

CRISIS+EMERGENCY RISK+COMMUNICATION

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CDC

CENTERS FOR DISEASE
CONTROL AND PREVENTION

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CERC: Epidemiology Terms



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U.S. Department of
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Centers for Disease
Control and Prevention

CERC: Epidemiology Terms

Airborne infection: A mechanism of transmission of an infectious agent by particle, dust, or droplet nuclei suspended in the air.

Antibody: Protein molecule formed by exposure to a “foreign” or extraneous substance, e.g., invading microorganisms responsible for infection, or active immunization.

Antigen: A substance that is capable of inducing specific immune response. Introduction of an antigen may be by the invasion of infectious organisms, immunization, inhalation, ingestion, etc.

Association: The degree of statistical dependence between two or more events or variables. Events are said to be associated when they occur more frequently together than one would expect by chance.

Attack rate: Attack rate, or case rate, is a cumulative incident rate often used for particular groups, observed for limited periods and under special circumstances, as in an epidemic. The secondary attack rate expresses the number of cases among contacts occurring within the accepted incubation period following exposure to a primary case, in relation to the total of exposed contacts; the denominator may be restricted to susceptible contacts when determinable.

Behavioral epidemic: An epidemic originating in behavioral patterns (as opposed to invading microorganisms or physical agents).

Biological plausibility: The criterion that an observed, causal association fits previously existing biological or medical knowledge.

Carrier: A person or animal that harbors a specific infectious agent in the absence of discernible clinical disease and serves as a potential source of infection.

Case: A person in the population identified as having the particular disease, health disorder, or condition under investigation.

Case fatality rate: The proportion of persons contracting a disease who die of that disease.

Clustering: A closely grouped series of events or cases of a disease, or other health-related phenomena with well-defined distribution patterns, in relation to time or place or both.

Cohort: The component of the population born during a particular period and identified by that period so that its characteristics can be ascertained as it enters successive time and age periods.



Cohort study: The method of epidemiologic study in which subsets of a defined population can be identified who are, have been, or may or may not be exposed in different degrees in the future, to the probability of contracting a given disease.

Communicable disease: An illness due to a specific infectious agent or its toxic products that is transmitted from an infected person, animal, or reservoir to a susceptible host, either directly or indirectly.

Contact (of an infection): A person or animal that has been in physical association with an infected person or animal, or contaminated environment, allowing the opportunity to acquire the infection.

Contact, direct: A mode of infection transmission between an infected host and susceptible host.

Contact, indirect: A mode of infection transmission involving fomites or vectors.

Contact, primary: Person(s) in direct contact or associated with a communicable disease case.

Contact, secondary: Person(s) in contact or associated with a primary contact.

Contagion: The transmission of infection by direct contact, droplet spread, or contaminated fomites.

Contagious: Transmitted by contact.

Contamination: The presence of an infectious agent on a body surface; also on clothes, bedding, surgical instruments, or other inanimate articles or substances.

Death rate: A rate expressing the proportion of a population that dies of a disease.

Disease, preclinical: Disease with no signs or symptoms, because they have not yet developed.

Disease, subclinical: A condition in which disease is detectable by special tests but does not reveal itself by signs or symptoms.

Disinfection: Killing of infectious agents outside of the body by direct exposure to chemical or physical.

Dose response relationship: A relationship in which a change in amount, intensity, or duration of exposure is associated with a change—either an increase or decrease in risk.

Epidemic: The occurrence in a community or region of cases of an illness or other health-related events clearly in excess of normal expectancy.



Epidemiologist: An investigator who studies the occurrence of disease or other health-related condition or events in a defined population. Also known as a disease detective.

Epidemiology: The study of the distribution and determinants of health-related states and events in populations, and the application of this study to the control of health problems.

Epizootic: An outbreak (epidemic) of disease in an animal population (often with the implication that it may also affect human population).

Eradication (of disease): Termination of all transmission of infection by extermination of the infectious agent through surveillance and containment.

False negative: Negative test result in a subject who possesses the attribute for which the test is conducted.

False positive: Positive test result in a subject who does not possess the attribute for which the test is conducted.

Fatality rate: The death rate observed in a designated series of persons affected by a simultaneous event.

Fomites: Articles that convey infection to others because they have been contaminated by pathogenic organisms. Examples include dishes, door handles, and toys.

