

Introduction: Burn mass casualty incident (BMCI) planning efforts have been in practice and publication for 40+ years. While COVID-19 has no direct connection to burn injuries, the impact of COVID-19 on the healthcare system including burn care was and remains significant.

Method: A retrospective analysis of data was conducted voluntarily submitted to the American Burn Association from March 2020 to June 2021 which generally coincides with the first three waves of the pandemic. We focused on the self-reported data specific to the three critical components in managing a surge of patients: staffing, space, and supplies (to include pharmaceuticals and equipment).

Results: Staff: These data were collected over a period that coincided with the first three waves seen in the USA. Staffing shortages were noted during each of the surges but were most excessive when a regional surge paralleled surges in other parts of the country (November–December 2020).

Space: Late November and early December 2020, space was in short supply with the surge of patients for more of the region than at any other time during the 28 weeks of reporting. While single facilities reported other episodes of limited space or supplemented with temporary structures, the peak was early December.

Supplies: As the first surge began to subside, the supply shortages were abated. However, as additional surges occurred; the supply chain had not recovered. Supply shortages were reported in greater numbers than either space or staffing needs through the multiple waves of the pandemic.

Conclusion: The COVID-19 pandemic directly led to a diminished available capacity for burn care in such a way that it compromised the ability to confront a surge of burn-injured patients. Future BMCI planning efforts must consider this aspect of the process. Crisis Standards of Care may come into play during such an event.

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Description of Patients with Out-of-Hospital Cardiac Arrest within 24 Hours of EMS Transport Refusal.

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Introduction: Patients refusing transportation is common EMS practice with potentially fatal outcomes. Determining which patients are at high risk for poor outcomes is poorly defined. This study described patients who experienced an out-of-hospital cardiac arrest (OHCA) within 24 hours of refusing transportation.

Method: This is a retrospective, descriptive study of patients who had an OHCA within 24 hours of refusing EMS transportation between 2019 to 2021. Data was obtained from a large, urban medical control authority seeing 175,000 EMS calls

annually. We reviewed patient demographics, EMS events when transportation was refused, and cardiac arrest outcome.

Results: There were 6, 30, and 28 EMS refusals resulting in OHCA in 2019, 2020, and 2021. Patients who had OHCA were 65.7 (range 28–103) years old, and African American (54/64). Patients had HTN (36/64), diabetes (19/64), COPD (11/64), and CHF (7/64). Common complaints included breathing problems (17/64), near syncope (8/64) however chest pain was uncommon (4/64). One (28/64) or two (13/64) abnormal vital signs were present and missing vital signs (28/64) were common. Tachycardia (32.8%, 21/64), HTN (29.7%, 19/64), and hypotension (17.2%, 11/64) were more prevalent in the OHCA population compared to all refusal patients (Tachycardia 0.33% [1,978/598,416], HTN 2.27% [13,601/598,416], and hypotension 0.04% [218/598,416]). Patients were seen by both ALS (29/64) and BLS (35/64) providers. Most providers documented risk including death (38/64) though few contacted medical control (14/64). Return encounter for OHCA resulted in obvious deaths (23/64) or field termination (20/64). Few patients achieved ROSC (7/64).

Conclusion: Patients who had an OHCA within 24 hours of refusing transport had underlying comorbidities and abnormal or missing vital signs. The patients experienced tachycardia, hypertension, and hypotension at a higher rate than the overall refusal population. Few patients obtained ROSC. Further research is needed to determine methods to mitigate poor outcomes and decrease refusals.

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Creating a Disaster Ready Pharmacy Workforce: Evaluation of a Disaster Tabletop Exercise

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Introduction: While the importance of pharmacists' involvement in disaster management is becoming increasingly recognized in the literature, there are few mechanisms by which pharmacists can prepare themselves for emergencies. This project aimed to determine the effectiveness of a disaster tabletop exercise (TTX) in preparing pharmacy staff for disasters. **Method:** A TTX was held at the American Society of Health-System Pharmacists Summer Meeting which was held in Phoenix, Arizona in June 2022. The workshop incorporated an evolving emergency scenario in which participants worked through activities pertaining to the mitigation, preparedness, response, and recovery cycle. The scenario involved a hypothetical storm and landside scenario across fictional towns in Arizona, US. Workshop attendees worked in small groups on one of two provided hospital profiles. The attendees were invited to complete a pre-post survey assessing their perceptions of disaster management including perceived preparedness. This survey was previously developed, piloted, and published. The paper surveys were collected at the end of the workshop and inputted into RedCap. Data were descriptively summarized

using SPSS, and pre-post survey results were compared using appropriate statistical tests.

