Table 1 Summary of hazard prioritization and risk assessment categories

Hazard	Frequency [a] (F) Min 1 Max 5	Magnitude [b] (M) Min 1 Max 5	Exposure [c] (E) Min 1 Max 3	Prioritization Score (FXMXE) [d]	Vulnerability	Capacity
External causes of morbidity and mortality	5	5	3	75	• Over-speeding vehicles associated with RTA • RTA account for 20% of occupied beds and 81% of deaths in MOH hospitals • Bites and stings common in deserts • Regional conflicts associated with terror attacks	• Updated national emergency plan • Need for festival emergency plan • Need to strengthen interagency coordination • Availability of trained staff and emergency vehicles
MERS-CoV	4	5	3	60	• > 85% of cases reported in KSA • 40% case fatality rate • Camels are reservoirs • Human contact with camels during festival • Consumption of unpasteurised diary product common	• Well-established national surveillance • Improved IPC practices • Good interagency communication and collaboration • Designated MERS-CoV management centre
Foodborne diseases	5	4	2	40	• Major threat at mass gatherings • Patronage of vended food	• Need to strengthen food safety regulations
Brucellosis	5	3	2	30	• Endemic in KSA • 12.8 cases/100 000 population in 2016 • Consumption of unpasteurised diary	• Strong interagency collaboration for prevention and control
Rift Valley fever	2	4	3	24	• Known zoonosis • 886 suspected cases of RVF and 13.9% case fatality rate in 2000/2001 • Reported outbreak in Niger 2016 • Tendency for rapid international spread	• Existing national surveillance

[a]Frequency: return period for a given hazard, [b]Magnitude: probability of adverse event to population health, [c]Exposure: percentage of population that could be exposed to hazard based on historical data, [d]Product of frequency, magnitude and exposure