

## Creation of Computerized Benchmarks to Facilitate Preparedness for Biological Events

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**Abstract :** Introduction: Communicable diseases and pandemics pose a growing threat to the well-being of the global population. A vital component of protecting the public health is the creation and sustenance of a continuous preparedness for such hazards. A joint Israeli-German task force was deployed in order to develop an advanced tool for self-evaluation of emergency preparedness for variable types of biological threats. Methods: Based on a comprehensive literature review and interviews with leading content experts, an evaluation tool was developed based on quantitative and qualitative parameters and indicators. A modified Delphi process was used to achieve consensus among over 225 experts from both Germany and Israel concerning items to be included in the evaluation tool. Validity and applicability of the tool for medical institutions was examined in a series of simulation and field exercises. Results: Over 115 German and Israeli experts reviewed and examined the proposed parameters as part of the modified Delphi cycles. A consensus of over 75% of experts was attained for 183 out of 188 items. The relative importance of each parameter was rated as part of the Delphi process, in order to define its impact on the overall emergency preparedness. The parameters were integrated in computerized web-based software that enables to calculate scores of emergency preparedness for biological events. Conclusions: The parameters developed in the joint German-Israeli project serve as benchmarks that delineate actions to be implemented in order to create and maintain an ongoing preparedness for biological events. The computerized evaluation tool enables to continuously monitor the level of readiness and thus strengths and gaps can be identified and corrected appropriately. Adoption of such a tool is recommended as an integral component of quality assurance of public health and safety.

**Keywords :** biological events, emergency preparedness, bioterrorism, natural biological events

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