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Using "evidence" to improve the work of foreign medical teams in sudden onset disasters

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Background

- Number of natural disasters increasing, more people affected
 - More relief deployed
 - No legal framework, lack of accountabilitys and professional standards
 - Field hospitals arrive late-after 72h
 - Haiti 2010- "A medical shame"
 - Bad practices
 - 400+ Medical NGOs
-

Lifeline Haiti



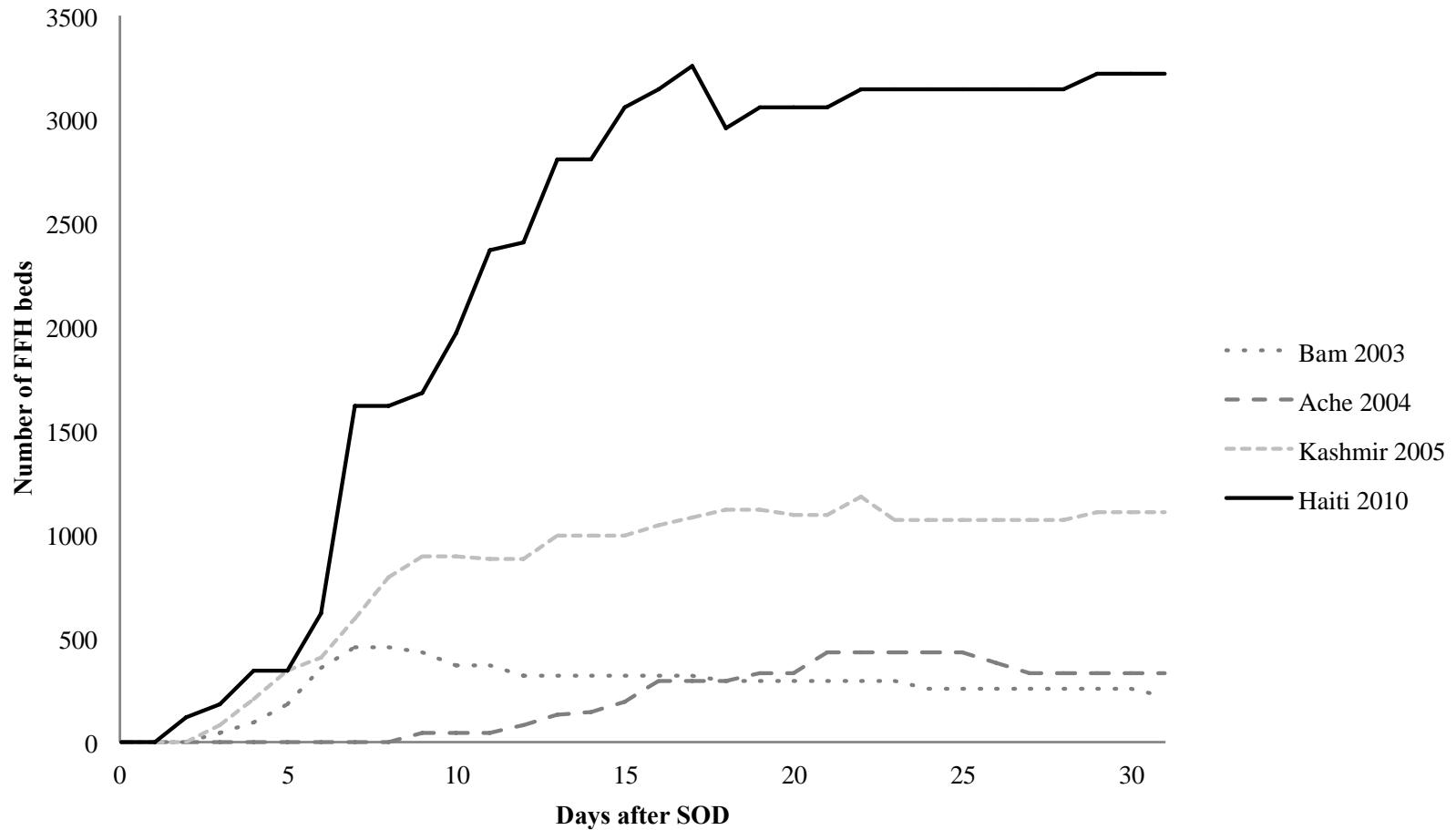
International Medical Corps



MEDECINS SANS FRONTIERE



Number of FFH beds in relation to time in four recent SOD



Data source: von Schreeb J, Riddez L, Samnegård H, Rosling H

“Foreign Field Hospitals in the recent Sudden Impact Disasters in Iran, Haiti, Indonesia, and Pakistan”

Prehospital and Disaster Medicine, 2008, vol 23, no 2

Gerdin M, Wladis A, von Schreeb J “Foreign field hospitals after the 2010 Haiti earthquake: how good were we?”

