



## Public health preparedness evaluation and measurement

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Dear Sir;

Public health preparedness refers to the ability of different local, state, and federal entities to carry out a prompt, effective response to any public health threat.[1] Indeed, it is clear that the term “threat” could embrace a myriad of elements. Recently, the main focus has been on bioterrorism, defined as the terrorist use of chemical, biological, radiological, nuclear or explosive weapons of mass destruction. However, preparedness also involves other threats such as seasonal influenza epidemics, earthquakes or electricity failures.

Programs aimed at improving the level of preparedness of different types of agencies (such as law enforcement, public health agencies, fire services, emergency medical services etc.) in case of terrorist attacks could largely improve the overall ability of the public health system in addressing any threat to health, in particular those related to infectious diseases.[2]

However, the development of such programs requires appropriate methodology for measuring preparedness itself, and evidence-based measures to assess public health preparedness are lacking.[3] In order to develop a standardized measure, and to express such an assessment in quantitative terms, the Harvard Centre for Public Health Preparedness initiated an on-going project entitled “Public health preparedness evaluation and measurement”.

Using data from a standardised survey evaluating the preparedness of cities and towns across a state-wide system, we developed methods to quantitatively measure the diverse aspects of public health preparedness. A systematic review of the literature was initially conducted to conceptualise the construct of “Emergency Preparedness” into seven components: planning and resource allocation, communication, coordination, surveillance, education, risk-vulnerability and needs assessment.

Although the results of the Principal Component Analysis, which was performed in order to create summary scales and to compare towns and regions for each component, cannot be published for reasons of national security, the literature review suggested that needs assessment, connectivity and the level of training of frontline professionals should be considered the most important components.[4,5]

In particular, the best means to evaluate the level of preparedness among professionals was determined to be the development and conduction of drills and exercises for specific disaster scenarios. The most valid proxy for preparedness is considered the one that can be evaluated after an actual incident or an exercise.

Survey data are a relatively easily and reliable evaluative tool and can adequately measure most of the above components of preparedness. However, further reliable and valid quantitative methods are strongly warranted in order to achieve an objective and standardized interpretation of survey results; such a step will strengthen and expand a region’s capacity of preparedness planning and readiness assessment.

## References

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