

Additional file 3

Table S2. Selected verbatim responses from the online survey

Q4.5 Do you agree that the focus of EM-DAT should be on including epidemics of a certain size, and not on including outbreaks and pandemics?	
Verbatim 1	Because the database will miss out on some important disasters. Following the database criteria, the outbreaks should be recorded. For example, the case of the Marburg outbreak with five cases and a call for international assistance in Tanzania. Also, the pandemic should be recorded as well.
Verbatim 2	EM-DATA records disasters of different sizes. The same procedure should be adopted for outbreaks, epidemics and pandemics. This is important to allow us to also monitor outbreaks and epidemics that also occur after disasters or even epidemics and pandemics that should be treated as disasters.
Verbatim 3	EM-DAT should cover situations with the potential for high-risk (through high exposure and high vulnerability). To me, this constitutes: (1) epidemics occurring over a large part of a country, or spanning multiple countries are large in scale (or have the potential to rapidly enlarge); (2) even small outbreaks with serious potential consequences because of the vulnerability of the population (i.e., a high potential case fatality ratio: VHF); high potential for rapid transmission and expansion over a large area (i.e., cholera among susceptible populations or in a humanitarian context in a non-endemic area); (3) multiple outbreaks-epidemics over a contiguous area/crisis-affected population affected by conflict or natural disaster (highly-dynamic situations) Agree that some threshold for small outbreaks should be kept as it would not be useful to characterize each small outbreak as a disaster; they may have low potential for exposure and populations may not be especially vulnerable or a small proportion vulnerable.
Verbatim 4	Because I would argue that a key difference between an outbreak and an epidemic that is missing in your definitions, is that an epidemic is declared by a national health authority. Often, cholera outbreaks for instance, will not be "epidemics" because governments will not accept their official declaration for a range of reasons. This would then exclude from your focus many outbreaks that are significant, due to the political reasons leading to a declaration of an "epidemic".
Q5.2 Can we use these inclusion criteria for epidemics as well?	
Verbatim 5	# dead and affected will have vastly different implications depending on the disease. Furthermore a call for international assistance diminishes a country's own agency. We see a focus away from International Medical Teams to Emergency Medical Teams. Perhaps the focus should be on external assistance but that could come from the central or regional level.
Verbatim 6	Deaths in many epidemics are tracked late, and a single death that is detected by a disrupted surveillance system may signal rampant community transmission. I would set it to a lower number of deaths, with the assumption that there are more deaths, and more transmission happening in the communities affected. There are also other instruments for declaring an epidemic, i.e., https://www.who.int/emergencies/grading , that could coincide.
Verbatim 7	I would increase the thresholds (10 or more dead, 100 or more affected), because there are too many events to be included otherwise. Also, there is specific ways of declaring epidemics according to international health regulations by the WHO that should be included.
Verbatim 8	I would advice you use established epidemiology indicators, such as Case Fatality Rate; proportional morbidity and mortality; attack rate; incidence rate. I would particularly discourage the use of "The declaration of a state of emergency" or of "A call for international assistance". The absence of a declaration by a national health authority, or the call for assistance, may not necessarily indicate the absence of a crisis, but more of a lack of willingness to attract attention that may undermine the reputation or "image" of a government to prevent and/or manage a health crisis. This is particularly true for those

