MEDIC
Mobile Expandable Disease Isolation Container

MEDIC is an easily transportable first response unit that, when expanded, can hold up to four patients as well as a work space for doctors and nurses to treat the patients. MEDIC can easily be deployed by four aid workers in the field using without special equipment. Due to its durable construction the unit can stay out in the field for indefinite periods of time.

About the Ebola Virus

Symptoms: Incubation period of 2-21 days, fatigue, fever over 38.3°C, decreased appetite, muscle pain, joint pain, headaches, and sore throat.

Transmission: Body fluids e.g. mucus, vomit, feces, breast milk, urine, and semen penetrating mucus membranes and open wounds.

Delivery & Set Up

1. Truck delivers MEDIC to the site
2. Jacks are unlocked from unit
3. Jacks are extended to the ground
4. Container is lowered to the ground

Section Through Treatment Camp Site

- Service Road
- Diagnostic Rooms / Patient Entrance
- Lab
- Patient Units
- Storage
Distribution Concept

In order to have the quickest response possible, we have proposed to place large warehouses in parts of the country close to major urban populations in addition to smaller, equidistant warehouses in each state so that the units only need to be transported a short distance to affected areas with potentially the highest number of infected people. Other factors that affect their location are the adjacency of Ebola equipped hospitals and international points of entry.

Operability of Module

- Patient to Caregiver Ratio: 4:1
- Patient Container to Caregiver Container Ratio: 4:1

Modularity

Vehicle Type: Tractor Trailer (1 or 2 Containers Attached)

Individual packs are expanded from body on heavy-duty ball-bearing slides.

Jacks are retracted.

Jacks are folded back to original position.

Packs are expanded to full volume and stabilized with adjustable legs.
Patient Living Room

Plan / Circulation

Isometric Diagram

Diagnostic Rooms
2. Supporting Frame
3. Water Pipe *
4. Roof Decking with Skids
5. HVAC System with HEPA Filter *
6. Stretchable Footstands
7. Replaceable tank for Waste
8. Opening to transport Patient
9. Storage
10. Changing Area for Care Givers
11. Disinfection Room
12. Fluorescent Lamp & UV Lamp *
13. Roof with Skylight
14. Electric Cables *
15. Laboratory
16. Patient Rooms

* HVAC & Lighting System

Waste Disposal
All human and water waste is stored in a tank underneath the MEDIC pod and is removed by a dedicated truck before discharged into a sewage network.

Environmental System Diagram

Power and Water Supply from Local Commercial Building

- Water
- Electricity
- HVAC System
- Waste Management

Diagnostic pod is expanded from body
Diagnostic pod is opened
MEDIC is ready for use