

The Art of chaos management in Mass Casualty Incident.

An Experience Beyond..

DR MOHAMED ALWI BIN HJ ABDUL RAHMAN

CONSULTANT AND HEAD OF EMERGENCY
DEPARTMENT

DIRECTOR OF DISASTER MANAGEMENT
TRAINING

HOSPITAL SELAYANG

MINISTRY OF HEALTH MALAYSIA





“IN THE MIDST OF CHAOS,
THERE IS ALSO OPPORTUNITY”

SUN TZU



Introductions

- **Why crisis Management is important in Emergency and Public Health**
- **Chaos Complexity ,Incident Command system and Consequent Management**
- **Lesson Learnt in Disaster Management. Sharing Global Experience**
- **Mental health care and Risk Communications**
- **Conclusion**

What is Crisis & Crisis Management?

Crisis (DEFINATION) :

Any situation that is threatening or could threaten to harm people or property, intense time pressure, high stress, and the need for rapid but careful decision making.

Crisis Management

Also referred to as....

Disaster recovery



Organization continuity planning

Types of Crisis :

ROUTINE

Known risk with
plan and
procedures

NOVEL

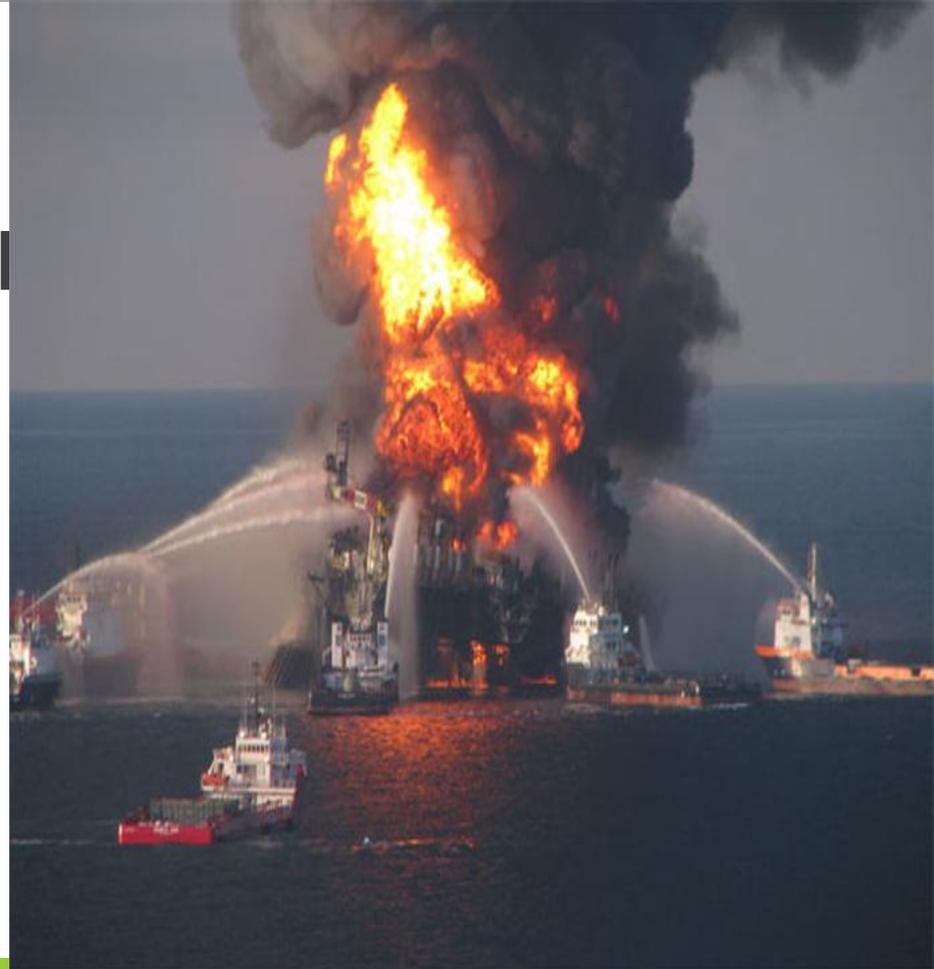
Exhibit unusual
frequency and
impact-No
plans

Test leadership decision making and strategic thinking abilities e.g
Terror attacks

