Disaster Response Logistics

The devastating effects of the demedicalization of humanitarian aid

Center for Infrastructure, Transportation & the Environment – RPI

Ebola Outbreak – Case study

- Me
- Ebola
- Emergency medical assistance
- Program logistics
- You

Emergency Humanitarian logistics (EHL):
Deploy, maintain, supply and secure emergency programs in critical situation

Program oriented logistics
- emergency care
- food programs
- assistance to displaced population
...including support to epidemics (vacci. + treat.)

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Ebola Virus Disease (EVD)
- Very high case fatality rate (up to 90%)
- Confirmed cases: containment, supportive treatment (symptoms)
- Suspected cases: tracing + isolation
- Population awareness + outreach activities
- Self containment due to natural barrier
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Characteristics of this outbreak:

• Unusual magnitude and severity (urban context, mobile population + poverty + strong traditional rituals)

• Unprecedented and uncontrolled spreading according to a wavering evolution

• Global concern when 1st case infected outside Africa

• Long term + small intensity epidemics in the counties?


West Africa context:
Humanitarian Consequences:

- Rapid contamination with 2.5 infection rate during the peak of the outbreak
- Most devastating hemorrhagic fever (HF) outbreak + indirect consequences on access to healthcare
- Very high exposure and stigmatization of the medical personnel (unusual high mortality rate)
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MSF in VHF situation:
- First intervention: Kikwit 1995
- 15 responses in 20 years
- Public Health Emergency
- Advanced medical expertise + dedicated logistics

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MSF Response:
- March 2014: rapid deployment in HF context
- May 2014: unprecedented outbreak – high intensity response
- June 2014: out of control - Call for extra resources
- Sept 2014: Call for military/civil biohazard control capacity

MSF Response (key figures):
- 3.125 local staff, 300 international staff from 70 countries
- 1.200 tons (7.200 m³) of material, mainly Personal Protective Equipment (PPE)
- 6 ETC + 2 transit center, 620 bed-capacity (ext. 900)
- 6.656 admissions, 4.185 confirmed, 1.842 recovered

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MSF Response:


MSF Response:

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Operational impact:

- High human cost (2,344 patients, 13 staff)
- High financial cost ($140 Mo, 43% for Liberia)
- High internal destabilization
- Not coordinated and isolated response...


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Where is everyone?

“The aid arriving in the field is too slow, with insufficient quantity and is not effective enough” (P. Maurer – ICRC)

- Tardiness of the international community’s financial mobilization
- Largest international aid agencies overwhelmed
- Lack of reactivity from the World Health Organization
- High exposure to contamination

Not Only...


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Major disasters over the past decade
Persisting deficit of appropriate medical assistance in emergency situation

...mainly due to a lack of powerful and adapted logistics

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Ebologistics: Constraints & Challenges

- March: classic + basic deployment (2 ETC - 170 bed capacity)
- April: the outbreak will last longer + much higher nr of patient
- June: Out of control – Need to have more actors involved
- Aug.: 620 bed capacity with potential extension to 900

3 main challenges
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- **Challenge # 1**
  Rapid augmentation of the response capacity
  - Large mobilization of logisticians (Field + HQ)
  - New standard master plan (more patients, less staff)
  - + Corresponding technical plan (adapted flow of patient, staff and material, Energy + water network)
  - + Standard list of items
  - Dissemination MSF projects + other agencies

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- **Challenge # 1**
  Rapid augmentation of the response capacity
  - Crash course sessions (MSF + 20 organisations, 2 to 3 per month)

  *Logistics Training Center Brussels*

- **Challenge # 2**
  Mitigate the vulnerability of the SC
  - Sudden /unexpected increase of emergency orders (PUSH – dispatch – PULL)
  - Little sourcing capacity for critical items (PPE, chlorine, body bags)
  - Fierce competition for procurement (no coordination)
  - Restricted freight shipping + transport of passengers + patients

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- **Challenge # 3**
  Improve the operating conditions of the healthcare personnel

- Dead-body management
- Reduction of temperature (113 ° F)
- Optimization of the working time (PDA, wifi, tablets)
- Improvement of the resting time (single room, food, ..)
- … and many more

Dead body-management

Conclusions:

- Complex emergencies challenging the capacity to rapidly adapt to a sudden/unexpected situation
- Emergency medical assistance needs to be supported by a powerful, strategic and integrated logistics
- You cannot build it in few weeks
- Medical logistics is complex, costly, and risky
- Trend for fast + easy implementation logistics
- Devastating consequences (populations + staff)
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Thank you!