Emergency Medical Journal, 2012 Mar 7,

Background ctd

- Haiti 2010- "A medical shame"
 - No overview, no transfer no coordination
 - Something **MUST BE DONE!**
 - Cuba meeting 2010
 - Foreign Medical Teams FMT working group created (GHC endorsed, WHO hosted)
 - Aim to improve FMT response- Inclusive process
 - Two reports commissioned
 - FMT Reporting, data collection
 - **Classification of and standards for FMT**
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Terms of reference

To develop a model for simple classification of FMTs with attached standards focusing on trauma care during the first 4 weeks following SOD

The team

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Definitions

- The term **Foreign Medical Team (FMT)**

Describes groups of health professionals and supporting staff outside their country of origin, aiming to provide health care to disaster affected populations. They include governmental (both civilian and military) and non-governmental teams. A FMT has staff to provide basic and/or advanced care during a limited time period in existing or temporary structures, including field hospitals

Challenges

- Lack of data!
 - Poor studies
 - Methods?
 - No sharing of data!
 - Evidence?
 - No legal international framework that regulates relief
 - Professionalism vs Politics
 - Compliance?
 - Ownership of process?
-

Issues to be addressed for FMT classification system

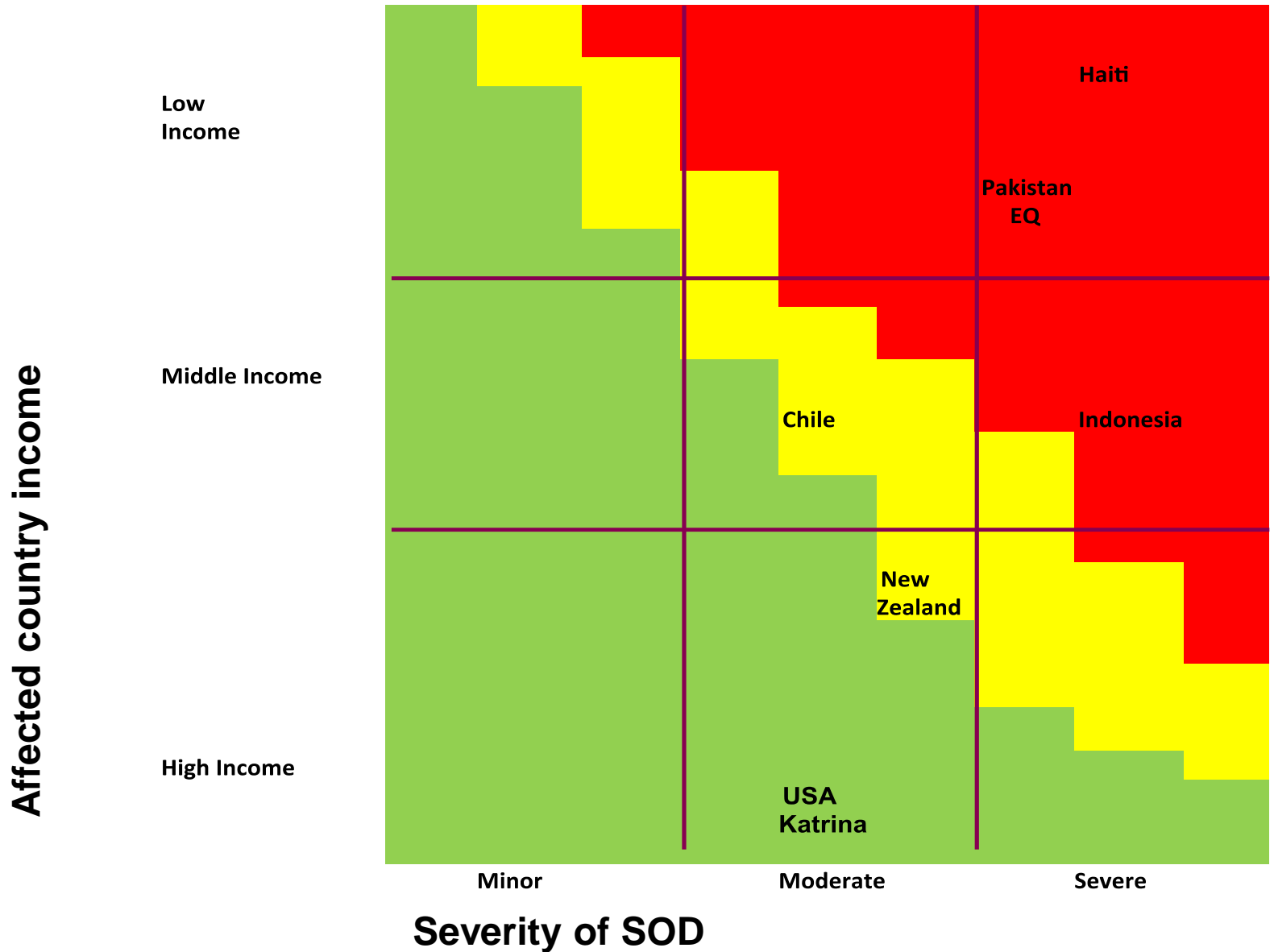
- SIMPLE! Start with SOD first 4 weeks
 - Context adapted !
 - Type of disaster and burden of disease
 - Time factor, needs change
 - Health system approach
 - Based on ***type of facility*** providing care or ***type of services*** provided?
 - Process: Classification-standards-registration-quality-accreditation-accountability ?
-