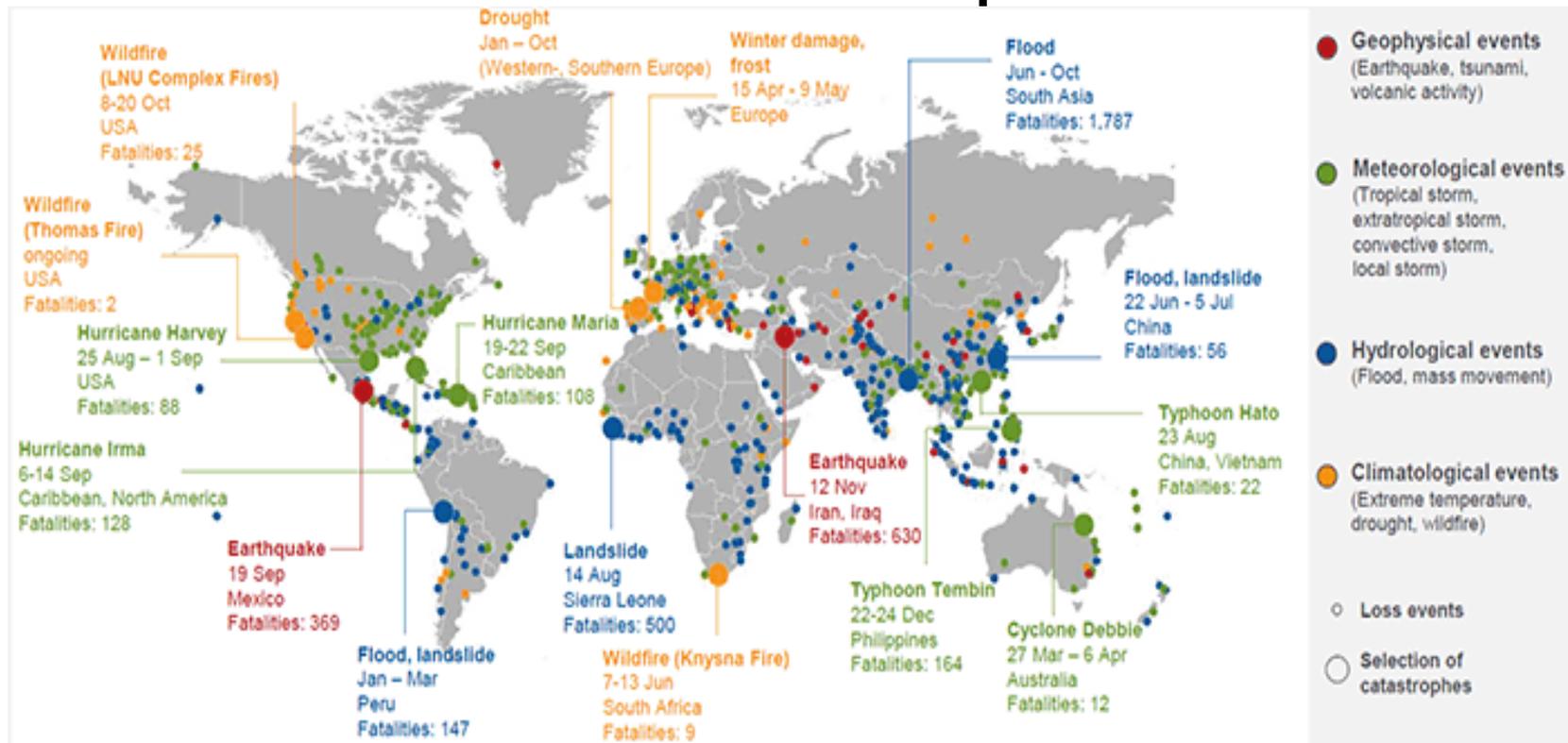
Crisis can overwhelmed by informations and communications

6 Phases of Crisis

- Early Warning
- Risk Assessment
- Response
- Management
- Resolutions
- Recovery



Disaster Preparedness: World Natural Disaster Report-2017



Natural Disaster:335

Affected populations: 96 million people

Fatal:9697 people

Economic damage:334 billion

source: CRED



ONE ASEAN
ONE RESPONSE

ASEAN DISASTER STATISTICS 2018

The presented data is consolidated from National Disaster Management Organisations of ASEAN Member States and other relevant agencies.



FLOOD	56.56 %
LANDSLIDE	9.58 %
TSUNAMI	0.13 %
STORM	9.96 %
DROUGHT	2.59 %
WIND	16.02 %
VOLCANO	1.95 %

Chaos in Organizations....

What are the worst things that can happen to my organization?

What can we prevent?

What are we willing to do to prevent the event/incident?

Can we afford the risk?

How will we deal with it?

What is the reporting and communication process during the crisis?

How to manage Crisis And Mass Casulty Incident



Principles of crisis management

Lead
Decisively

Continuously
frame the
crisis

Actively
communicate-
control the
message

Be Ready for
the
unexpected

Manage the
life crisis cycle

Navigate
towards
actionable
intelligence-

Unpredictable
for critical
event

Crisis Management Timeline

General Management of the Organization

The Crisis Management Process

Risk Management

- Risk assessment
- Prevention & Mitigation
- Develop responsive & comprehensive program
- Communicating risk issues

Incident management

Incident response

Communications

Activating and executing plans

- Mitigation
- Organization resumption
- Recovery

Insurance recovery

Pre-Event

Crisis/Event

After

Elements of Crisis Management

Policy and Leadership

- Provides foundation, framework for action

Emergency/Crisis Management Plan

- Provides structure, mechanisms for operational response

Organization Crisis Response Plan

- Building plan operates within framework of various level
- Provides roles, responsibilities for staff
- Coordinated response to more frequently occurring incidents

Potential Consequent Management of Chaos

- Injuries and loss of life
- Destruction of properties and infrastructure
- Disruption to essential services
- Disruption to governmental systems
- Sociological and psychological after effects



Realities in Crisis Management

- Prompt action reduces collateral damage, length of crisis & moves situation to quicker resolution
- Important decisions made before crisis ever occurs (**Structure, Process, Leadership**)

CHAOS MANAGEMENT IN DISASTER

Chaos is experienced when strategies fail especially within the first 72 hours of disaster.

