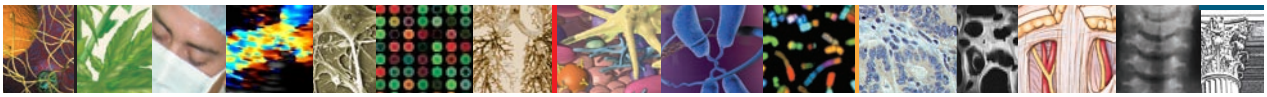


The NEW ENGLAND JOURNAL of MEDICINE

Perspective

JANUARY 3, 2008

Dr. Pou and the Hurricane — Implications for Patient Care during Disasters

Susan Okie, M.D.

During the flood after Hurricane Katrina in August 2005, health care providers in marooned New Orleans hospitals worked in almost unimaginably difficult conditions while awaiting rescue.

Nowhere was the situation more desperate than at Memorial Medical Center, where for 4 days a small staff struggled to care for critically ill patients in a dark building with no electric power, no fresh water, a flooded first floor, a nonfunctional sanitation system, and an interior temperature above 100°F.

Dr. Anna Maria Pou, a cancer surgeon on the faculty of Louisiana State University School of Medicine, was supervising residents at Memorial when Katrina hit on Monday, August 29, and she remained at the hospital after the storm. Pou, 51, is a New Orleans native whom colleagues describe as a dedicated, hard-working physician who, though physically small, "had a huge presence."[1] At least 34 patients died at Memorial during and after the storm, and shortly thereafter, media reports began to suggest that some had been euthanized. In July 2006, Louisiana's attorney general, Charles Foti, shocked the country by arresting Pou and two nurses, accusing them of administering morphine and midazolam to kill four elderly patients on September 1, 2005, the day patient evacuation was completed. In a television interview aired in September 2006, Pou denied the accusation, stating, "I did not murder those patients. . . . I do not believe in euthanasia. I don't think it's anyone's decision to make when a patient dies. However, what I do believe in is comfort care, and that means that we ensure that they do not suffer pain."

A grand jury considered possible murder charges in the deaths of these four patients plus five others on the same floor, and the attorney general agreed not to pursue charges against the nurses in exchange for their testimony against Pou. Many New Orleans residents rallied to Pou's support, calling her a hero for remaining on duty when other doctors had fled, and numerous medical organizations issued statements in her defense. This past August, the grand jury refused to indict Pou, but she still faces three civil suits that have been brought by rela-

tives of patients who died. After the grand jury's decision, she acknowledged in an interview that she had administered morphine and midazolam to the nine patients knowing that their deaths might be hastened, but she said that she did not intend to kill them. "God strike me dead — what we were trying to do was help," she said.[2]

What precisely happened? And what lessons does the episode hold for health care workers, hospital administrators, and policymakers as they prepare for natural disasters, terrorist attacks, or epidemics?

Memorial was a private, for-profit hospital owned by Dallas-based Tenet Healthcare Corporation. The patients in question died on the seventh floor, where LifeCare Hospitals of Plano, Texas, leased space and operated a separately licensed long-term acute care facility for elderly patients with multiple medical problems. By the morning of Thursday, September 1, about 25 of the sickest patients in the complex had been evacuated by helicopter, and staff members were moving other patients, including some LifeCare patients, to staging areas to await evacuation by helicopter or boat. The staff apparently decided that these nine could not be rescued, but it is unclear who made that decision and whether it was based on the patients' medical conditions, their resuscitation status (five of the nine reportedly had do-not-resuscitate [DNR] orders), or other considerations. According to written responses that Pou provided for this article, "The standard of rescue [had] changed from Tuesday to Thursday; initially the sickest patients were evacuated first. When we realized that help was not imminent, . . . the standard of rescue changed to that of reverse triage. It was recognized that some patients might not survive, and priority was given to those who had the best chance of survival. On Thursday morning, only category 3 patients [the most gravely ill] remained on the LifeCare unit."

Dr. Anna Pou in 2006.

Still, the decision is puzzling to many in light of the eventual evacuation of about 200 patients from Memorial, including patients from the intensive care unit, premature infants, critically ill patients who required dialysis, patients with DNR orders, and two 400-lb men who could not walk. The story so far is incomplete; testimony before the grand jury was secret, and since Pou, other health care workers, and the two companies still face litigation, they have not publicly discussed details of the events.

