptoms; laboratory specimen submission date, results); and exposure/risk factor information (food, drink, activities). In a line listing, each column represents an important variable, such as name or identification number, age, sex, and case classification, while each row represents a different case, by number. New cases are added to a line listing as they are identified. This simple format allows the investigator to scan key information on every case and update it easily. The NC CD Branch encourages use of the Outbreak Workbook Tool for creating line listings, as it facilitates data entry and easily imports cases into NC EDSS.

**MMWR** – The Morbidity and Mortality Weekly Report (MMWR) is a serial publication of the Centers for Disease Control and Prevention (CDC). The MMWR series is the agency’s primary vehicle for scientific publication of timely, reliable, authoritative, accurate, objective, and useful public health information and recommendations. (Available online; see [www.cdc.gov/mmwr](http://www.cdc.gov/mmwr).)

**Mode of transmission** – How the infectious agent of a disease is transmitted (bite of a rabid animal, contact with feces, vector-borne, foodborne, etc.)

**Morbidity** – Any departure from a state of physiological or psychological well-being. Morbidity can be measured in terms of three units: (1) persons who are ill; (2) the periods of spells of illness experienced by those persons; and (3) the duration (days, weeks, etc.) of these illnesses.

**Mortality** – Death(s), measured in numbers of deaths or in rates (number per unit, such as per 1,000 population).

**NC EDSS** – The North Carolina Electronic Disease Surveillance System, or NC EDSS, is a component of the CDC initiative to move states to web-based health surveillance and reporting systems. NC EDSS is also part of the Public Health Information Network (PHIN). NC EDSS is used by the NC Division of Public Health, the state's 86 local and multi-county district health departments, and eight HIV/STD Regional Offices for confidential reporting of all communicable diseases and vaccine-preventable diseases. Laboratories also report electronically to NC EDSS.

**NC DETECT** – Emergency department visit data go into a separate disease surveillance system called **N.C. Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT)**. Authorized users are able to monitor data from hospital emergency departments, poison control center calls and ambulance runs. With this system in place, public health officials and hospital-based users conduct daily surveillance for suspicious patterns and specific cases that may be caused by infectious, chemical and environmental agents. Detecting unexpected cases and outbreaks early in their course allows prompt implementation of public health control measures.

**Notifiable diseases** – Diseases that, by statutory requirements, must be reported to the public health authority in the pertinent jurisdiction when the diagnoses are made.

**Open-ended questionnaire** – Questions that allow respondents to answer in their own words rather than according to a predetermined set of possible responses.

**Outbreak** – An increase in cases of a disease or condition above what is expected in that population in that area at that time, OR the occurrence of two or more cases that are linked to one another epidemiologically (epi-linked).

**Outbreak report** – Final written report of the outbreak investigation, which is a public record.

**Outbreak Workbook Tool** – An N.C. Communicable Disease Branch Excel-based tool for creating line listings that automatically populates selected demographic data and easily imports cases into NC EDSS.

**PHPR** – Public Health Preparedness and Response (PHP&R) is the branch of the North Carolina Division of Public Health that monitors and strengthens the abilities of our public health and healthcare systems to protect the public health in disaster situations such as disease epidemics, chemical and radiological releases, severe weather and natural disasters.

**PIO** – Public Information Officer

**Point source epidemic** – Also called a “common source epidemic,” is due to exposure of a group of persons to a noxious influence that is common to the individuals in the group. When the exposure is brief and essentially simultaneous (point source), the resultant cases all develop within one incubation period of the disease.

**Post-exposure prophylaxis** – A treatment administered following exposure to a harmful agent that attempts to block or reduce injury or infection.

**Propagated epidemic** – An outbreak spread person-to-person.

**Reservoir** (of infection) – Any person, animal, arthropod, plant, soil or substance, or a combination of these, in which an infectious agent normally lives and multiplies, on which it depends for survival, and where it reproduces itself in such a manner that it can be transmitted to a susceptible host.

**Situation report** – Daily update on progress of investigation and actions.

**SOCO** – Single Overriding Communication Objective

**Source of infection** – The person, animal, object or substance from which an infectious agent passes to a host. Source of infection should be clearly distinguished from source of contamination (such as overflow of a septic tank contaminating a water supply, or an infected cook contaminating a salad).

**Surveillance** – Systematic ongoing collection, collation and analysis of data and the timely dissemination of information to those who need to know so prevention and control actions can be taken. It is distinguished from monitoring by the fact that it is continuous and ongoing, where monitoring is intermittent or episodic.

**TATP** – The Technical Assistance and Training Program is part of the N.C. Communicable Disease Branch’s Medical Consultation Unit. Program staff is available to assist local health departments 24/7 in identifying, preventing and responding to communicable disease threats. In combination with medical epidemiologists and subject matter experts, they provide services in each of the communicable disease group areas: respiratory, food-borne, water-borne, vector borne, zoonotic, hepatitis, rabies, sexually transmitted and invasive bacterial diseases, and healthcare-associated infections. Assistance is provided through telephone and on-site consultation, on-site technical assistance, monthly conference calls, annual conferences, regional trainings and webinars.

**Transmissibility** – The degree to which an infectious agent is spread from a source or a reservoir to another person.

**Transmission of infection** – Any mechanism by which an infectious agent is spread from a source or a reservoir to another person. Transmission may be direct (immediate transfer of infectious agent from source to a receptive portal of entry, such as a mucous membrane or into an open wound), or indirect (through an intermediate means, such as contaminated items, vector borne, airborne, foodborne, etc.).

**Vector** – A living intermediary, most often an insect or arthropod (such as a mosquito, flea, or tick), that conveys the infectious agent from its reservoir to a susceptible host.

**Vehicle** – Contaminated inanimate material or object such as toys, soiled clothes or bedding, cooking or eating utensils, surgical instruments; water, food or milk; biological products including blood, serum, plasma, tissues or organs; or any substance that serves as an intermediate means by which an infectious agent is transported and introduced into a susceptible host through a suitable portal of entry.

**Sources:**

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