Pine, John. (2006). "The Contributions of Management Theory and Practice to Emergency Management", In McEntire, David (ed.) Disciplines, Disasters, and Emergency Management. Federal Emergency Management Agency: Emmitsburg, MD

It proposes a flexible organizational structure which grounds on alteration and enables continuous flow of information instead of linear approach; which is simply based on command and control

Chaos Management In Disasters

Risk Management

- mitigation, preparedness, prediction and early warning and disaster awareness

Crisis Management

- post disaster work ie impact analysis, response, amendment & reconstruction

MCI is any incident where the need for patient care overwhelms the resources available

Disaster Preparedness Training During Medical School among Interns in Malaysia

Tey, Park J , Yeap, Abdul Rahman M .

Introduction

There has been a world-wide increase in disaster occurrence. Despite being an important aspect of medicine, disaster preparedness is not included in conventional medical education. Although disaster management is one of the core competency topics for interns doing emergency medicine rotation in Malaysia, there is no national consensus on its curriculum, be it for undergraduate or internship training.

Aim

This study aims to assess prior disaster preparedness training among interns in Malaysia.

Method

71 interns attending a national disaster management course tailored for interns were enrolled to answer a survey on type and duration of prior disaster preparedness training received during medical school, followed by an expert-reviewed pre-test to evaluate their knowledge on disaster preparedness.

Results

A total of 67 completed surveys were collected. The respondents represented 39 medical schools from 9 different countries.

Only 26.9% (n=18) of interns received formal training in disaster preparedness in medical school; 72.2% included formal lectures, 44.4% had practical skill stations, and 27.8% underwent disaster drills/simulations.

Training in natural disaster was the most common (77.8%); and the least common training was in CBRNE events (27.8%).

The majority of interns (72.2%) who did receive formal disaster training had less than 4 hours of training in medical school.

Interns who have undergone prior training in medical school scored better in the pre-test (mean = 11.1) compared to those without (mean = 9.9).

Discussion

This survey demonstrated that most medical graduates in Malaysia entered internship without receiving any form of disaster preparedness training. There is a pressing need to incorporate disaster preparedness in undergraduate medical education. A national consensus in disaster training for medical students and interns should be developed. With adequate training, the national emergency disaster response workforce can be improved and expanded.