Methods

- Process guided by "Pragmatic evidence" (theory+practice)
 - Literature review
 - "Systematic reviews"
 - Empirical evidence
 - Expert panels
 - Build stakeholder consensus buy in
-

“Need” for FMT in relation to income and SOD severity

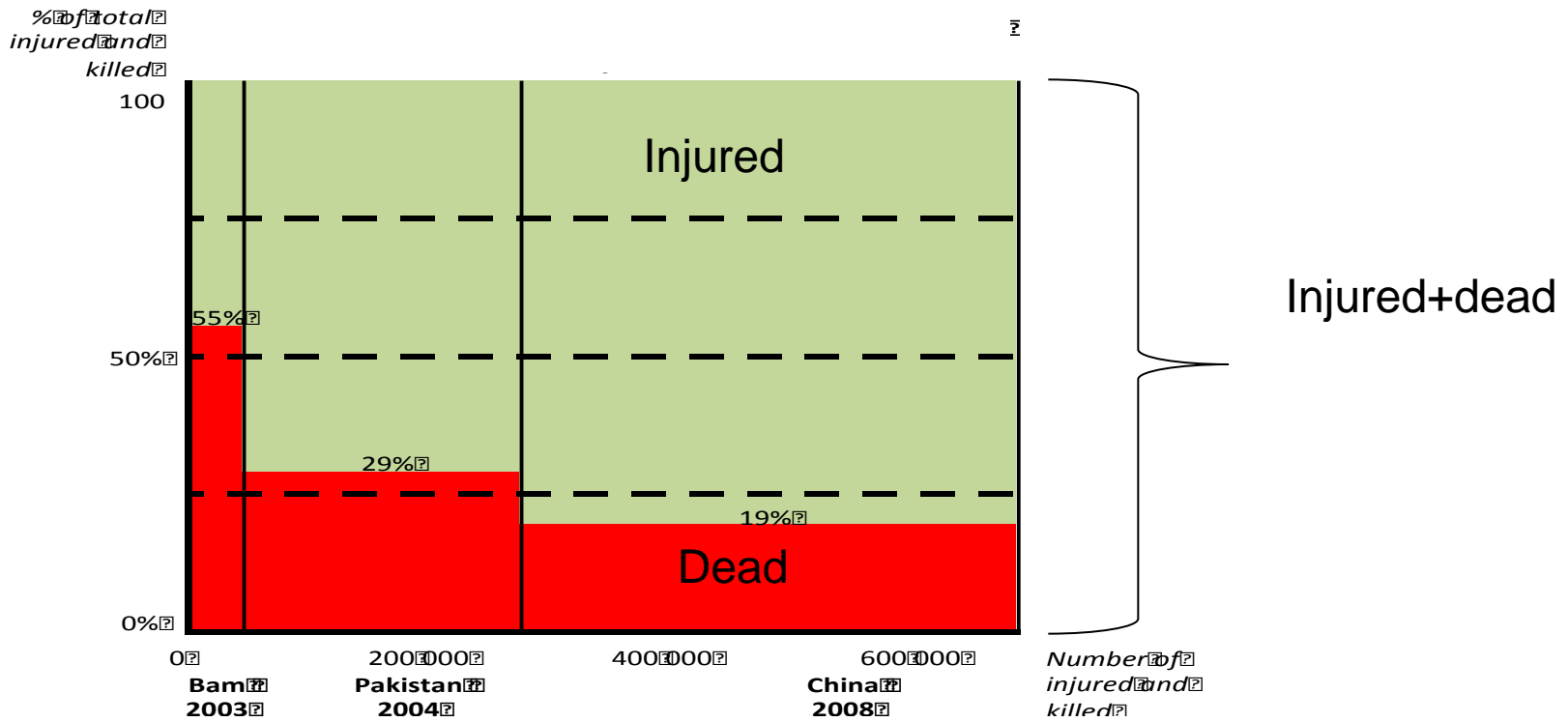
A conceptual model



Expected health effects of Natural disaster

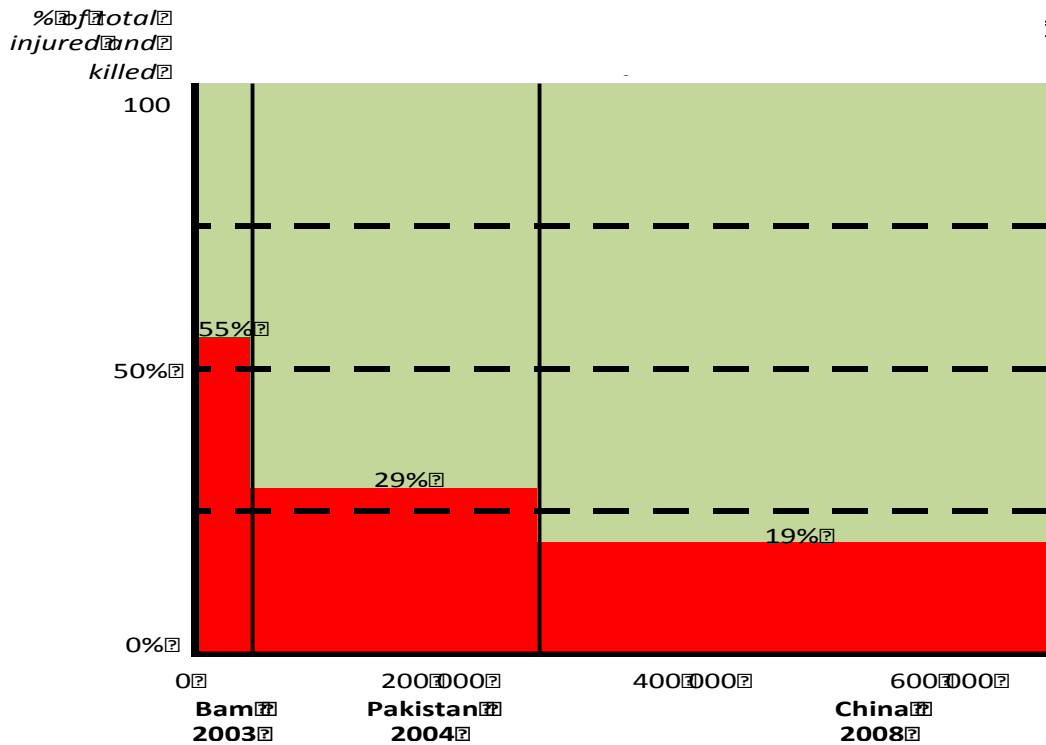


Effect	Earthquakes	Strong Winds	Tsunamis and Flash floods	Ordinary Floods	Landslides	Volcanic and Lava Activity
Loss of lives	High	Low	High	Low	High	High
Severe injuries requiring complex treatment	High	Moderate	Low	Low	Low	Low
