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Haiti Facing Medical Nightmare

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The powerful earthquake that hammered Haiti Tuesday afternoon has created a medical nightmare, those familiar with the country say.

"I can't even imagine the kind of horror we're going to see in the next two to three weeks," said Steven Williams, MD, an internist at Allegheny General Hospital in Pittsburgh who lived in Haiti for three years and has been a visiting doctor there for 20.

In the days to come, Williams told *MedPage Today*, Haitians and the international community will try to cope with enormous numbers of dead and injured in a country that had almost no medical resources to start with.

"On a good day in Haiti," Williams said, "there's not enough food to go around, there's not enough potable water, there are not enough sanitation facilities, the hospitals are marginally staffed, they're poorly equipped, and they don't have enough medications."

"And this is not a good day," he said.

The magnitude 7.0 quake struck about five in the afternoon. Its epicenter was about 10 miles southwest of Port-au-Prince, the crowded capital on the western side of the island of Hispaniola, which Haiti shares with the Dominican Republic.

The tremor, followed by several aftershocks, left heaps of rubble everywhere in the capital, as building after building collapsed, often with people inside. The headquarters of the UN peacekeeping mission, the presidential palace, and countless homes were destroyed.

Particularly important from a healthcare perspective, several hospitals were reported

seriously damaged, and others are swamped with casualties.

The main hospital in the hillside suburb of Petionville reportedly collapsed, and the international medical aid organization Doctors without Borders reported that its 60-bed trauma center in Port-au-Prince was seriously damaged.

The group also said its Maternité Solidarité hospital, a 75-bed emergency obstetrics facility, had suffered structural damage and patients had been moved out of the building as a precaution.

In essence, Williams said, the city with nearly half of Haiti's 9.7 million people is without a functioning medical system.

Healthcare workers in the city are scrambling to deliver first aid, even without adequate supplies, according to Rebecca Dillingham, MD, of the University of Virginia in Charlottesville, who works closely with an infectious disease clinic near the heart of Port-au-Prince.

The earthquake collapsed the walls of the GHESKIO Clinic, she told *MedPage Today*, but there were no serious injuries to staff.

Dillingham said clinic director Jean Pape, MD, and staff were attempting to help the injured, but were hampered by blocked roads and collapsed buildings, as well as a lack of first aid supplies. Food and clean water are also hard to come by and the power is out, she said.

While there are currently no reliable estimates of dead and injured, "it's frightening to consider how bad this could turn out to be," said Paul Lyons, MD, of Temple University in Philadelphia, who has worked in the Port-au-Prince area.

Lyons, who also led several medical missions to New Orleans in the wake of Hurricane Katrina, told *MedPage Today* the Haitian earthquake is playing out against a very different backdrop.

The two disasters share some similarities, he said, in that both took out most of the infrastructure of an entire city.

But Port-au-Prince is at least eight times larger and incomparably poorer than New Orleans. The U.S. city could call on resources from the rest of the country that could have been available within hours or days.

"Regardless of what you think about our response in New Orleans, it's very clear that our ability to respond was infinitely larger than Haiti's governmental ability to respond," Lyons said.

In contrast, he said, saving the lives of the injured in Port-au-Prince is going to be

hampered by a lack of almost everything -- antibiotics, surgical facilities, IV units to compensate for dehydration, and trained medical personnel.

Even if some of those needs are filled by the international community, getting them to workers on the ground is going to be difficult, he said. The airport at Port-au-Prince is linked to the city by a single road, which is reportedly blocked by rubble.

The heavy equipment and fuel needed to clear roads and rescue people trapped under rubble is in short supply in Haiti, which probably means that most supplies will have to come in by sea, Lyons said.

But there are reports that cranes and piers in the city's port were severely damaged by the earthquake, which will complicate the issue.

The American hospital ship, USNS Comfort, is on standby in Baltimore for a possible trip to Haiti, but orders for the mission have not yet been issued, according to the Associated Press.

Rescuing people in need of care will be an "enormous task" in the next few days, according to **Irwin Redlener, MD**, director of the National Center for Disaster Preparedness at Columbia University's Mailman School of Public Health.

Those most at risk will have severe head injuries, chest injuries, and generalized crushing injuries, he wrote in an e-mail.

"In the absence of a healthcare system [that] was minimal to begin with, the availability of healthcare to meet those challenges is primary," he said, and much of it will have to come from outside the country.

Indeed, the lack of dialysis equipment in particular is worrisome, UVa's Dillingham added. Crushed muscle releases proteins that are toxic to the liver but in hospitals in the developed world, temporary renal replacement in such cases is routine.

"It's horrifying to think that someone might survive being crushed and then die of kidney failure," she said.

But the search and rescue operation is just the first phase of the response to the disaster.

Next, authorities will have to re-establish social order and ensure "shelter, nutrition, and general care for all survivors, not necessarily those with medical problems," said Columbia's Redlener.

The process includes organizing access to clean, safe water and food, preventing and managing secondary injuries from such dangers as downed power lines, and

controlling public health hazards.

Finally, he said, there's "the whole process of recovery. For Haiti, that's going to be years and years."

From a healthcare standpoint, the country starts behind the eight-ball, according Allegheny General's Williams.

"I can't imagine a country that is less capable of handling this," he said.

In the short term, he said, "you're going to see dead bodies piled in the streets "because of the limited resources available to save them. There is the possibility of disease -- typhoid is endemic and clean water, always hard to come by, is now even harder to find.

Many will have even greater difficulty than normal in finding food, he said, especially those in the city's sprawling slums, where buildings are made of whatever materials come to hand, including packing cases and tin cans hammered flat and nailed together.

But the long term is "going to be more devastating than the short term," Williams said.

If Port-au-Prince is as damaged as reports indicate, hundreds of thousands of people -- even if they survive -- will have lost everything. They will have no homes, no clothing, no prospects.

The country is already one of the world's poorest, rated 146 out of 177 on the UN's Human Development Index. The average per capita income is just \$560 a year and 78% of the population lives in less than a dollar a day.

"No one has the wherewithal to rebuild," he said.

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