Malaysia-2014 Floods

15th December 2014 to 3rd
January 2015

Worst floods in decades

More than 200,000 people
affected

21 were killed

Involving more than 6 states



Problems with MCI's

Lack of
Communication

Lack of
central
command
and control

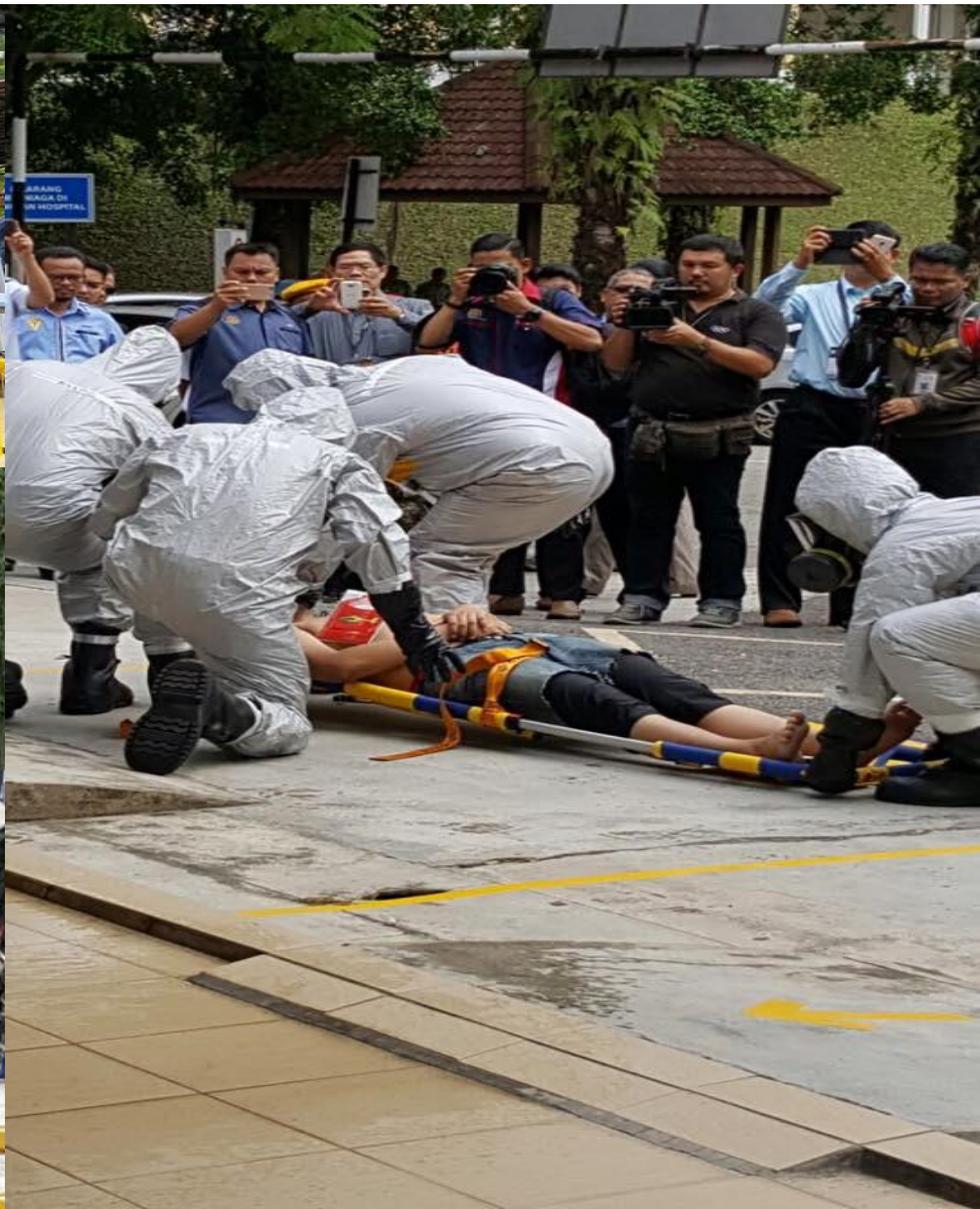
Hospitals
being
Overwhelmed

No life
threat
stabilization

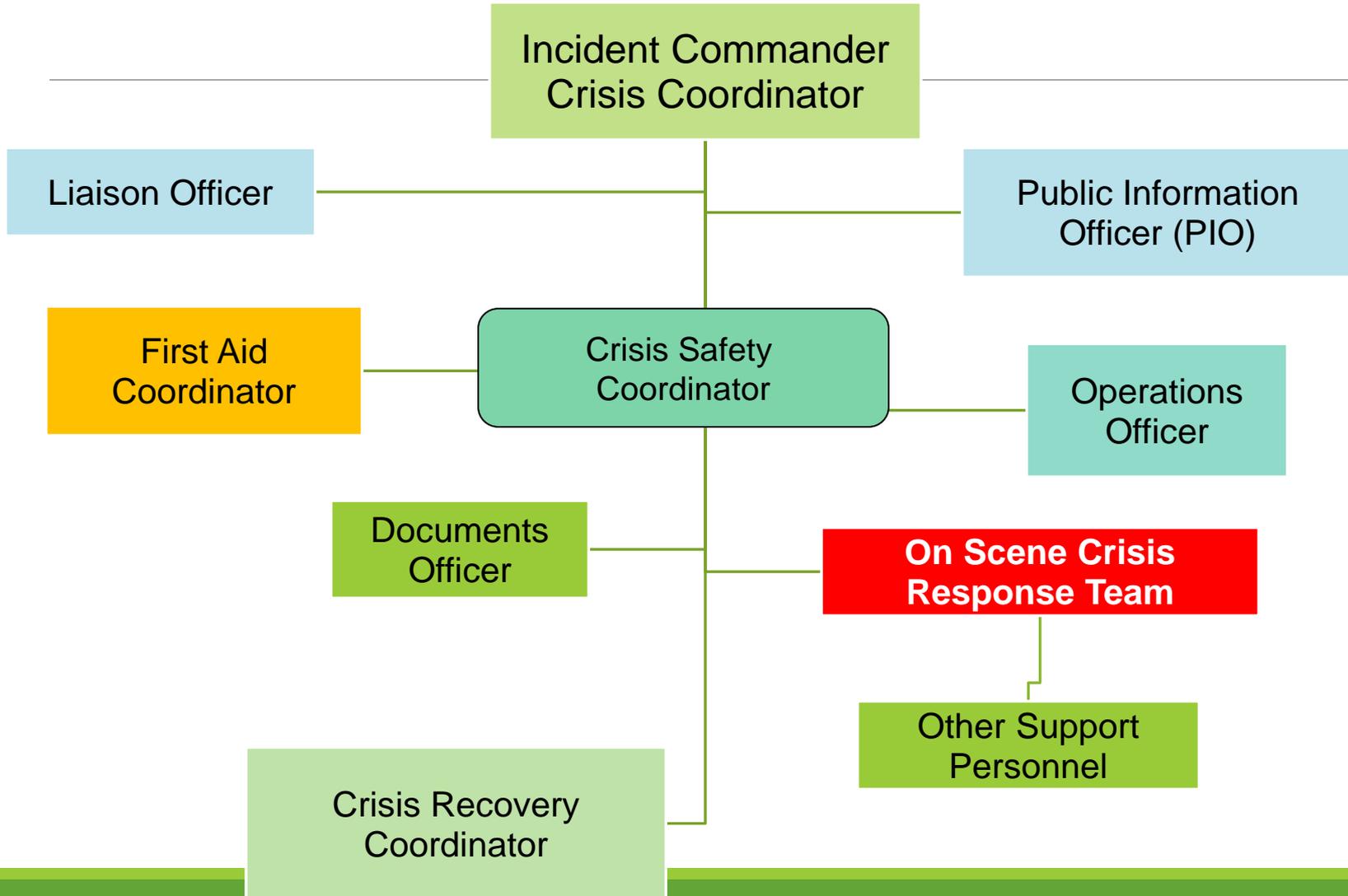
Poor
triage

Too many
authoritative
figures, too few
rescuers to do
simple tasks

International CBRNE Simulations Exercise 2016



Incident Command System



Incident Command System

Establishes common organizational structure, operating procedures

Places one person in charge of decision-making; creates chain of command

Provides for quick, effective performance

Establishes a reasonable span of control

Provides for effective coordination, transition of responsibility/authority w/ crisis responders