Major risk of communicable diseases	Potential risk following all significant phenomena (Likelihood increases with crowding and the degradation of sanitary conditions)					
Damage to health facilities	Severe (structure and equipment)	Severe	Severe but localized	Severe (equipment only)	Severe but localized	Severe (structure and equipment)
Damage to water supply systems	Severe	Light	Severe	Light	Severe but localized	Severe
Food scarcity	Infrequent (generally caused by economic or logistical factors)		Common	Common	Infrequent	Infrequent
Large migrations	Infrequent (common in severely affected urban areas)		Common (Generally limited)			



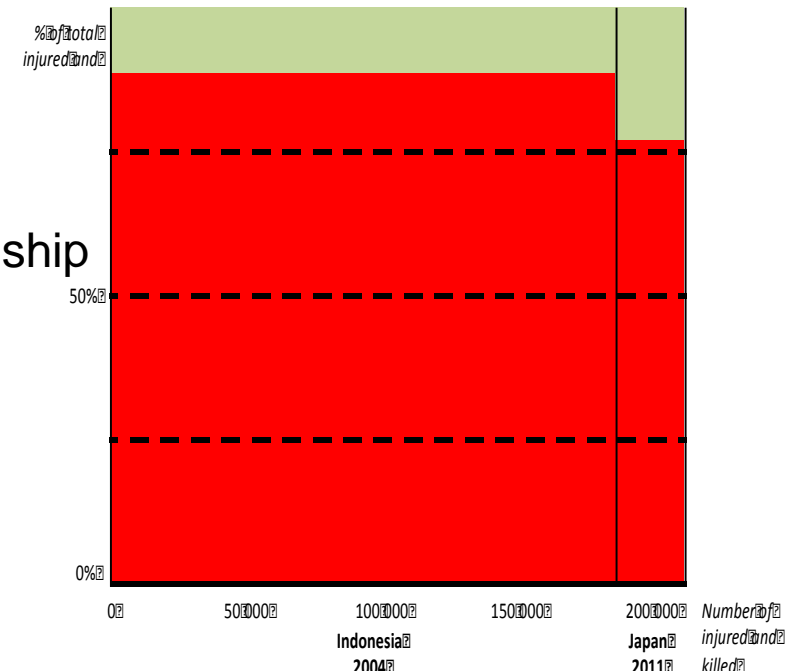
Number of injured and dead and their relationship
 In two recent tsunamis.
 Iran 2003, Pakistan 2005, China 2008