The version we have comes from an affidavit that was issued at the time of Pou's arrest by the Louisiana Department of Justice and from a summary of evidence that was released by that department last July. These documents cite statements by LifeCare employees but do not provide the full statements or indicate whether they were sworn depositions. According to the documents, Susan Mulderick, the Memorial "incident commander" who oversaw patient care and evacuation during and after Katrina, allegedly told employees at a meeting on the morning of September 1 that she did not expect LifeCare's nine critically ill patients to be evacuated. Later, she allegedly told three LifeCare employees that the plan was not to leave any living patients behind. Therese Mendez, a nurse executive for LifeCare, stated that Dr. Pou told her on the morning of September 1 that a decision had been made to administer lethal doses of medication to the remaining patients on the seventh floor. Steven Harris, LifeCare's pharmacy director, stated that Pou also informed him of the decision and showed him about 27 vials of morphine; he later told the attorney general that he gave her midazolam and additional morphine.

Diane Robichaux, LifeCare's assistant administrator, stated that during a discussion of the patients' mental status, she informed Pou that at least one patient, Emmett Everett, 61, was alert, oriented, and interactive, although he weighed 380 lb and was paralyzed. Kristy Johnson, LifeCare's director of physical medicine, said she watched Pou and two nurses draw liquid from vials into syringes and that she guided them to patients' rooms on the seventh floor. She said that outside Everett's room, Pou appeared nervous and said she planned to tell him she was giving him something for dizziness. Johnson also said she heard Pou say, regarding another patient, "I had to give her three doses, she's fighting." She

AP photo/Alex Brandon

said Pou asked her for a list of remaining LifeCare patients and their room numbers, and then instructed the LifeCare staff to leave, saying the patients were "in our care now."

Dr. John Skinner, Memorial's director of pathology, stated that because of plans to finish the evacuation and lock down the hospital by 5 p.m., he made rounds throughout the hospital during the afternoon of September 1 to document all deaths and to make sure no one had been left behind. He said he encountered Dr. Pou on the seventh floor with a patient who appeared to be alive and offered to help her evacuate the patient, but she said she wanted to talk with an anesthesiologist first. Skinner said he returned to the seventh floor around 3:30 p.m. and found that all the patients there were dead.

Establishing the causes of the deaths of the nine patients was problematic. The bodies lay in the sweltering hospital for 10 days before they were recovered, and autopsies were not performed for another week or more. This past February, after considering the opinions of multiple experts, Orleans Parish coroner Frank Minyard announced that he could not determine whether the patients had died from natural causes or homicide. On the autopsy reports, the classification of the deaths has been left blank.[3] Toxicology studies of liver and purge fluid documented the presence of significant levels of morphine in all nine patients and of midazolam in seven; levels of one or both drugs in brain tissue were also measured in eight patients. However, because of the extent of decomposition, these results may not accurately reflect what the levels were when the patients died.

The patients, four men and five women, ranged in age from 61 to 90 and had varied medical problems. Richard Deichmann, Memorial's chief of medicine, said in an interview that some LifeCare patients were dependent on ventilators and others had chronic, nonhealing wounds or required tube feeding or hyperalimentation. Before Katrina, they were "just long-term patients who weren't well enough to really go home," he said. However, as hospital conditions deteriorated, many patients got sicker or became dehydrated — for example, Ireatha Watson, one of the nine patients, was coded and resuscitated after developing a temperature of 105°F and probable aspiration.

