

How to build an inflatable hospital in 48 hours

MSF developed the mobile field hospital to operate as a fully functioning medical facility during conflict or in the aftermath of a natural disaster. The basic structure can be up and running in 48 hours, and is made up of a series of inflatable tents, complete with a surgical theatre and intensive care unit. When a disaster strikes or a conflict breaks out, the inflatable hospital is designed to function indefinitely in place of damaged or inoperative health facilities.



1 The basic 100-bed facility needs approximately 9,700 square feet of space and consists of operating rooms, an emergency room, rehabilitation and recovery areas, an intensive care unit and inpatient wards. It weighs 41 tonnes.



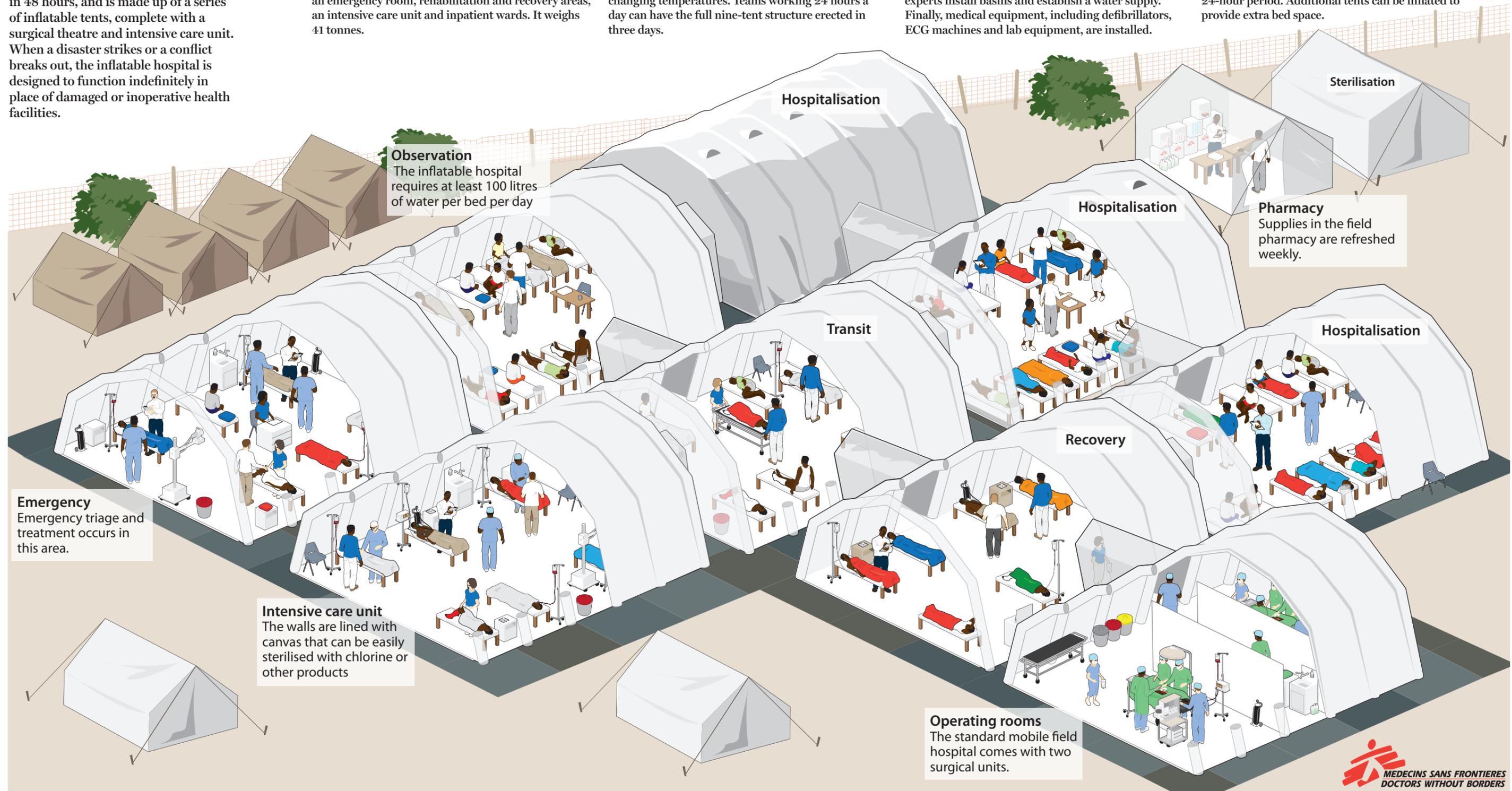
2 The tents are inflated by mechanical air pumps, with each tent equipped with pressure gauges to adapt to changing temperatures. Teams working 24 hours a day can have the full nine-tent structure erected in three days.



3 The electrical team set up specially adapted cooling and heating systems, while water and sanitation experts install basins and establish a water supply. Finally, medical equipment, including defibrillators, ECG machines and lab equipment, are installed.



4 Once the facility is operational, 80 to 100 medical personnel will treat hundreds of patients during each 24-hour period. Additional tents can be inflated to provide extra bed space.



Observation
The inflatable hospital requires at least 100 litres of water per bed per day

Hospitalisation

Hospitalisation

Sterilisation

Pharmacy
Supplies in the field pharmacy are refreshed weekly.

Transit

Hospitalisation

Recovery

Emergency
Emergency triage and treatment occurs in this area.

Intensive care unit
The walls are lined with canvas that can be easily sterilised with chlorine or other products

Operating rooms
The standard mobile field hospital comes with two surgical units.

Inside the operating theatre

An MSF operating theatre in the Haitian capital Port-au-Prince. This picture shows some of the complex machinery needed to treat the fractures, crush injuries and gunshot wounds suffered by those who were injured in the 2010 earthquake and the subsequent unrest.

Photograph: © Nicola Vigilanti, Haiti, 2010

Surgical lamp

Diathermy, used in surgery for the cutting of soft tissues and coagulation

Box of 100 surgical caps

Box of 300 surgical masks

a box of 300 surgical gloves

Electric skin graft knife system

Surgical gown

External fracture fixation set

Basic surgery set of 27 instruments