Data source CRED, EM-DAT



Number of injured and dead and their relationship
 In two recent tsunamis.
 Indonesia 2004, Japan 2011

Data source CRED, EM-DAT



Hospital needs/resources over time in a low-income setting

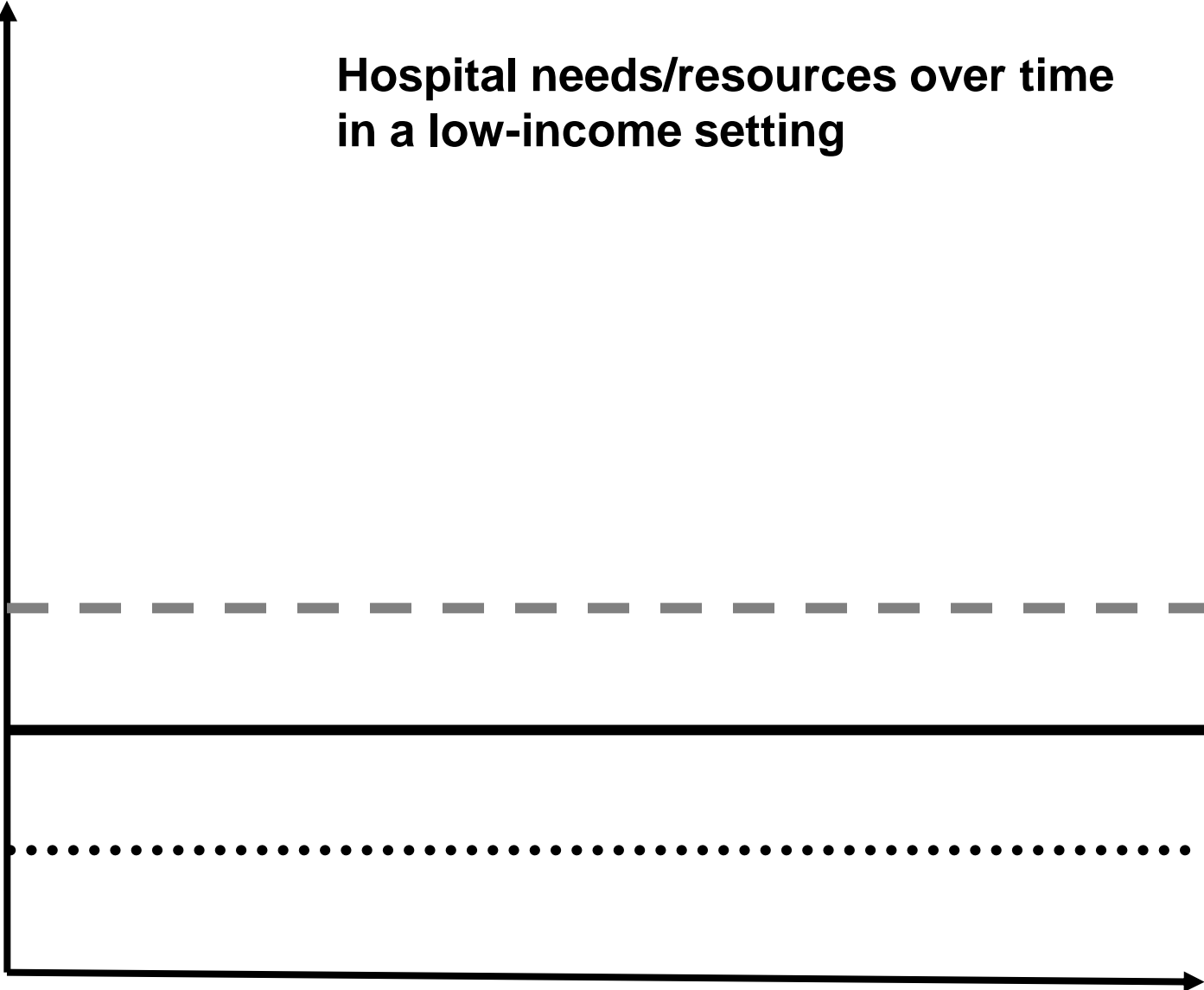
Hospital resources
(need/use)

Non trauma
Emergency

Trauma

Elective

Time



Hospital resources
(need/use)