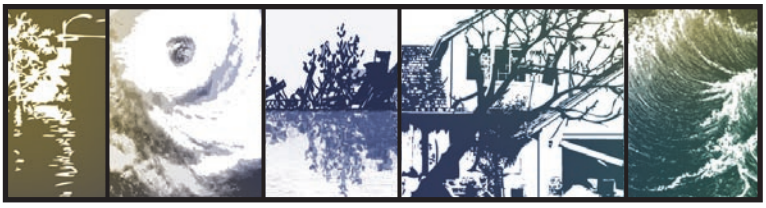
About 2000 people — patients, staff members, family members, and neighbors — had taken shelter at Memorial, which put a strain on the supplies of food and water. To obtain medications, staff members had to walk through pitch-dark hallways and stairways to the pharmacy. In *Code Blue*, his harrowing Katrina memoir, Deichmann describes "dozens of people sprawled on the floors and corridors of the hospital, lifting their voices to ask for water and assistance."[4] Routines for tasks such as drug ordering and charting broke down; the approximately 25 physicians in the hospital, assigned to nurses' stations, were to sort patients into triage categories so that sicker patients could be evacuated first. To evacuate nonambulatory patients, employees had to carry them on stretchers down multiple flights of stairs to the second floor, pass them through a narrow opening in a wall into the parking garage, and then either transport them to the helipad on the garage roof or load them onto boats. "Our intention was that we were going to evacuate all the patients, [but] we decided early on that the patients that were 'no codes' . . . were going to be lower on the priority list," Deichmann said. "Lots of no-code patients were evacuated. Some of them died awaiting evacuation."

Wednesday night or early Thursday morning, hospital administrators received word that no government rescue was forthcoming. Staff morale plummeted. Although Tenet officials in Dallas had spent Wednesday hiring private transport to evacuate the company's New Orleans hospitals, they had no way of communicating their plans to Memorial, said Tenet spokesperson Steven Campanini. In his book, Deichmann writes that Susan Mulderick, the incident commander, asked him on Wednesday whether euthanasia should be considered for some patients with DNR orders but that he immediately dismissed the idea.[4] (Mulderick could not be reached for comment for this article.) Deichmann said that the topic of euthanasia never arose at any of the twice-daily meetings he attended: "We never discussed anything except evacuating everybody." On Thursday, staff members and rescuers managed to round up a fleet of private fishing boats that evacuated scores of patients, and helicopter flights resumed. Late that day, Deichmann watched as the last three surviving patients were loaded onto choppers before boarding one himself. He said that when the media reported the allega-

tions of euthanasia, "I was as surprised as anybody. . . . I just can't reconcile that."

On her lawyer's advice, Pou declined to answer questions about the events of September 1. She told *Newsweek* that the decision to sedate the remaining LifeCare patients was made by a group of staff members on Thursday morning after the announcement that no rescue was coming, and that it was agreed that she would administer the drugs. "It was a group decision. I didn't really volunteer for anything," she said.[2] Campanini, the Tenet spokesperson, said that LifeCare "had its own evacuation plan," although its administrators would have coordinated with Mulderick. The decision not to evacuate the nine LifeCare patients "was not a Tenet decision," he said. "I can't speak for the employees on the ground but . . . that is not a decision that would be supported by the company." Rosemary Plorin, a spokesperson for LifeCare Hospitals, said she didn't know how the decision was made and refused to comment on the deaths. "As far as the specifics of that particular day and what those discussions entailed, I think only the people involved and the authorities have access to that information," she said.

Although New Orleans hospitals had participated with the Federal Emergency Management Agency and state agencies during 2004 in planning for a catastrophic hurricane, there was no organized plan for evacuation of the hospitals; government officials assumed that they would be self-sufficient for 5 to 7 days, said James Aiken, medical director for emergency preparedness at LSU University Hospital. At the public Charity Hospital, where Aiken was on duty during Katrina, "we got our job done with



a combination of resources" from state and other sources; private, for-profit hospitals like Memorial were "left to their own devices." At Charity, "there was no discussion that I was a part of as to what we would do if we couldn't get somebody out," added Aiken, noting that "triage, by definition, is a sorting of patients for care — something we would never do on a day-to-day basis." The effort to prosecute Pou and the nurses, he predicted, will have a chilling effect on the willingness of medical professionals to volunteer during disasters — though Pou still says, "As for me, I would stay to care for my patients if I was needed."