	diseases that are caused by poor sanitation and hygiene, and limited access to potable water. Overall, these can be highly politicized matters that do not necessarily convey the health needs of the population, or the existence of an epidemic of "certain significance".
Q5.6 Which characteristics of an epidemic allow you to conclude it to be a disaster?	
Verbantim 9	Definitions can be pretty similar in the sense that epidemics also depend on the conditions of exposure, vulnerability, capacity, etc. In a simplistic way, I would say an epidemic can be considered a disaster when it exceeds the capacity of that community of coping with the situation. However, I would be careful about considering epidemics a disaster or not. They are just epidemics. Hence we need to prepare and respond as early as possible. So all in all, defining epidemics as disasters would be useless as it would be absolutely late, unlike in an earthquake In which declaration of disaster would lead to a better response
Verbantim 10	The same characteristics of a disaster - "serious disruption of the functioning of a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts". In the public health emergency Zika and Microcephaly we had no deaths, but a serious threat to the functioning and confidence of society in the capabilities of health systems to protect their health
Verbantim 11	Chiefly, (1) high vulnerability of the population (crisis-affected already via natural disaster or ongoing conflict; a novel pathogen in a non-endemic area); (2) low capacity of the public health system to manage control and containment to the point of requiring international assistance; (3) multiple countries/regions affected or anticipated to be affected; (4) anticipated longevity leading to lasting economic impact.
Verbantim 12	Would be in case in the combination of the magnitude of the event for which the capacities to respond would be enough. Would would made it a public health emergency
Q5.7 What do you think marks the beginning and the end of an epidemic disaster?	
Verbantim 13	The case fatality criterion can be considered. For example (Case fatality rate>80% can be considered a disaster) and the end when the CFR is less than 80%. The type of locality affected. For example, we can consider the beginning when we have confirmed cases in a city of more than 1 million inhabitants and the end when we have no more cases in these highly populated areas. Also if we have more than five health districts or two countries affected.
Verbantim 14	Beginning when criteria on previous page met. Ending when cases are low enough that we can resume "normal" activities without clear risk of this leading to a resurgence or higher levels of excess morbidity and mortality.
Verbantim 15	Depending on the type and the context. For example, with ebola or another viral hemorrhagic fever, one case in a context where its not endemic (example of Weast Africa 2014) is an epidemic. The end is when its controlled or is considered endemic. For other types of diseases its different, such as cholera, Zika, etc.
Verbantim 16	Beginning: detection of "the occurrence of cases of an illness, specific health-related behavior, or other health-related events clearly in excess of normal expectancy" in a specific community and in a specific time period. End: bumber of new cases go to zero or to numbers known as regular previously to the epidemic start, according to the doubling period of incubation of period of communicability of the agent. NOTE: An epidemic that becomes an emergency of public health, can stop being an emergency by the moment that the number of cases reduced to a level that is possible to respond with the regular capacity of the services, stopping the surge capacity to response bjut still "waiting" for the end of the epidemics to consider it ended.
Q6.2 How can they be adapted to be applicable for epidemics?	
Verbantim 17	Not adaptable. In Epidemiology and in general public health approach you always have you always need to consider level of protection of population, specially in cases of previous natural immunisation of vaccination for vaccine preventable diseases, for example. It's a set of possible at risk assessments considerartion in regards to the possible affected population, according to the agent, without a factual evidence of affected and not always meaning that

	you always know those numbers them: potential population at risk, groups of most vulnerable or most at risk, infected with symptoms, tested infected without symptoms, infected with severe symptoms, fatal cases.
Verbantim 18	Total dead = Case Fatality Rate (CFR) Total affected = Attack rate (AR) There might be needed a better understanding of other levels of affectation in an epidemic like stigmatization aspects, people dealing with mental health and psychosocial issues due to the epidemic, economic affectation, lost of livelihoods, ect. That could be understood during the initial evaluations
Verbantim 19	Presumably here the challenge will relate to what can be effectively measured assuming many affected will be undiagnosed. Overmortality has been found effective generally as a routine estimate, also throughout history... provided mortality is recorded usually and during the event. Any other measure will have to rely on estimates of the unmeasured/undiagnosed/unrecorded.
Verbantim 20	Total dead = dead cases defined as lab-confirmed cases, probable cases, suspected cases. These must be sourced from both health facilities and deaths in communities (via reporting to a community-inclusive surveillance system). It is hard to go by just deaths that happen at health facilities since most deaths will initially occur in the community before care is sought/available. Incidence of death per 10,000 or 100,000 (as a per population measure) Total affected = suspected cases, geographically-defined populations at risk of infection
Q7.3 Can we improve this sub-type classification?	
Verbantim 21	Just starting from another concept: epidemics can become an emergency, not by the nature only of the agent but specially by the its R_0 versus R_t and the capacity of the services to cope with its speed. The higher the R_0 and the lower the capacities and capabilities to respond, the higher risk for an epidemics to become a public health emergency.
Verbantim 22	Yes, by transmission mode. This is because this is what will dictate prevention and control measures, which are ultimately the end goals of epidemic response. At the IFRC, we have otherwise a classification that can be found here: https://epidemics.ifrc.org/manager/disease-per-type
Verbantim 23	Not specifically but for "adaptation": WHO classification of most potential pandemic risk diseases that needs more research - A WHO tool distinguishes which diseases pose the greatest public health risk due to their epidemic potential and/or whether there is no or insufficient countermeasures. At present, the priority diseases are: COVID-19 Crimean-Congo haemorrhagic fever Ebola virus disease and Marburg virus disease Lassa fever Middle East respiratory syndrome coronavirus (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS) Nipah and henipaviral diseases Rift Valley fever Zika "Disease X" https://www.who.int/activities/prioritizing-diseases-for-research-and-development-in-emergency-contexts
Verbantim 24	I would classify it by mode of transmission: - Vector-borne diseases - Water-borne diseases (or faecal-oral) - Viral hemorrhagic fevers (contact) - Respiratory diseases - Zoonoses - etc