Non trauma
Emergency

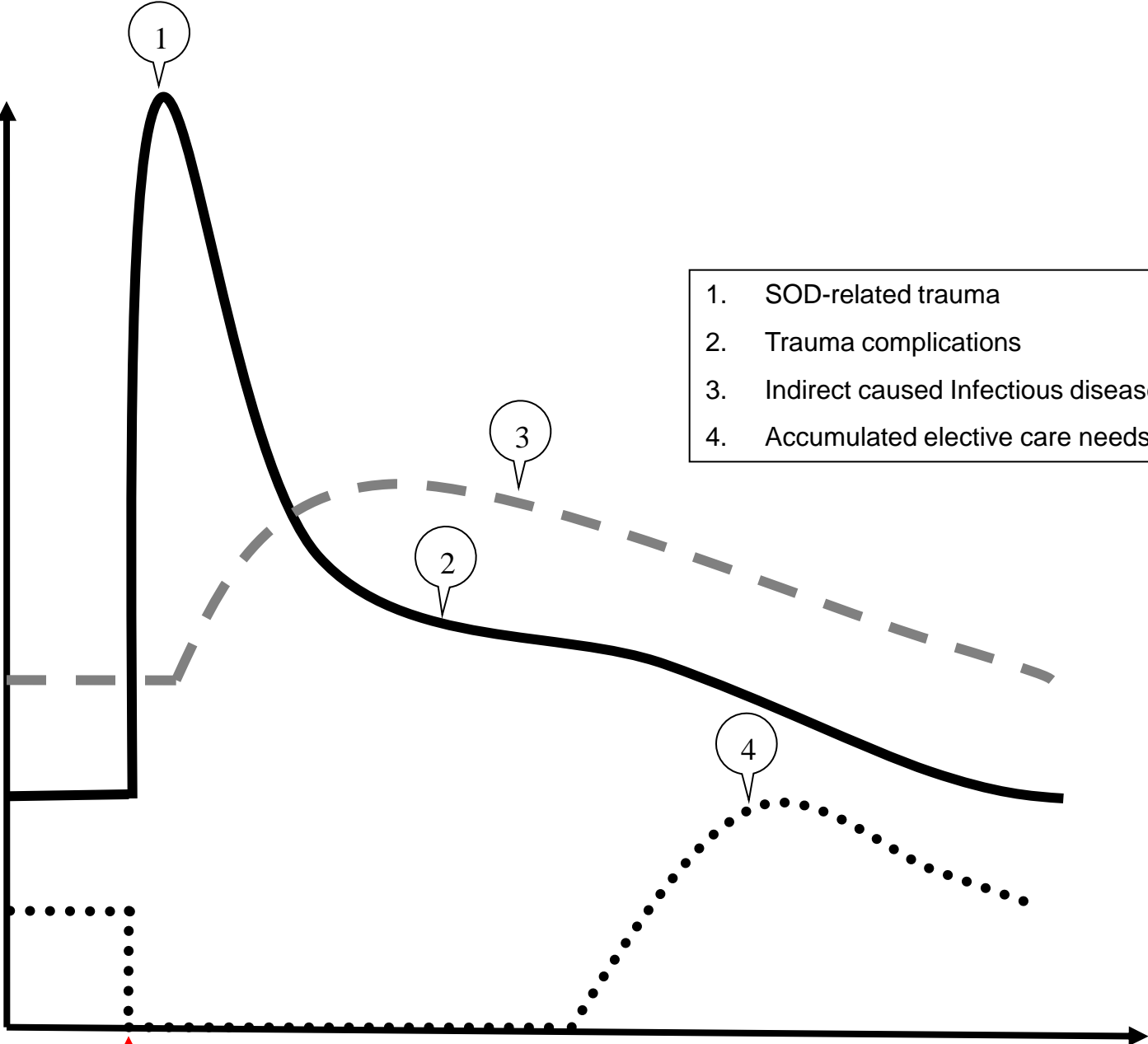
Trauma

Elective

Earthquake

Days after EQ

- 1. SOD-related trauma
- 2. Trauma complications
- 3. Indirect caused Infectious diseases
- 4. Accumulated elective care needs



Von Schreeb, J, et al. Foreign field hospitals in the recent sudden onset disasters in Iran, Haiti, Indonesia, and Pakistan. Prehosp Disaster Med 2008 Mar-April; 23 (2):144-51.

