Case Investigation

Why do case investigation?

Cases of infectious disease are investigated for three reasons:

Surveillance: We do surveillance because we want to know *if* a particular disease occurs in West Virginia, how commonly it occurs (incidence), where and when it occurs, and what risk factors are associated with infection. We may also gather information about complications or hospitalizations or deaths associated with a particular disease. That information should be shared with residents of the state so they have an increased understanding about the disease. Much of the information on the front of the yellow card or on the supplemental investigation form is used for surveillance. Good surveillance helps us understand how well our prevention and control efforts are working.

Prevention: Prevention refers to keeping disease from occurring. Prevention activities may include immunization, education, assurance of clean water and proper food preparation techniques or infection control.

Control: Control refers to stopping the spread of disease after a case has been identified. Control may include outbreak investigation to identify and remove a source of infection; immunization or administration of medication to contacts; education; isolation of an infectious person or animal; etc.

How do I prioritize case investigations?

The urgency of case investigation depends on the seriousness of the disease and the timeframe within which control measures must be implemented. This, in turn, is dependent on the incubation period of the disease, the mode of spread (e.g., respiratory versus fecal-oral or foodborne), the mortality rate and potential for complications. For example, a single case of meningococcal meningitis is an emergency because rifampin must be administered to contacts as soon as possible to be effective in preventing the next generation of illness. Aseptic meningitis is usually not an emergency because the disease is relatively benign and the only available control measures are good handwashing and other hygienic measures.

Here is a quick rundown of relative urgency of single cases and clusters of disease. This list is not all-inclusive and is not a substitute for your good professional judgement.

International Emergency / Interest:

Single case of:	Smallpox Polio SARS
Cluster or case of:	Any bioterrorist agent Monkeypox
Any international outbreak, including:	Salmonellosis, E coli O157:H7 or other foodborne agent Meningococcemia Pandemic influenza

National Emergency / Interest:

Any of the above, plus:

Single case of:	Measles Rubella Diphtheria Tetanus Cholera Botulism Human rabies Domestically-acquired malaria Any bioterrorist agent
Cluster of:	Hantavirus Hepatitis B or C; especially linked to a health care provider or facility Meningococcemia
Outbreak of:	Cryptosporidium Cyclospora E coli O157:H7 Legionella Streptococcal disease, Group A invasive Streptococcus pneumoniae Mosquito-borne encephalitis

Any multi-state outbreak

Statewide Emergency / Interest:

Any of the above, plus:

Single case of:	Death due to chickenpox *Haemophilus influenzae*, invasive type b in a child < 5 Meningococcus, invasive
Cluster of:	Salmonellosis, E coli O157:H7 or other foodborne agent Legionellosis Listeriosis Hepatitis A, B or C Arboviral disease Pertussis

Any Outbreak