As a doctor responsible for patients who, it had apparently been determined, were not going to be rescued, Pou was faced with a dire choice, noted R. Alta Charo, a professor of law and bioethics at the University of Wisconsin. "From her perspective, these people are now terminal — because of their biological status, their medical condition, and the environmental context . . . and they're terminal under particularly terrifying conditions: extreme discomfort, [probably] panic, and the prospect of being abandoned while helpless," said Charo. If Pou could not save them, then her next obligation "would seem to be palliation . . . to give them enough medicine that they're not in any pain and they're not in any panic and it may or may not hasten their deaths." If her intent was to relieve suffering, Charo added, "then I don't think anybody in the ethics community would bat an eye. If it [was] specifically to hasten death . . . then it becomes a little more questionable." Furthermore, Pou had a duty to inform any conscious, competent patients of the circumstances and offer them a choice about accepting the medications — "not a choice," noted Charo, that "we are willing to take away from people capable of making it."

Timothy Quill, director of palliative care at the University of Rochester Medical Center, said that the drugs Pou gave are typically used for palliation, not euthanasia. "There were no paralytics, no barbiturates — which are the usual things people give if they are really trying to end life." Moreover, he said, "the drug levels are comparable to those used in palliative care, although many of these people had never been on opioids before. Is

it possible they were given an overdose? Yes. But it's also just as possible that they were suffering, that she came through and gave some kind of dose that she thought was appropriate." Quill believes "she was trying to do the right thing in an awful situation and was doing the best she could."

One lesson of Pou's experience is the need for community discussions about what care should be provided during a disaster that strains medical resources, said Marianne Matzo, a professor of nursing at the University of Oklahoma and coauthor of a report on the subject.[5] Katrina left many survivors while disabling a city's health care network; another storm, a disastrous earthquake, or a severe epidemic could create a similar scenario. "There are people who, as a result of the disaster, are steps away from death," Matzo said. "As a community we have to say, what are we going to do if we don't have the resources" to evacuate or treat everyone?

But hospitals and communities are unlikely to confront such questions without leadership from government, medical schools, and medical specialty organizations, because discussion of changing standards of care involves "not only liability but political risks," said Craig Llewellyn, professor emeritus of military and emergency medicine at the Uniformed Services University of the Health Sciences (USUHS). Currently, he said, governors can declare a state of emergency during disasters, "suspending some of the normal standards without giving any idea of what the alternative standards ought to be," and medical professionals who care for disaster victims are not protected from lawsuits or criminal prosecution by such declarations. Pou's case has triggered discussion about whether laws are needed to indemnify such volunteers.

Pou argues that "the conditions faced were similar to battlefield conditions" and that civilian medical training does not prepare physicians for such circumstances: "There's nothing that teaches reverse triage, military evacuation strategies, or how to prepare oneself for the feelings of helplessness and sorrow that come when there is little to do for a patient based on lack of resources." However, USUHS has experience training medical students to make triage decisions in such conditions: they participate in exercises in which the demand for treatment exceeds available resources, with volunteers playing the parts of injured soldiers, civilians, enemy prisoners, and so on. "You have to prioritize who gets on the operating table or who gets the one vacant litter position on the only helicopter you're liable to see for the next 4 hours," Llewellyn said, which forces students to confront "difficult clinical, ethical, and moral issues." Without a similar focus on altered standards of care in extreme situations in civilian medicine, Llewellyn said, doctors will face disasters unprepared, and citizens will be unaware of the choices that may be required. But with expanded training and public debate about triage, communication, and decision making when resources are limited, caregivers may be better equipped for the kind of ordeal that Pou and her colleagues faced after the deluge.

Dr. Okie is a national correspondent for the *Journal*.

1. Konigsmark AR. La. affidavit describes alleged 'mercy killings': state accuses 3 of taking 'law into their own hands.' USA Today. July 19, 2006:3A.
2. Scelfo J. A doctor says she didn't murder her patients. Newsweek. September 3, 2007.
3. Bradley CW Jr. Autopsy and toxicology reports. October 22, 2007 (letter). (Accessed December 12, 2007, at http://www.nola.com/katrina/files/102107_memorial_autopsy.pdf.)
4. Deichmann RE. Code blue: a Katrina physician's memoir. Bloomington, IN: Rooftop Publishing, 2007.
5. Phillips SJ, Knebel A, eds. Mass medical care with scarce resources: a community planning guide. Rockville, MD: Agency for Healthcare Research and Quality, February 2007. (AHRQ publication no. 07-0001.) (Accessed December 12, 2007, at http://www.ahrq.gov/research/mce/.)