**Incident
Command**



The evolution of shortcomings in incident command system: Revision have allowed critical management functions to atrophy

Stambler KS, et al. J Emergency Manag. 2015 Nov- Dec

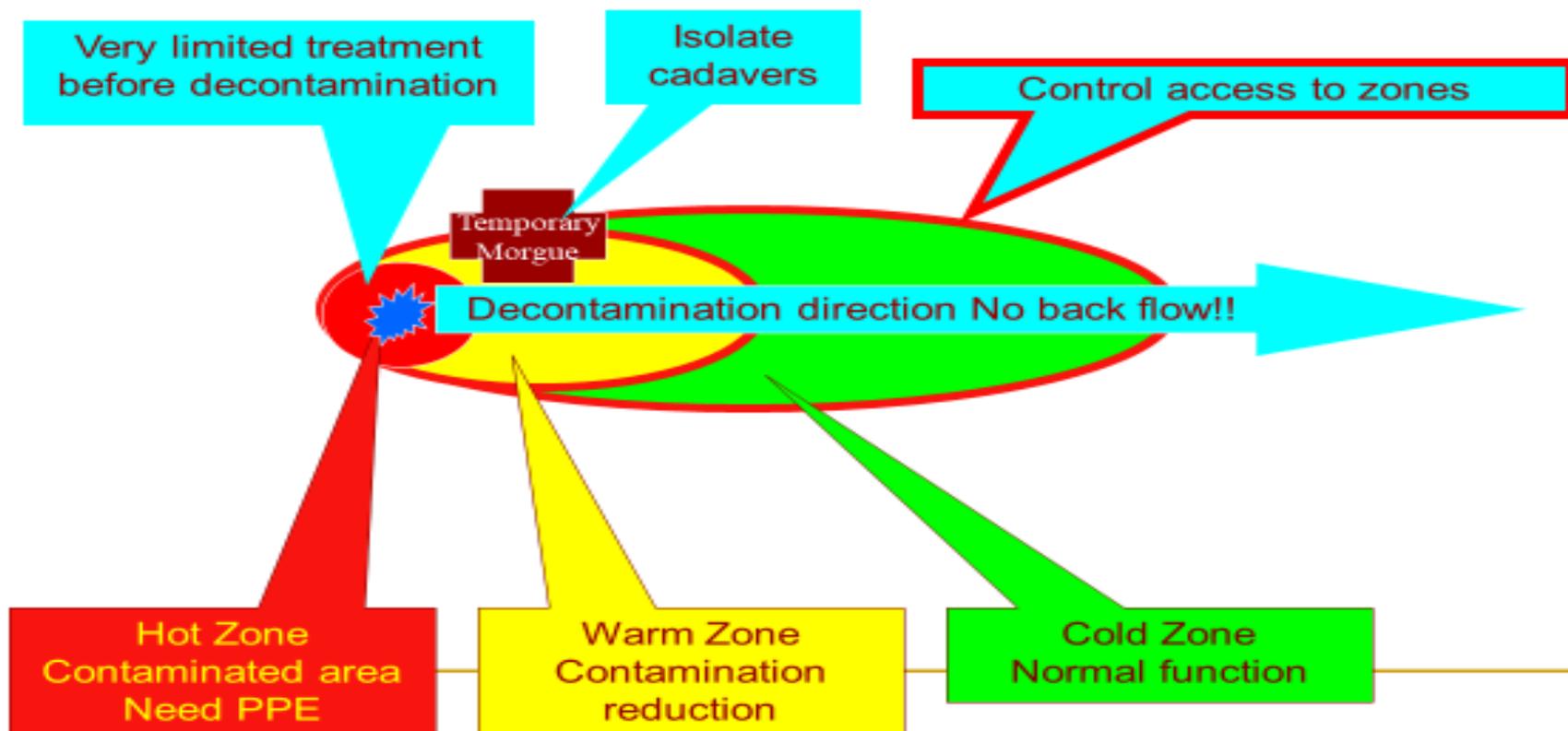
Abstract

The original Incident Command System (ICS) was created through the federally funded Firefighting Resources of Southern California Organized for Potential Emergencies (FIRESCOPE) program. Initially developed as one element of multiagency coordination for managing severe wildfires, the FIRESCOPE ICS guidance was adopted and evolved through increasingly routine wildl and firefighting. It then was modified for all hazards for the fire service. Only later, through the National Incident Management System (NIMS), was ICS officially adopted for all hazards and all responders. Over this multidecade evolution, the current NIMS ICS version became simplified in several key areas compared to the original, robust FIRESCOPE ICS. NIMS ICS is now promulgated as guidance for managing today's novel, complex, and lengthy disasters involving multidisciplinary response but experiences recurrent problems in key functions. **This article examines the history of the subtle, yet critical differences in current ICS compared to the original system design, and focuses on information dissemination and intermediate, long-range and contingency planning. ICS transitions resulted in simplification and consolidation of positions and functions, without recognizing and maintaining critical position tasks necessary for managing complex, extended incidents.**



Less is more

Zone rules



Communications

... is the foundation of any crisis planning, implementation, management, and recovery effort.

