

DEFINING A DISASTER

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Disasters are highly complex events resulting in immediate medical problems, as well as longer-term public health consequences. They are generally considered "low probability-high impact" events. As such they are not defined by a specific number of casualties but rather by the event itself and the venue in which it occurs.

The definition of disaster is variable and usually reflects the nature and focus of the organization or individuals defining it. The World Health Organization (WHO) defines a disaster as a sudden ecological phenomenon of sufficient magnitude to require external assistance. This broad definition may exclude some events that result in mass casualties. A more focused definition generally accepted by the specialty of emergency medicine is: *when the number of patients presenting within a given time period are such that the emergency department cannot provide care for them without assistance*. This definition excludes events that result in mass death but place little or no stress on the medical system. At the community level, disasters can be defined operationally as any emergency that seriously affects people's lives and property and exceeds the capacity of the community to respond effectively to that emergency.

Disasters affect a community in numerous ways. Roads, telephone lines, and other transportation and communication lines are often destroyed; public utilities and energy supplies are often disrupted. Many victims are often rendered homeless. The community's industrial or economic base may be damaged or destroyed. Casualties may require urgent or emergent medical care. Damage to water and sanitation systems, food sources and utilities may create public health threats.

Each disaster follows a general pattern in its development. This pattern is often repeated and is illustrated in Figure 1. While the divisions are artificial as one phase merges with another, this simplified disaster cycle model is useful to help understand and plan for these complex events.

Initially, a quiescent level or interdisaster period is seen during which the combination of events that will lead to a disaster are occurring but not readily apparent. A prodrome or warning phase develops next and lasts a variable length of time. The warning period represents a time during which a particular event (e.g. a hurricane,

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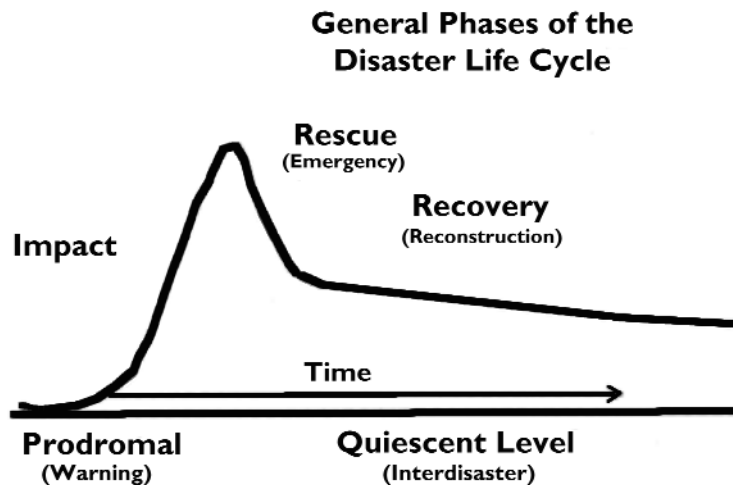


Figure 1. General phases of the disaster life cycle. Reprinted with permission from Hogan and Burstein (2002).

volcanic eruption, military conflict) is likely to occur. The impact phase coincides with the occurrence of the event and may be short or protracted depending upon the particular event. The rescue phase (also known as the emergency, relief, or isolation phase) represents a time when immediate assistance can save lives. During this time, first responders' actions, basic and advanced life support, as well as search and rescue, are critical but often overwhelmed or incapacitated. The recovery or reconstruction phase constitutes all of the actions and elements needed to return the population back to a functional society. It involves the coordinated efforts of emergency medical services, public health agencies, government and social services as well as other agencies and can last months or years.

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