Herd immunity: The immunity of a group or community. The resistance of a group to invasion and spread of an infectious agent, based on the resistance to infection of a high proportion of individual members of the group.

Host: A person or other living animal, including birds and arthropods, that affords subsistence to an infectious agent under natural conditions.

Household interview study: Collection of information from a sample of a civilian noninstitutionalized population by trained interviewers who go to the dwellings of the persons selected for interview.

Immunization: Protection of susceptible individuals from communicable disease by administration of a living modified agent (as in measles), a suspension of killed organisms (as in whooping cough), or an inactivated toxin (as in tetanus).

Incidence: The number of instances of illness during a given period in a specified population.

Incident rate: A measure of the rate at which new events occur in the population.



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

Index case: The first case in a family or other defined group to come to the attention of the investigator.

Infectiousness: A characteristic of the disease that concerns the relative ease with which it is transmitted to other hosts.

Monitoring: The performance and analysis of routine measurements, aimed at detecting changes in the environment or health status of populations.

Morbidity: Illness.

Norm: Can be defined as what is usual or what is desirable.

Nosocomial infection: An infection originating in a medical facility.

Notifiable disease: A disease that, by statutory requirements, must be reported to the public health authority.

Numerator: The upper portion of a fraction used to calculate a rate or a ratio.

Occurrence: The frequency of a disease or other attribute or event in a population.

Outcomes: All of the possible results that may stem from exposure to a causal factor, or from preventive or treatment interventions.

Outliers: Observations differing widely from the rest of the data, suggesting that these values come from a different population.

Pandemic: An epidemic occurring over a very wide area and usually affecting a large proportion of the population.

Parasite: An animal or vegetable organism that lives on or in another and derives its nourishment therefrom.

Pathogen: Organism capable of causing disease.

Pathogenicity: The property of an organism that determines the extent to which overt disease is produced in an infected population, or the power of an organism to produce disease.



Population-based: Pertaining to a general population defined by geopolitical boundaries.

Prevalence: The number of instances of a given disease or other condition in a given population at a designated time.

Prevention: The goals of public health and medicine are to promote health, to preserve health, to restore health when it is impaired, and to minimize suffering and distress.

Primary case: The individual who introduces the disease into the family or group under study.

Quantitative data: Data in numerical quantities, such as continuous measurements or counts.

Quarantine: The limitation of freedom of movement of well persons or animals exposed to a communicable disease, for a period of time not longer than the longest usual incubation period of the disease.

R₀, pronounced “**R naught**,” is a mathematical term that indicates how contagious an infectious disease is. It’s also referred to as the reproduction number. As an infection is transmitted to new people, it reproduces itself.

Random: Occurs by chance.

Rate: Ratio whose essential characteristic is that time is an element of the denominator and in which there is a distinct relationship between numerator and denominator.

Relative risk: The ratio of the risk of disease or death among the exposed to the risk among the unexposed.

Reservoir: The natural habitat of the infectious agent.

Risk: A probability that an event will occur.

Risk factor: An attribute of exposure that is associated with an increased probability of a specified outcome, such as the occurrence of a disease.

Sample: A selected subset of a population.

Screening: The use of tests or examinations to identify unrecognized disease.

Seroepidemiology: Epidemiologic study or activity based on the detection on serological testing of characteristic change in the serum level of specific antibodies.

Statistical significance: Statistical methods allow an estimate to be made of the probability for the observed or greater degree of association between independent and dependent variables under the null hypothesis.



Surveillance: Ongoing scrutiny; generally, using methods distinguished by their practice—ability, uniformity, and, frequently, their rabidity, rather than by complete accuracy.

Surveillance of disease: The continuing scrutiny of all aspects of occurrence and spread of a disease that is pertinent to initiate investigative or control measures.

Survey: An investigation in which information is systematically collected not using the experimental method.

Transmission of infection: Transmission of infectious agents. Any mechanism by which an infectious agent is spread through the environment or to another person.

Validity: Expression of the degree to which a measurement measures what it purports to measure.

Variable: Any quantity that varies. Any attribute or event that can have different values.

Virulence: The degree of pathogenicity.

Zoonosis: An infection or infectious disease transmissible under natural conditions from vertebrate animals to man.



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