Level 1

- In the context of a SOD, level 1 care is an outpatient service that provides initial emergency care of injuries and other significant health care needs.
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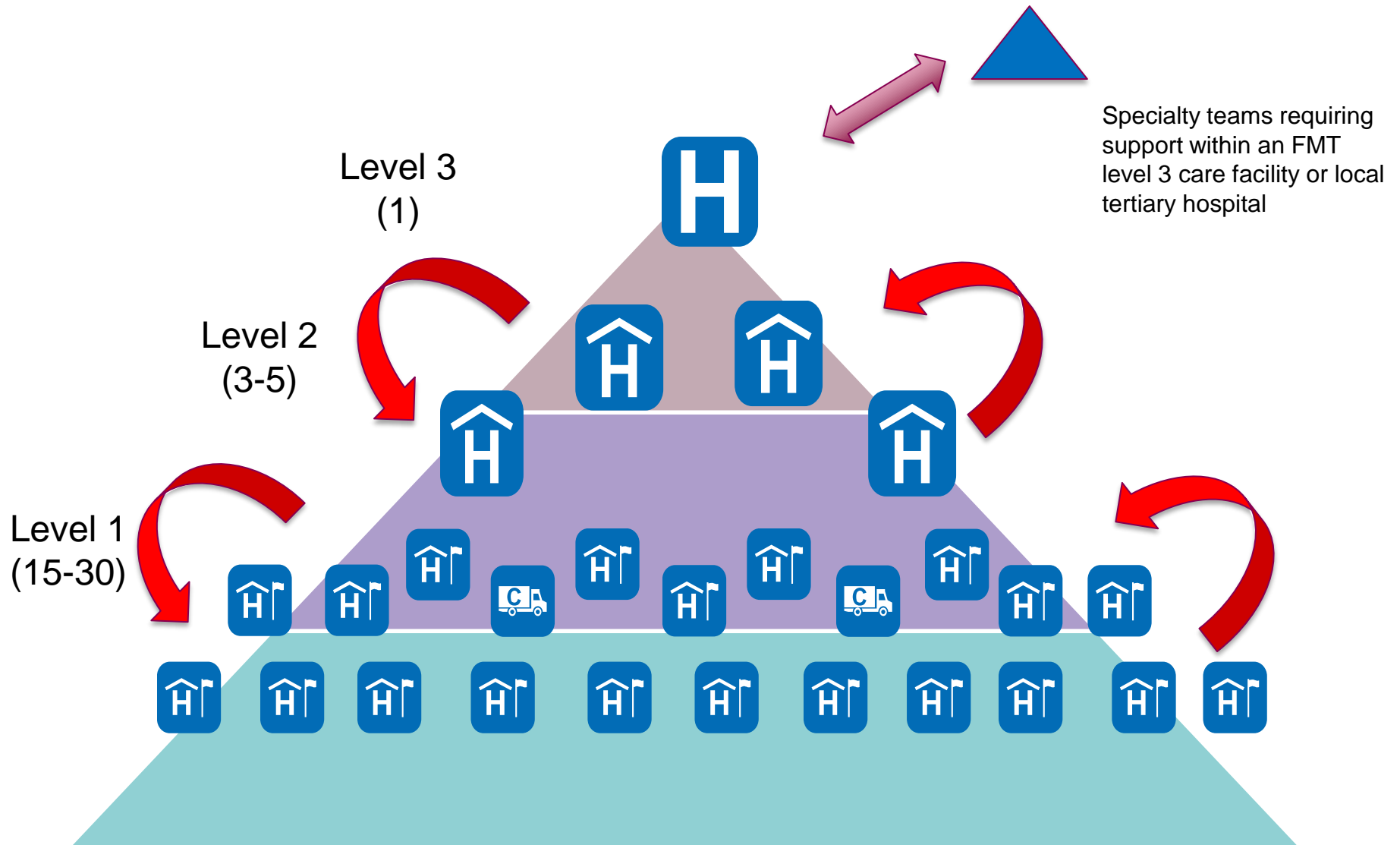
Level 2

- In addition to care provided in a level 1 FMT, level 2 provides inpatient care for significant healthcare needs and diagnostic support without or with or surgical service (Level 2s FMT) Surgical services include emergency orthopaedic, general and obstetric surgery .
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Level 3

- In the context of a SOD, level 3 provides , in addition to level 2, major in and outpatient referral services including advanced anesthesia, intensive care, reconstructive and specialized trauma surgical care and rehabilitation, enhanced diagnostic and support services.
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Health system and levels of FMT care post SOD



Principles and Minimum Standards

- **Principles** (Sphere, IDRL, Medical ethics)
 - **Core standards**
 - Team experience, capacity, management, data collection consent
 - **Professional technical standards**
 - Per level of care
 - Per medical discipline (refer to professional agency standards)
-

