

# Abstracts of Oral Presentations-WADEM Congress on Disaster and Emergency Medicine 2019

## QUALITY AND FINANCE

### Ensuring Emergency Preparedness through Systematic Evaluations

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**Introduction:** Hospitals are required to maintain emergency preparedness 24/7. In order to maintain readiness, Israeli hospitals operate Emergency Committees comprised of medical, nursing, and administrative professionals who are responsible for capacity building including the development of plans, infrastructure, equipment, training, crisis management, and learning lessons. The Ministry of Health (MOH) and Home Front Command (HFC) conduct a comprehensive, structured evaluation of emergency preparedness in every hospital every two to three years.

**Aim:** To assess the impact of a periodical evaluation on levels of emergency preparedness over time in a level one trauma center.

**Methods:** Evaluation of emergency preparedness is conducted by approximately 12 evaluators from the MOH and HFC, encompassing mass casualty incidents (MCIs), mass toxicological/chemical incidents (MTEs), radiological and biological events, earthquakes and conflicts. Evaluations are based on objective parameters, relayed to hospitals prior to the evaluation. The hospital's level of emergency preparedness is graded and improvements that must be implemented are delineated. The grades of four evaluations conducted from 2011 to 2018 were compared to identify trends in preparedness.

**Results:** Mean levels of emergency preparedness in the 2018 versus 2011 evaluations presented an increase concerning all threats, including MCIs (92 vs. 90), MTEs (99 vs. 77, respectively), biological events (96 vs. 73, respectively), radiological events (91 vs. 79), earthquakes (87 vs. 60, respectively), and conflicts (95 vs. 74). The relative change in levels of preparedness was more noted concerning biological events and earthquakes.

**Discussion:** A periodical evaluation by governing authorities seems to motivate the hospital's administrations to invest efforts in building and maintain a high level of emergency preparedness. Systematic evaluations conducted bi-annually contributed to improved readiness for diverse emergency scenarios, including for threats that less frequently materialize.

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### The Quest for Quality and Performance Indicators in Mass Disasters

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**Introduction:** Indicators are used as a benchmark for the quality of disaster response. Desirable attributes of indicators include precision, clear definition, improvement opportunity, unbiased, flexibility, and validity. Due to a lack of universally acceptable, objective indicators, it is currently difficult to gauge improvements in mass casualty preparedness within a hospital.

**Aim:** To describe existing indicators relevant to hospital disaster response, and to explore the use of two new indicators (decanting and chain of command).

**Methods:** A structured literature search in indexed databases was used to identify articles related to the measurement of hospital performance in mass casualties using a matrix technique and snowballing. Relevant websites of disaster management organizations were also reviewed and local disaster management experts were interviewed. Proposed indicators were compared against attributes and some (triage time by category, notification time, time to adequate staff response, preventable deaths, decanting times and chain of command for intensive care unit, and emergency department) were tested and measured in two exercises involving more than 90 staff each, held at two Southeast Queensland hospitals in 2017 and 2018.

**Results:** Over 50 proposed indicators, including indicators within large sets, were identified. Measurement of some indicators was found to be highly subjective. The decanting and chain-of-command indicators emerged as most useful. Intensive Care Unit required 40 mins to decant beds by 50%, while ED required 25 mins to decant beds by 80%. With regards to the chain of command, ED and triage staff performed best, with 66.7% correctly identifying their immediate supervisor. Overall, staff members were able to correctly identify immediate supervisor better compared to team leaders (59.3% and 40% respectively).

**Discussion:** There is a need to narrow down, simplify, and objectify indicators for mass casualty performance. Baseline measurements from actual disasters will provide important comparative data.

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