1. **Infection**: presence of a pathogen within a host. DOES NOT mean that disease is present

2. **Disease**: an infection that impairs normal function (Wobeser, 1981: Any impairment that interferes with or modifies the performance of normal functions, including responses to environmental factors such as nutrition, toxicants, and climate; infectious agents; inherent or congenital defects; or combinations of these factors)
   a. Disease occurs along a continuum of health to death and its appearance changes along that continuum.
   b. Disease develops when the response of the body to cell/organ damage results in impaired function of the organ/organ system and ultimately the host.
   c. The manifestation of infectious disease involves the pathogen (or equivalently, parasite), host, and environment, which is collectively referred to as the “disease triangle.”

3. **Pathogen**: organism that is capable of causing disease (viruses, bacteria, fungi, parasites)
   a. Not all pathogens cause disease all of the time. For example, an amphibian can be infected with ranavirus but not develop disease.
   b. Some resident/commensal/symbiotic organisms (e.g., enteric bacteria or ciliates that aid in digestion) can become pathogenic if other factors weaken the host.
   c. Not all diseases are caused by pathogens (e.g.: diabetes, most cancers)

4. **Incidence** (a measurement over a fixed time period): The number of new cases of infection or disease occurring during a fixed period of time (e.g. year or more and generally sample multiple times [yearly, seasonally, monthly]) divided by the number of animals at risk of becoming infected or developing the disease during that time
   a. Often hard to measure because you have to follow individuals over time
   b. Deals only with new cases of infection or disease
   c. May be somewhat of a measurement of risk
   d. Only animals that have the potential to become infected or develop the disease (i.e. that are at risk) are considered in the population denominator
   e. Exclusions:
      i. Animals with innate resistance
      ii. Animals with acquired immunity
      iii. Animals with no chance of exposure

5. **Prevalence** (single point in time, i.e. a -snapshot):
   a. A measure of how many animals are infected or have the disease at a point in time
   b. The proportion of affected animals in the population at a single point in time.

6. **Tests that detect antibodies to measure the frequency of a pathogen**: These tests are measuring past exposure to the pathogen
   a. **Seroprevalence** refers to the proportion of the population that has an antibody response to the pathogen, indicating prior exposure.

7. **Tests that detect the antigen to measure the frequency of a pathogen**: These are detecting the presence of the pathogen within the host.

8. **Enzootic (endemic) disease**: A disease that occurs at a regular, predictable, or expected rate in a population or area. In models, remaining at constant (akin to a carrying capacity) or predictable (e.g., cyclic) levels.

9. **Epidemic (epidemic) disease**: A disease that occurs at a time or place where it is not expected or at a rate substantially greater than expected based on past experience. In models, the phases of exponential increase up to fade out or endemic phase.

10. **Mortality** = death

11. **Morbidity** = sick

12. **Moribund** = near death but still alive

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