

COVID-19 and other disasters

The current COVID-19 pandemic is an unprecedented event that tests the ability of health systems and governments to manage health risks. For instance, the capacity of medical services such as intensive care units had to be increased significantly in many countries to be able to cope with the sudden and rising influx of patients. This type of response is not unique for COVID-19, but can also be observed after the occurrence of other disasters, such as earthquakes¹. What is different is that COVID-19 affects all countries almost simultaneously, regardless of their wealth or the quality of their health system. Consequentially, richer countries are not in the position to provide international aid and support to low- and middle-income countries.

On top of the disruption caused by the pandemic, there is a growing concern that COVID-19 will intersect with other health crises such as extreme climate events or other natural or technological disasters. Two types of situations can be distinguished. First, when the disaster agents are different but related, we speak of a compound disaster.

An example of a large-scale compound disaster was the Tōhoku earthquake and tsunami that occurred in Japan in 2011, and which led to a nuclear disaster in Fukushima. The Centre for Research on the Epidemiology of Disasters (CRED) is partner in a project on understanding and modelling compound climate and weather events, named DAMOCLES²

Second, disasters can also coincide completely independent of each other, which is a risk we are currently facing with the ongoing COVID-19 crisis. In the few months since the start of the COVID-19 pandemic, various disaster types have occurred, including storms, floods and earthquakes. However, we have not seen a major event coinciding with COVID-19 yet this year, which required a large emergency and medical response. Such a disaster could further exacerbate the impacts of COVID-19 on health, economy and societal inequalities and jeopardize the public health response and societal recovery. The deadliest disaster so far was the flood that hit Kenya in March, resulting in 285 lives lost.



Intensive care unit occupied by COVID-19 patients at Cremona hospital in northern Italy © PIAZZAPULITA/Reuters TV

Another disaster type that is likely to intersect with COVID-19 in the near future is extreme temperature, and specifically heatwaves. The majority of heatwaves in the past 20 years have been reported in the period June to August, which coincides with summer in the Northern hemisphere. Heatwaves lead to a significant increase in hospital admissions, as is shown by a previous CRED publication³. Furthermore, global temperatures have been on the rise during the last decades, leading to an increase in the frequency of heatwaves in recent years (Fig. 1).

Dealing with these intersecting risks is complicated, as communication and corresponding behaviour surrounding COVID-19 and heatwaves can be conflicting. For example, during heatwaves people are advised to wear light, breathable clothing, while COVID-19 measures in many countries require people to

wear a face mask in public transport, public buildings and stores. Also, people vulnerable to heatwaves require help from family members, neighbours and volunteers, while the COVID-19 crisis promotes social isolation by incorporating social distancing measures and limiting personal contact.

To address these risks, CRED has been part of a working group on heatwaves and COVID-19 that aimed to identify issues and potential solutions for managing the health risks of extreme heat during the COVID-19 pandemic. This work was carried out by various experts within the framework of the Global Heat Health Information Network (GHHIN)⁴. Although we cannot prevent disasters from occurring during these already challenging times, we can try to improve preparedness in order to prevent a large human impact.

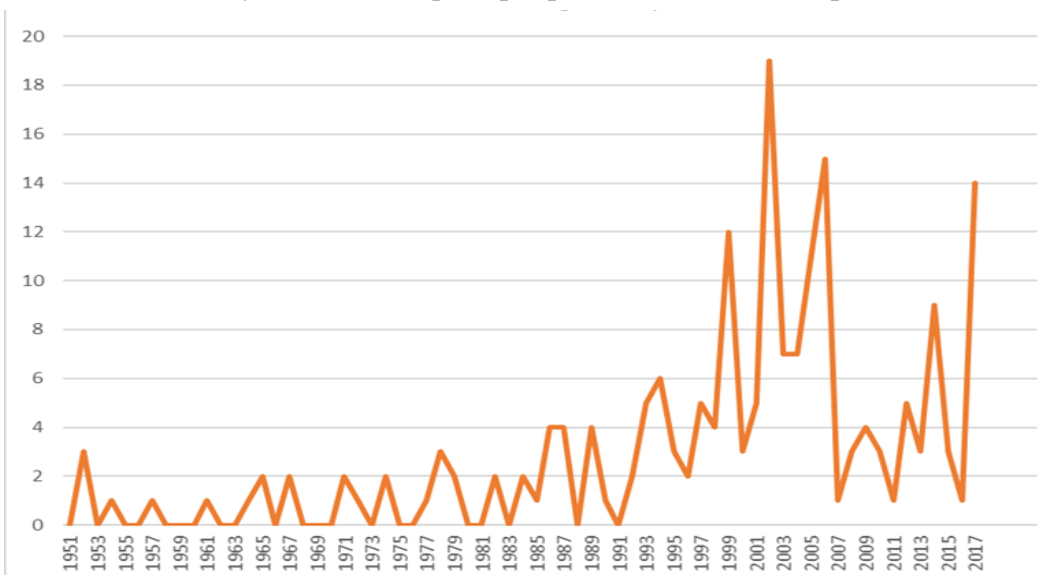


Fig 1.: Number of heatwaves globally 1950-2018

References:

- 1) Moitinho de Almeida M, Schlüter BS, van Loenhout JAF, et al. Changes in patient admissions after the 2015 Earthquake: a tertiary hospital-based study in Kathmandu, Nepal. *Sci Rep.* 2020;10(1):4956. Published 2020 Mar 18. doi:10.1038/s41598-020-61901-7
- 2) DAMOCLES: Understanding and Modelling Compound Climate and Weather Events. European COST Action CA17109. <http://damocles.compoundevents.org/>
- 3) van Loenhout JAF, Delbiso TD, Kiriliouk A, Rodriguez-Llanes JM, Segers J, Guha-Sapir D. Heat and emergency room admissions in the Netherlands. *BMC Public Health.* 2018;18(1):108. Published 2018 Jan 5. doi:10.1186/s12889-017-5021-1
- 4) Global Heat Health Innovation Network (GHHIN). Heat and COVID-19. <https://www.ghhin.org/heat-and-covid-19>

Cred updates and recent publications

- New platform developed to get access to the EM-DAT database : www.emdat.be
- Guha-Sapir D., Moitinho de Almeida M., Keita M., Greenough G., Bendavid E. (2020) COVID-19 policies: Remember measles. *Science Magazine*, 369:6501
- Moore A., Van Loenhout J.A.F., Moitinho De Almeida M., Smith P. Guha-Sapir D. (2020). Measuring mental health burden in humanitarian settings: a critical review of assessment tools. *Global Health Action*; 13: 1783957.
- Centre for Research on the Epidemiology of Disasters – CRED (2020) Natural disasters 2019: Now is the time to not give up. CRED: Brussels
- Data are subject to change, for enquires: contact@emdat.be