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Bioterrorism is terrorism involving the intentional release or dissemination of biological agents like bacteria, viruses, or toxins, and may be in a naturally occurring or a human-modified form. Biological agents spread through the air, water, or in food. Some can also spread from person to person and very hard to detect. Anthrax, botulism, Ebola and other haemorrhagic fever viruses, plague, or smallpox could be used as biological agents. Biodefense uses medical measures to protect people against bioterrorism, includes medicines and vaccinations. It also includes medical research and preparations to defend against bioterrorist attacks.

A biological agent also called bio-agent, biological threat agent, biological warfare agent, biological weapon, or bioweapon is a bacterium, virus, protozoan, parasite, or fungus that can be used purposefully as a weapon in bioterrorism or biological warfare (BW). In addition to these living and/or replicating pathogens, biological toxins are also included among the bio-agents. Biological agents have the ability to adversely affect human health in a variety of ways, ranging from relatively mild allergic reactions to serious medical conditions, including death. Many of these organisms are ubiquitous in the natural environment where they are found in water, soil, plants, or animals. Bio-agents may be amenable to “weaponization” to render them easier to deploy or disseminate. Genetic modification may enhance their incapacitating or lethal properties, or render them impervious to conventional treatments or preventives.

Biosecurity has multiple meanings and is defined differently according to various disciplines. The original definition of biosecurity started out as a set of preventive measures designed to reduce the risk of transmission of infectious diseases in crops and livestock, quarantined pests, invasive alien species, and living modified organisms. The National Academies of Science define biosecurity as “security against the inadvertent, inappropriate, or intentional malicious or malevolent use of potentially dangerous biological agents or biotechnology, including the development, production, stockpiling, or use of biological weapons as well as outbreaks of newly emergent and epidemic disease”.