HOUSTON—Inside Houston’s Astrodome, aspirin and peroxide and bandages are stacked on tables. A stockpile of metal crutches leans against a wall. Makeshift signs direct people: “Feminine and Pediatric,” “Counseling and Mental Health.” There’s a place for tetanus shots, another for hepatitis A shots, and still another for childhood immunizations. A container for used needles is duct-taped to the wall.

The sickest patients in this triage center—but only the sickest—are sent to area hospitals. That includes the elderly man on oxygen being wheeled out on a gurney, suffering from diabetes and heart failure, his legs discolored and ulcerated. Welcome to ground zero for the nation’s largest emergency healthcare system ever created. Unlike the chaos of New Orleans, Houston’s jury-rigged healthcare system is a model of iron-fisted planning, cooperation, and command. Indeed, as one volunteer doctor unabashedly says, this is “some of the best healthcare many of these people have received in their lives.”

Still counting. There have been only three deaths so far among the 24,000 evacuees who came to Houston’s four mass shelters. The biggest concern facing Houston’s public health officials is an outbreak of serious intestinal illnesses, such as Norwalk virus, an easily transmitted bug spread through contaminated food and water. But there may also be a bright side, says Kenneth Mattox, codirector of medical care for the shelters and chief of surgery at Ben Taub General Hospital. “We’re not seeing cases of shigella, salmonella, cholera, amoebic dysentery, or E. coli,” all of which can lead to life-threatening illness in vulnerable patients, particularly children and the elderly. This gives Houston doctors hope that many evacuees got out of New Orleans before the floodwaters became toxic with these lethal germs.

There is no way Houston’s emergency medical specialists could have been prepared for a disaster of this scope, especially one transported from another state. The first bus pulled into the Astrodome around 11:30 at night. “It was a maverick bus,” Mattox recalls, “driven by a 14-year-old who’d commandeered it and said, ‘I’m going to Houston,’ and people jumped on board.” Soon, a sea of survivors had descended on the Astrodome, and doctors were seeing 150 patients an hour. Some needed dialysis, others had been off high blood pressure or diabetes medication; many were wounded and infected. Drugs and medical supplies were supposed to arrive through a federally deployed Disaster Medical Assistance Team, but they did not. Mattox ended up raiding his own hospital’s pharmacy to try to get through the night. The next day, CVS Corp. delivered a complete mobile operation with 20 pharmacists ready to provide medications—free.

Many of the Houston physicians who volunteered have never faced a medical crisis of this magnitude. “I really think this was the pinnacle of being a physician,” says Earl Miller, assistant medical director at Bayshore Medical Center in Houston and an emergency physician who volunteered at the shelters. “People were in water with feces and dead bodies. They had witnessed violence against elderly people and children, and they were traumatized by that. And as a physician, you had to do whatever you could for them.” On his last night at the triage center, Miller treated a patient who was so grateful that she kissed his hand. “That was the most powerful thing I have ever experienced as a physician,” Miller says.

Still, despite the emotional highs, Miller and others worry about how the Houston area will care for the enormous influx of jobless new residents, most of whom have no health insurance. Texas has asked federal health officials to pay the entire cost of putting the evacuees on Medicaid until they can get back on their feet, both emotionally and financially. So far, the government has refused. Texas physicians of goodwill are beginning to feel frustration on top of their weariness. “It’s time for the rest of the country to step up to this medical challenge,” says Bayshore’s Miller. Umair Shah, deputy director at the Harris County health department, agrees: “Local communities are where healthcare happens,” he says, “but local healthcare dollars can only go so far.”