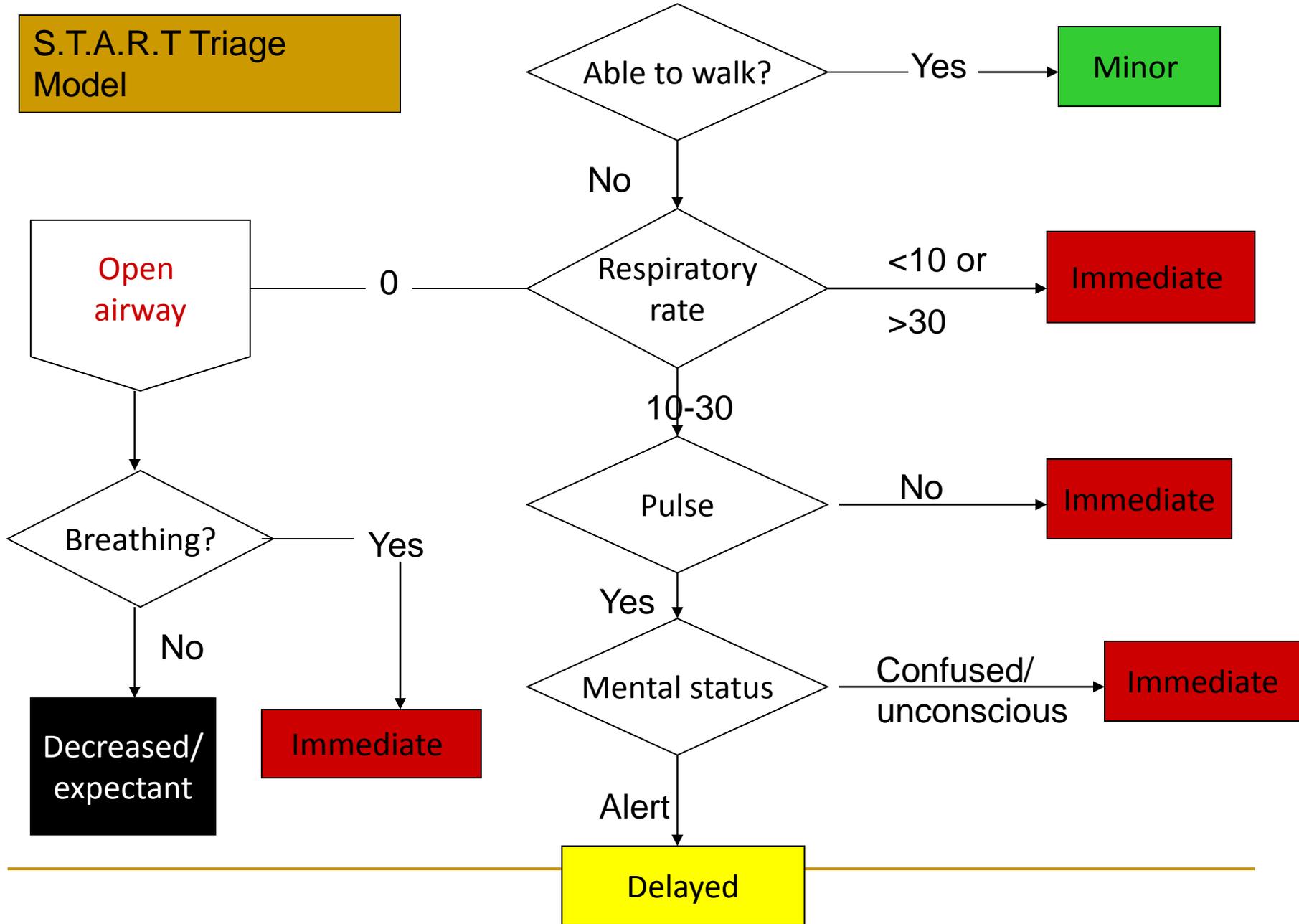
- Establish command center, functions
- Communicate internally first, then public
- Anticipate and meet needs of media
- Ensure key messages are understandable, honest & consistent
- Correct inaccurate, misleading information fast
- Stay in contact with victims families

