

# Access to Essential Medications During Disaster Events

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Assuring basic physical human needs are met is the primary focus for disaster preparation, planning, and mitigation efforts. Research and evaluation of human needs from the psychological point of view<sup>1</sup> dates to the 1940s and 1950s, while an understanding of basic human needs relative to a disaster event remain to be well defined. One can assume that the basic needs of a population following a disaster are physical in nature and include water, food, shelter, sanitation, fuel, security, and management of medical and psychological emergencies.

Relative to disaster events, there has been little published regarding access to medications necessary for those who have chronic diseases. Lack of access to certain medications used to treat chronic disease can have immediate life threats or result in increased long-term disability. Examples of potential disaster-related medication access problems are included in Table 1. Recent reports of disaster events have described lack of access for medication due to loss of infrastructure (local pharmacies, transportation, and mail services).<sup>2-4</sup> There are descriptions of persons utilizing emergency departments and community clinics to seek essential medications, but there is little literature to describe the impact of lack of access to medications used to treat chronic disease. Little is known if the on-going maintenance of essential medication for those with chronic diseases is an issue during disasters and if there are mechanisms for managing the problem if it exists. This area is in need of systematic review and study.

Also to consider is disaster-related access to medication for those with mental health disorders. Because of the emotional and physical strain of experiencing a disaster event, it would be appropriate to assume that the demand for antidepressant or antipsychotic medication would increase. While this is likely the case, most antidepressants and antipsychotics have relative long half-lives that allow for slower decline of therapeutic effect and probable less immediate need by those affected in a disaster. A paper by Beaglehole and co-authors showed that with the February 2011 earthquake in Canterbury, New Zealand there was a short-term increase in dispensing of anxiolytics and sedatives but no sustained changes in dispensing of any psychotropics.<sup>5</sup> Not addressed in the Beaglehole manuscript was the impact of the earthquake event on medication access for those dependent on benzodiazepines with the risk of seizure if immediately withdrawn from the medication.

Another consideration is the population that is dependent on opioids for management of chronic pain. Since the 1990s, opioid dependence has increased in developed countries.<sup>6</sup> The effect of opioid dependence and access to opioids during disaster events has not been explored in the disaster health and medical literature. Because opioid access usually is limited by government restrictions and controls, access to opioids are a potential problem during both sudden onset and complex disaster events.

Medical management of chronic diseases has become more effective, often with medications that have serious rebound effects

CONDITION	MAINTENANCE MEDICATION	RISKS OF MEDICATION WITHDRAWAL DURING A DISASTER EVENT
Diabetes	Insulin; Oral Hypoglycemics	Development of hyperglycemia with complications; extreme of ketoacidosis.
Chronic Pulmonary Diseases	Oxygen	Hypoxia: extreme of respiratory and heart failure.
Asthma	Beta-agonist; Corticosteroid	Exacerbation of asthma with respiratory failure.
Seizure Disorder	Antiepileptic	Uncontrolled seizures.
Hypothyroid States	Thyroid Hormone Replacement	Hypothyroidism with metabolic and mental imbalance.
Heart Disease: Coronary Disease, Heart Failure	Nitroglycerine Preparation	Exacerbation of angina or heart failure; immediate withdrawal can result in acute myocardial infarction.
Heart Disease: Post Myocardial Infarction	Beta-blocker	Exacerbation of angina or heart failure; immediate withdrawal can result in acute myocardial infarction.
Immune Disorder States	Corticosteroid	Acute adrenal insufficiency.
Acquired Immune Deficiency Syndrome	Antiretroviral Therapy	Worsening disease; extreme of emergence of resistant viral strains.
Hypertension	Antihypertensive	Uncontrolled hypertension, extreme being hypertensive crisis.
Hemophilia	Anti-hemophilia Factor	Hemorrhage; extreme being exsanguination.
Glaucoma	Intraocular Pressure Control	Vision loss; extreme of blindness.

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**Table 1.** Twelve Common Chronic Medical Conditions Requiring On-going Maintenance of Medication to Prevent Disability or Death

if abruptly withdrawn. Lack of access to essential medications used to treat chronic medical conditions can occur during disasters, but little is published regarding the degree of the problem or

mechanisms that have been devised to address the problem. Studies in this special realm are needed.

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doi:10.1017/S1049023X16001035