

Managing MCI's - Real Life Experiences



**Canterbury
Earthquakes - 2011**



**Kaikoura
Earthquake - 2016**



**Christchurch Terror
Attacks - 2019**



**Whakaari White
Island Eruption - 2019**

DEAN BROWN: Critical Care Paramedic & Co-Founder of Triage-Plus

Personal Experience



**Canterbury
Earthquakes - 2011**



**Christchurch Terror
Attacks - 2019**



- **Currently Critical Care & Flight Paramedic with Heli Otago - Queenstown NZ**
- **27+ Years frontline prehospital emergency medicine with St John Ambulance including road-based ambulance & HEMS**
- **A decade plus as a single crewed ICP/CCP working in a rapid response unit**
- **Offshore in various locations**

DISCLAIMER:

Information contained in this presentation are a matter of public record and my own views and opinions and **do not** represent those of St John or my current employer




READY TO RESPOND
KIA MATAARA
CENNZ CONFERENCE 2023
19-20 October 2023 | Christchurch



The 51 Murdered and 40 Injured on March 15th, 2019

In Memory of all those lost and injured by Mass Casualty Incidents across the globe, to their family & whanau and especially to all those that respond and give everything of themselves to look after these victims



2004

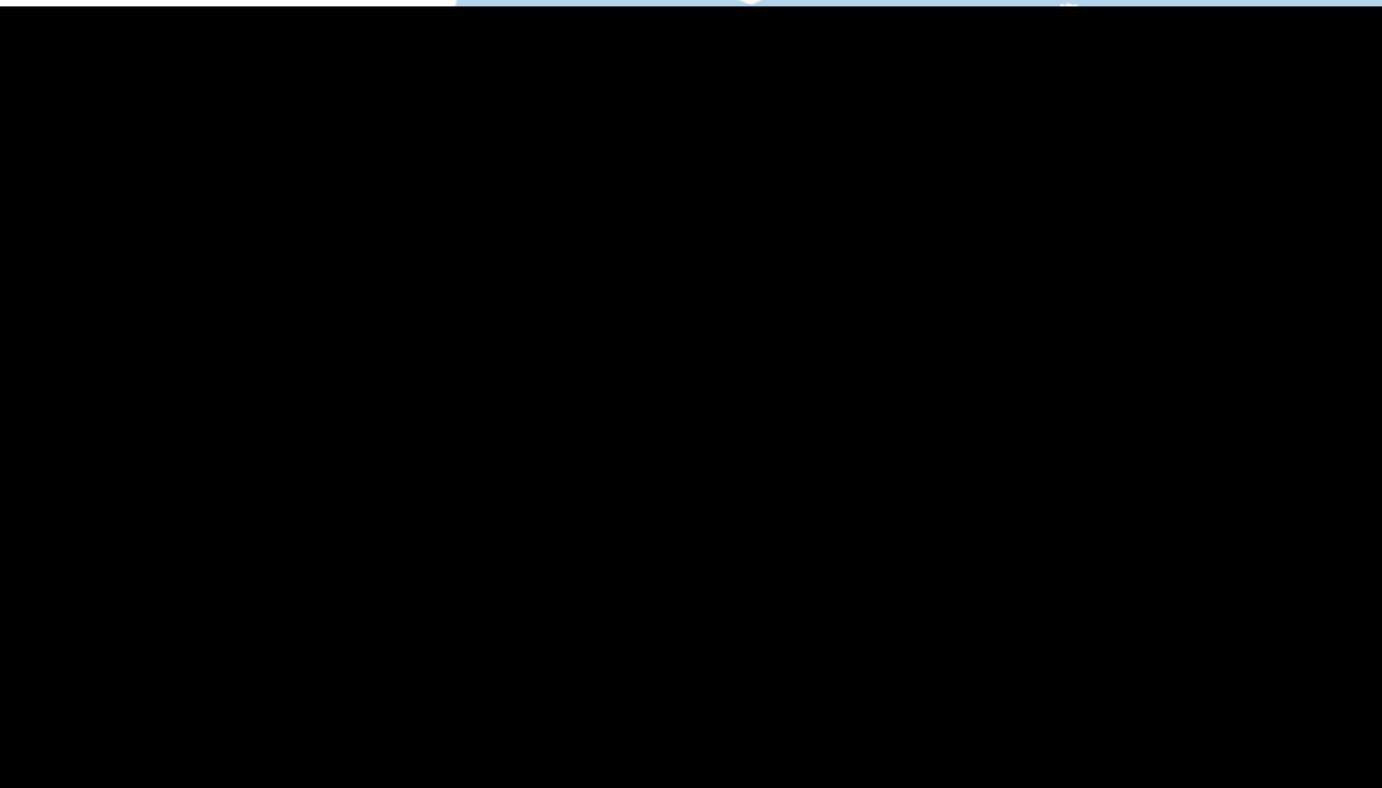
INDONESIA

Estimated
227,898 killed



READY TO RESPOND
KIA MATAARA

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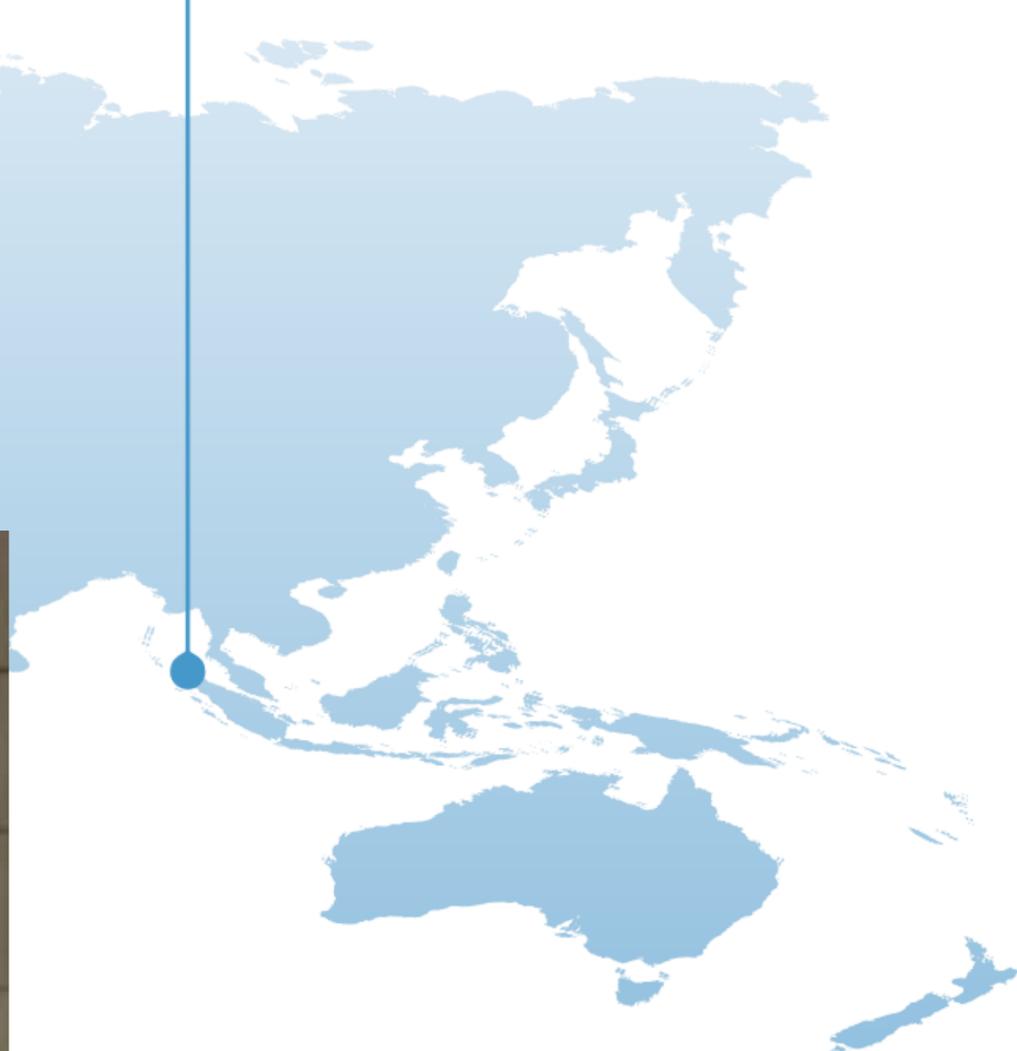
LONDON
52 killed and
over 700 injured

