Field hospitals: The role of an academic medical center

March 31 2021

Credit: Pixabay/CC0 Public Domain

By April last year, up to 28 free-standing alternate care sites ranging in size from 50 to 3,000 beds were underway or finished in the U.S.—the Michigan Medicine Field Hospital among them.

This 500-bed alternate care site was planned and construction underway from March through May to meet the estimated surge in COVID-19 patients, expected to overrun hospitals nationwide and in Michigan. Sue Anne Bell, assistant professor of nursing and a disaster expert, was one of the field hospital's five-member leadership team.

Bell and her colleagues from Michigan Medicine recently published a study in *Prehospital and Disaster Medicine* about lessons learned from that experience.

The Michigan Medicine Field Hospital was planned to be a step-down care facility where the least ill COVID-19 patients could be safely treated prior to discharge. The idea was to increase bed capacity for more acutely ill patients in the remaining Michigan Medicine hospitals. The majority of field hospitals constructed for COVID patients in the U.S. weren't called into service, including the Michigan Medicine facility.

Planning for the Michigan Medicine Field Hospital was organized into six units: personnel and labor; security; clinical operations; logistics and supply; planning and training; and communications.

"The command structure worked really well," Bell said. "There was a clear reporting structure that made communication among teams straightforward, which was really important given both the urgency of the situation and later the uncertainty."

Another strength was the team's commitment.

"This was all hands on deck to get the field hospital in place as quickly as possible in order to meet the needs of the community," Bell said.

The team visited indoor athletic facilities and dormitories near the

hospital, ultimately selecting the new 73,000-square-foot indoor track and performance facility, a 12-minute drive from the main hospital. A draft layout was completed in two days of a 519-bed facility, including a 20-bed higher acuity area for patients requiring a transfer back to Michigan Medicine. The goal was to provide the highest level of comprehensive care possible in a temporary setting, and many of the comforts of traditional hospital stays (visitors, television) weren't possible due to COVID transmission risks.

"They were not really well suited to being a full substitute for acute hospital care of COVID patients, because it was difficult to discern early in the progression of the disease which patients might need ICU care or were at risk of decompensating quickly, and which ones were relatively stable and could be cared for safely in a field hospital setting," said study co-author Keith Dickey, chief strategy officer for Michigan Medicine.

Allocating staffing and personal protective equipment in the convalescent vs. acute care settings was challenging. Because of the nature of COVID, many of the patients would be older adults with preexisting conditions. Decision-making revolved around how to meet the physical therapy and physical medicine and rehabilitation needs of these patients, and PPE needed for those staff.

Sourcing supplies was also challenging, as shortages existed around the country and worldwide, which resulted in massive regional and national competition for supplies.

"Just as we were trying to order cots or IV poles in a large volume, so were other places around the country," Bell said. "Creating a plan for sourcing those resources in the event of a future field hospital is a consideration."

Another challenge was communication at state and federal levels.

"There was so much going on across the country, that trying to get clear information was a challenge, as modeling was shifting and hotspots were emerging," Bell said.

One major advantage of an academic medical center-run facility was physician staffing capacity. Academic physicians are not generally 100% clinical, and Michigan Medicine physicians and resident trainees could provide extra clinical capacity. Tapping into staff with prior military and disaster experience was also critical.

While the experience was specific to COVID-19, much of what was learned is generalizable to other instances requiring a field hospital.

"But what we have now is a clear plan for how we will implement a field hospital in the future," Bell said. "And with that we can change and improve that plan using our baseline knowledge from this experience."

More information: Sue Anne Bell et al. T-Minus 10 Days: The Role of an Academic Medical Institution in Field Hospital Planning, *Prehospital and Disaster Medicine* (2021). DOI: 10.1017/S1049023X21000224

Provided by University of Michigan