Results: The workshop was attended by 40 pharmacy personnel and 31 completed the survey. All participants agreed that the exercise was well structured, realistic, allowed them to test their response plans and systems, and helped improve their understanding of their role and function in disaster response. After the workshop, participants' perceptions of their ability to prevent, respond, and recover from a disaster all significantly improved ($p=0.004$, 0.013 , and 0.013 respectively). However, perceptions of their preparedness for a disaster did not significantly change ($p=0.197$).

Conclusion: This study adds to the evidence of the effectiveness in training and preparing the pharmacy workforce. The TTX improved the understanding and perceived capabilities of pharmacy personnel in responding and recovering from emergencies.

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Integration and Disjuncture within the Israeli Health System During COVID 19 Pandemic

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Introduction: The Israeli health system had a critical role in leading the response to the COVID-19 pandemic facing a wide-range of challenges following the length and the unique characteristics of this health emergency. This study evaluated the weaknesses and strengths of the different parts of the system, relying on WHO building blocks to promote better coping with large-scale health emergencies.

Method: The experiences of 13 high-level senior experts in the Israeli health system who directly managed COVID-19 were examined, using in-depth semi-structured interviews conducted during 2021. Critical and snowball sampling were used to select participants. Interviews were recorded and transcribed. Data analysis was conducted using ATLAS.TI 22 software and reviewed by peers. The interviews were analyzed using the thematic analysis method. A theme expresses a broad central idea that tends to appear and reoccur in the analytical material in different forms of expression. Specifications and ideas were discussed among the researchers while engaging in repeated rereading of the transcriptions until saturation was achieved with the final themes.

Results: The role of the Ministry of Health in integrating the health response and importance of spokespersons providing professional information increase trust as a crucial role of community health services in emergencies having political tensions reflected in the medical response. The Israeli Health system differ from hospital systems abroad by the relationships between preparedness during routine and emergency response. The importance of trust was highlighted.

Conclusion: The study demonstrates a deep understanding of the way the Israeli health system dealt with the pandemic, revealing needs, resources, weaknesses and strengths. The results offer a rare opportunity to learn how integration of service-delivery can be improved within the health system in all levels. These lessons should be translated to advance better handling of future emergencies.

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Health Problems and Healthcare use During the COVID-19 Pandemic: Impact on Vulnerable Groups.

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Introduction: The COVID-19 pandemic and the countermeasures taken form a threat to the physical and mental health of the population, especially for more vulnerable groups. In this study, which is part of the Integrated Health Monitor COVID-19, the impact of the COVID-19 pandemic on the healthcare use of the Dutch population and specific vulnerable groups was examined.

Method: In this study two data-sources were combined. The first consists of electronic patient records of general practices (GP) participating in the Nivel Primary Care Database. These records are representative of the Dutch population and provide insight into acute complaints, chronic conditions, medication prescriptions and primary care use. For the current study, primary care use in pre-COVID years (2018 and 2019) was compared to that in 2021. This data was coupled with microdata from Statistics Netherlands, containing such information as socio-economic status and migration background. Analyses were conducted using longitudinal mixed-effects regression models.

Results: Results show that risk factors play a role in the utilization of primary care. Women and those with a low household income visited the GP more often for mental complaints. Individuals with a migrant background visited the GP more often for coughing, fatigue, and social problems. Those with pre-existing chronic physical conditions were seen less often by their GP for shortness of breath. Among those with pre-existing mental problems GPs more often registered shortness of breath, yet less problems with access to care or social problems.

Conclusion: Combining GP registry data with relevant background data has deepened our understanding of changes in health problems and healthcare use among the general population during the COVID-19 pandemic. This study provides insight into how specific vulnerable groups are affected more strongly, and emphasizes the importance of monitoring these groups during a health crisis.

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