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Hospital MCI Response Plan Analysis in a Low Resource Country After A Mass Casualty Incident: The Beirut Blast

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Objective. Mass casualty incidents (MCIs) come unannounced, mandating the immediate shift from the daily routine to crisis mode through the implementation of an MCI response plan. On August 4, 2020, a massive explosion devastated the Lebanese capital, Beirut, causing 8643 injuries and 200 deaths (Figure 1).¹ The private Lebanese American University Medical Center in Beirut has an an estimated 10,000 emergency department (ED) visits per year. The purpose of this study is to analyse the plan of this private hospital in a low resource country in response to a blast MCI.

Methods. A retrospective analysis of the expected outcome of the pre-existing plan was performed.

Results. Major flaws were noted, as in Figure 2. The ED was a real chaos, Figure 3. Triage was impossible using the START method and will be done outside the ED dividing patients into walking and non-walking. Identification and registration of patients was impossible. Patients will be assigned a number and be registered later. Colored jackets were created to recognize response team members for better organization. The 2-way radios will be used to facilitate communication among the involved members. Radiologic imaging will be ordered only when they change the patients' disposition.

Conclusion. This analysis showed failure of the plan at different levels and adjustments were made to advance the plan. Periodic exercises and annual review are needed for continuous improvement.



Figure 1: Beirut Blast, August 4, 2020. <https://www.nytimes.com/interactive/2020/09/09/world/middleeast/beirut-explosion.html?auth=login-google1tap&login=google1tap>



Figure 3: Emergency Department outside area <https://www.cambridge.org/core/journals/disaster-medicine-and-public-health-preparedness/article/beirut-explosion-challenge-of-hospital-emergency-preparedness/D8111300429B7E11D5135DAA03F134EC>

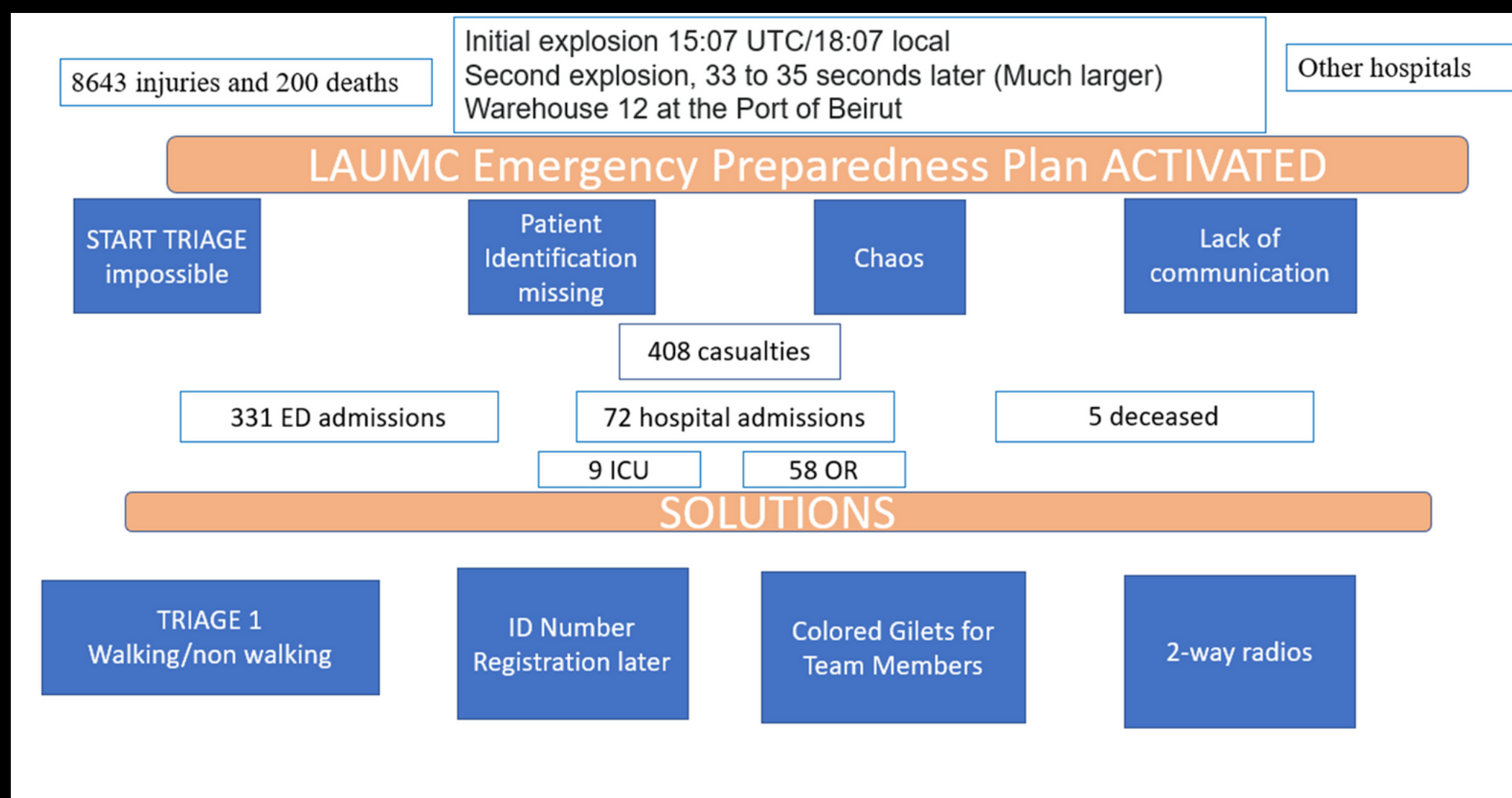


Figure 2: Flaws in the LAUMC Emergency Preparedness Plan and Solutions