The Effect of Natural Disasters on Cancer Care: A Systematic Review

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Introduction: As the incidence of cancer and the frequency of extreme weather events rise, disaster mitigation is becoming increasingly relevant to oncology care.

Aim: To investigate the effect of natural disasters on cancer care and the associated health effects on patients with cancer through the means of a systematic review.

Methods: Between database inception and November 12, 2016, Embase, ScienceDirect, MEDLINE, Scopus, PsycINFO, Web of Science, and CINAHL were searched for articles. Those identifying the effect of natural disasters on oncology services, or the associated health implications for patients with cancer, were included. Only articles published in English were included. Data extraction was done by two authors independently and then verified by all authors. The effects of disaster events on oncology services, survival outcomes, and psychological issues were assessed.

Results: Natural disasters cause substantial interruption to the provision of oncology care. Of the 4,593 studies identified, only 85 articles met all the eligibility criteria. Damage to infrastructure, communication systems, medication, and medical record losses substantially disrupt oncology care. The effect of extreme weather events on survival outcomes is limited to only a small number of studies, often with inadequate follow-up periods.

Discussion: To the best the authors’ knowledge, this is the first systematic review to assess the existing evidence base on the health effects of natural disaster events on cancer care. Disaster planning must begin to take into consideration patients with cancer.