Transform Chaos to calm - Triage

Requires situational awareness,
decisiveness & clinical expertise

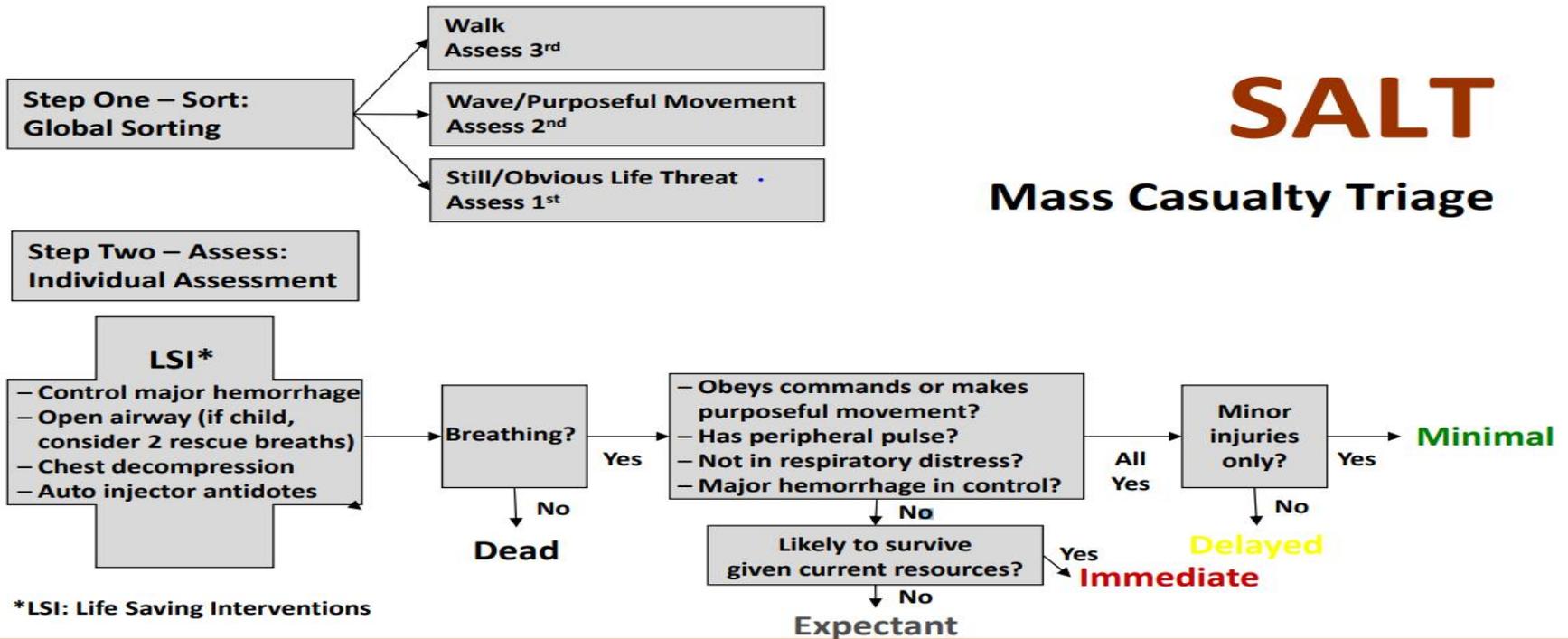
Requires planning, training,
experience, leadership and flexibility.

S.T.A.R.T Triage Model



SALT

Mass Casualty Triage



TRIAGE CATEGORIES

SALT Triage Categories



Abstract:

Comparison of START and SALT TRIAGE methodologies to reference standard definitions and to a field Mass casualty simulations

Silvestri S, et al. Am J Disaster Med.2017.

OBJECTIVES:

We compared Sort, Assess, Lifesaving Intervention, Treatment/Transport (SALT) and Simple Triage and Rapid Treatment (START) triage methodologies to a published reference standard, and evaluated the accuracy of the START method applied by emergency medical services (EMS) personnel in a field simulation.

DESIGN:

Simulated mass casualty incident (MCI). Paramedics trained in START triage assigned each victim to green (minimal), yellow (delayed), red (immediate), or black (dead) categories. These victim classifications were recorded by investigators **and compared to reference standard definitions of each triage category**. The victim scenarios were also compared to the a priori classifications as developed by the investigators.

SETTING:

MCI field simulation.



MAIN OUTCOME MEASURE:

Comparison of the correlation of START and SALT triage methodologies to reference standard definitions. Another outcome measure was the accuracy of the application of START triage by EMS personnel in the field exercise.

RESULTS:

The strongest correlation to the reference standard was SALT with an $r = 0.860$ ($p < 0.001$) and $\kappa = 0.632$ ($p < 0.001$). START and SALT triage systems agreed 100 percent on both black and green classifications. There were significant correlations between the field triage and both START and SALT methods ($p < 0.001$, respectfully). SALT had a significantly lower undertriage rate (9 percent [95%CI 2-15]) than both START (20 percent [95%CI 11-28]) and field triage (37 percent [95%CI 24-52]). There were no significant differences in overtriage rates.

CONCLUSIONS:

The SALT triage system was overall more accurate triage method than START at classifying patients, specifically in the delayed and immediate categories. In our field exercise, paramedic use of the START methodology yielded a higher rate of undertriage compared to the SALT classification.



Nepal Earthquake 2015



Humanitarian Assistance and Medical Aid to Nepal Earthquake Victims

izzat I, Abdul Rahman.M.

Abstract:

A powerful 7.8 magnitude earthquake that hit Nepal on 25th April 2015 is the worst since 1934 striking less than 80km northwest of Kathmandu that left more than 8000 deaths and affected 4.5 million people. From the 3rd to 9th May 2015, A 16 member Volunteer medical team with the assistance from Malaysian National Security Council and requisition from the Ministry of Health Nepal deployed 18 medical volunteers to Phalate Bhumlu, Kavre District, in a remote mountainous region in Nepal. **The volunteers were the first medical team to arrive at the outpost and provided assistance to 3000 victims, which includes emergency medical treatment as well as 16 tones of food, blankets, tents and other supplies. During the mission the team allocated specialists to the ground zero hospital and setup mobile field clinic far reaching into the affected areas.** There were no paved roads and certain areas accessible only by foot in order to reach the victims.

Conclusion: The volunteers required to use their remote medicine skills and spent the night in the mountain. Most of the victims treated were elderly, women and children. Their condition varies from minor trauma related injuries to acute respiratory illness from exposure to cold weather living in the open environment.