Minimum Standards per Service per Level of Care

	1	2	3
Initial assessment and triage	mass casualty and emergency triage	surgical triage	referral acceptance triage
Resuscitation	first aid , basic stabilization	Airway management without mechanical ventilation	Intensive care resuscitation
Wound care	Initial wound care	Full wound care: surgical debridement and burn care, basic flaps, grafts and skin grafts	Reconstructive wound care
Fracture management	Immobilization, PoP and traction devices	Conservation treatment of fraction by traction or PoP, external fixation, amputation	Internal fixation, bone graft, definitive fracture care
Patient stabilization and referral	adequate/inadequate, pathways, communication and documentation, accept/pass referrals	adequate/inadequate, pathways, communication and documentation, accept/pass referrals	adequate/inadequate, pathways, communication and documentation, accept referrals from level 2 and consider referrals to other countries (context, ability to return home)
Communicable disease care	outpatient mangemet and/or referral of diseases such as pneumonia, diarrheal, malaria, etc...	inpatient mangemet and/or referral of diseases such as pneumonia, diarrheal, malaria, etc...	Level 2+ ICU management
Maternal health care	Basic delivery, midwife level (4.2.3/4.2.4/4.2.5), BEOC	Level 1 BEOC + C-section +safe blood tx (CEOC)	Level 2 + ICU management
Child health	MUAC and recognition of malnutrition presentations, sick kids, treatment of severa acute malnutrition	MUAC and recognition of malnutrition presentations, sick kids, treatment of several acute malnutrition	Management of critically ill children including ICU
Non communicable disease emergency care	Ability to manage emergency exacerbations of NCDs as an outpatient	Ability to manage emergency exacerbations of NCDs as an inpatient	Ability to manage emergency exacerbations of NCDs as an inpatient + ICU
Mental Health	Staff able to identify and triage those suffering from psychosocial trauma requiring further assistance.	Psychosocial support for inpatients in a culturally appropriate way	Psychosocial support for inpatients in a culturally aproprate way
Laboratory	Glucose, RDT Malaria, hemocue	Level 1+ Walking blood bank, expanded RDT range (HIV), sample collection and transport	Level 2 + electrolytes/U, Cr, blood gas, FBC, 24/7
Pharma	It should have analgesia, antibiotics, tetanus prophylaxis and material to treat 150 OPD per day for 2 weeks	Level 1 + Analgesia (pre op and post op) and material for 15 operations per day for 2 weeks, tetanus immunoglobuin, reference drug list, cold chain and inpatient treatment of communicable diseases/ NCD context specific	Pharmacy with cold chain, expanded reference drug list
Radiology	None	Basic X-ray	X-ray , US
Sterilization	Single use items or "pressure cooker" sterilizer or access	Desinfection and autoclave or steam sterilization with with traceability	Disinfection and autoclave or steam sterilization with traceability
Logistics	Self-sufficient for 1 week	Self-sufficient for 1 week	Self-sufficient for 1 week
Ward	None	Capacity to care for 20 inpatients 24/7	Capacity for isolation, look up standards for nurse/support staff ,Minimum 20 acute post operative beds per OT table
OT	None	1 operating room and table, recovery room, capacity 15 surgeries per table per day (24h)	OT with 2 operating tables with air filter, water control, ability to separate clean and contaminated wound surgery,recovery room
ICU	None	None	designated area , more and specialised staff, material, inotropic drugs, oxygen , continuous non invasive monitoring, 3 beds
HR	5 staff , mix of doctors and nurses, experienced in emergency medicine and primary health care according to context	For OPD Level 1 + 2 General surgeons experienced in trauma limb care and emergency obstetric care, 5 OT staff, ward nurse to bed 1:8 , ward nurse to doctor 3:1, anesthetic to surgical tech 1:1, 1 anesthetic doctor	Specialist surgeon (reconstructive, ortho, obstetric), anesthesiologist, OT n urse, ward nurse
Rehab	None	post op rehab for trauma related injuries	advanced rehab with linking to prosthetic services
			peripheral blocks, gas is essential ,pediatric and complex general

Canadian Journal of
Anesthesia/Journal canadien
d'anesthésie

ISSN 0832-610X
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(2010) 57:1027-1034
DOI 10.1007/
s12630-010-9381-6



International Standards for a Safe Practice of Anesthesia 2010

Alan F. Merry, FANZCA • Jeffrey B. Cooper, PhD •
Olaitan Soyannwo, MMed • Iain H. Wilson, FRCA •
John H. Eichhorn, MD

Acute kidney injury in critical illness

Renal support in critical illness

Special Articles

An iterative process of global quality improvement: the International Standards for a Safe Practice of Anesthesia 2010

International Standards for a Safe Practice of Anesthesia 2010

Perioperative Cardiovascular Rounds

Hemodynamic rounds: Ascending aortic dissection as a mechanism of hemodynamic instability

Available
online

 Springer

Summary

- Improved FMT response is needed!
 - Accountabilities and professional standards must be established
 - A classification system start of the process
 - A simple systems with three levels suggested
 - Consensus process to get buy in
 - Evidence is desperately needed to define
 - Acceptable methods
 - Standards
 - Treatment protocols-MESH score
 - Profesional benchmarking
 - What entity should be responsible?
-

REVIEW ARTICLE

Surgical management of closed crush injury-induced compartment syndrome after earthquakes in resource scarce settings—an overview of reviews

Martin Gerdin, Andreas Wladis, MD, PhD, and Johan von Schreeb, MD, PhD, *Stockholm, Sweden*

Journal of Trauma and Acute Care Surgery:
September 2012 - Volume 73 - Issue 3 - p 758–764
doi: 10.1097/TA.0b013e3182513363