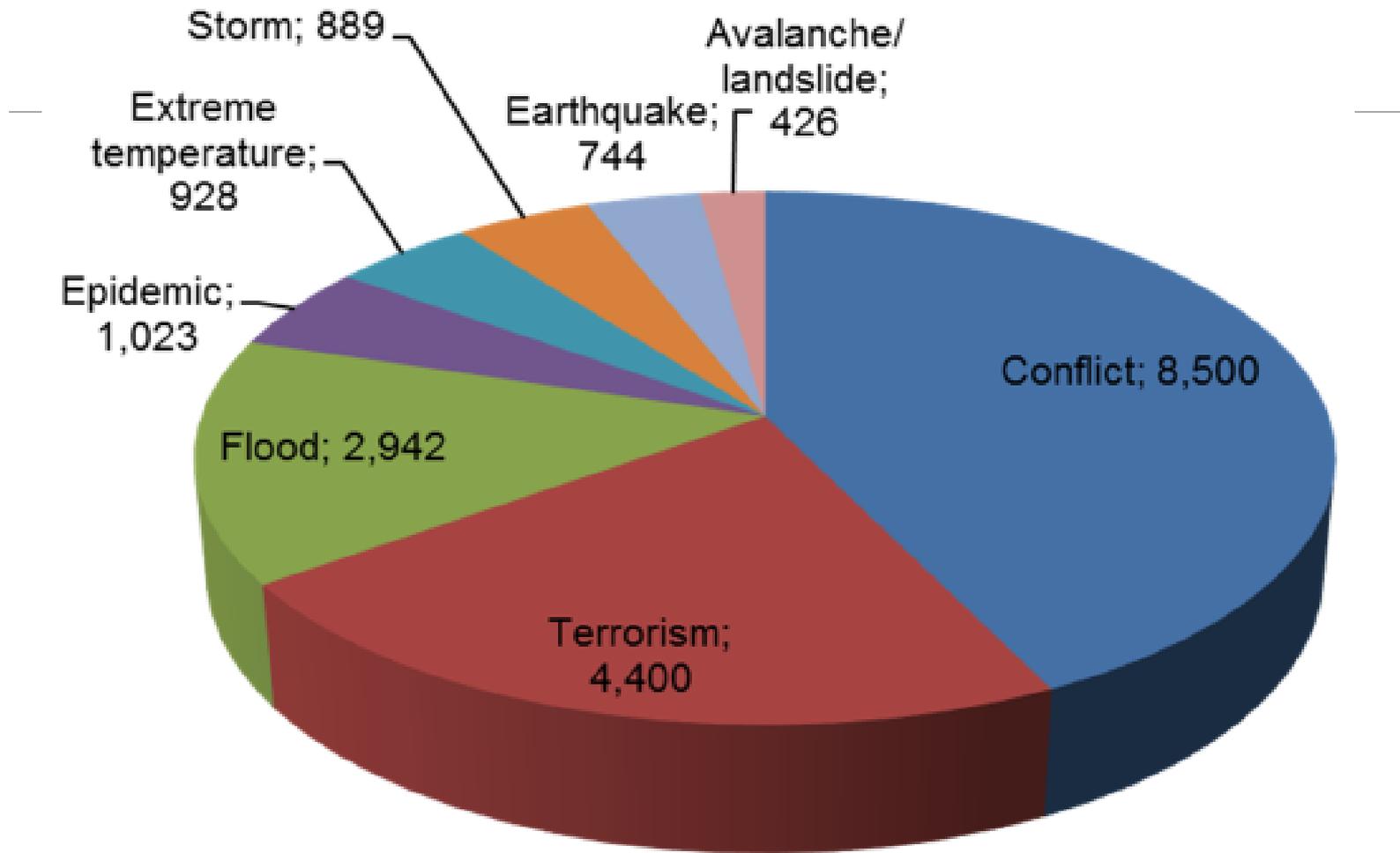
Lesson Learnt from Mass fatalities/ Dead bodies- Tsunami 2004

The Sumatra-Andaman earthquake and tsunami of 26th December 2004 led to an estimated 226,408 deaths across South Asia.

- Lack of co-ordination between different organizations, communities and family members .
- Inadequate and Lack of process for body recovery across three countries.
- Bodies were taken to multiple locations for disposal



Mass fatality incidents: number of deaths by event type (2012)

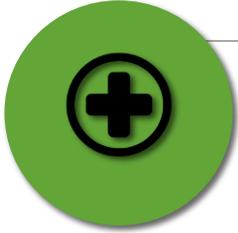


Data Source: EM-D.

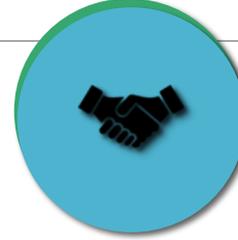


Search and Rescue HAIYAN CYCLONE

MENTAL HEALTH CARE



Principles of “psychological first aid” and its benefits in crisis preventions strategies



Crisis have an impact on entire communities resilience



Psychological impact on Health care provider and Business continuity plan



Conclusion

The chaos of a catastrophic event impedes decision-making and effective treatment of patients.

Triage and crisis management represent a tactical art that incorporates clinical skills, information management, communication ability, leadership, and decision-making

Enhancing current technology including enhancing intraoperability, artificial intelligence, training and skills to bring order to the chaos of overwhelming disaster events.

Nepal Earthquake 2015