2005

2004

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CHRISTCHURCH
185 killed and
hundreds injured



LONDON
52 killed and
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2004

INDONESIA
Estimated
227,898 killed

JAPAN
Approximately
20,000 killed
or missing

2011

2011

CHRISTCHURCH
185 killed and
hundreds injured



LONDON
52 killed and
over 700 injured

2005

2011

OSLO
77 killed and
dozens injured

2004

INDONESIA
Estimated
227,898 killed

2011

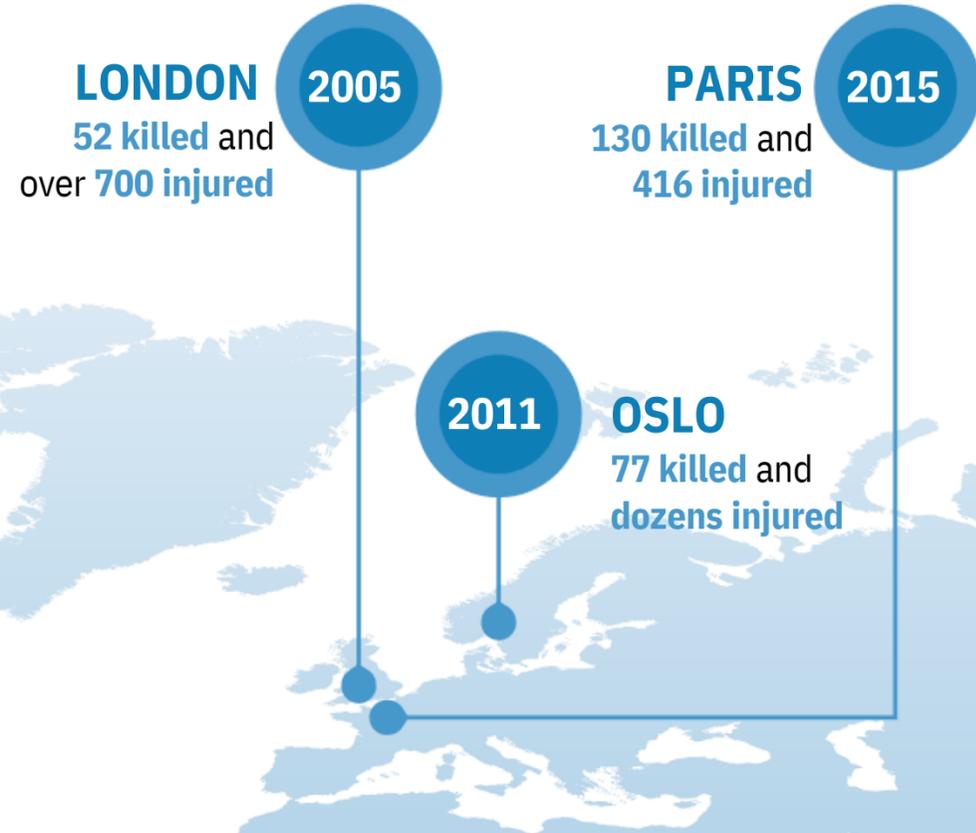
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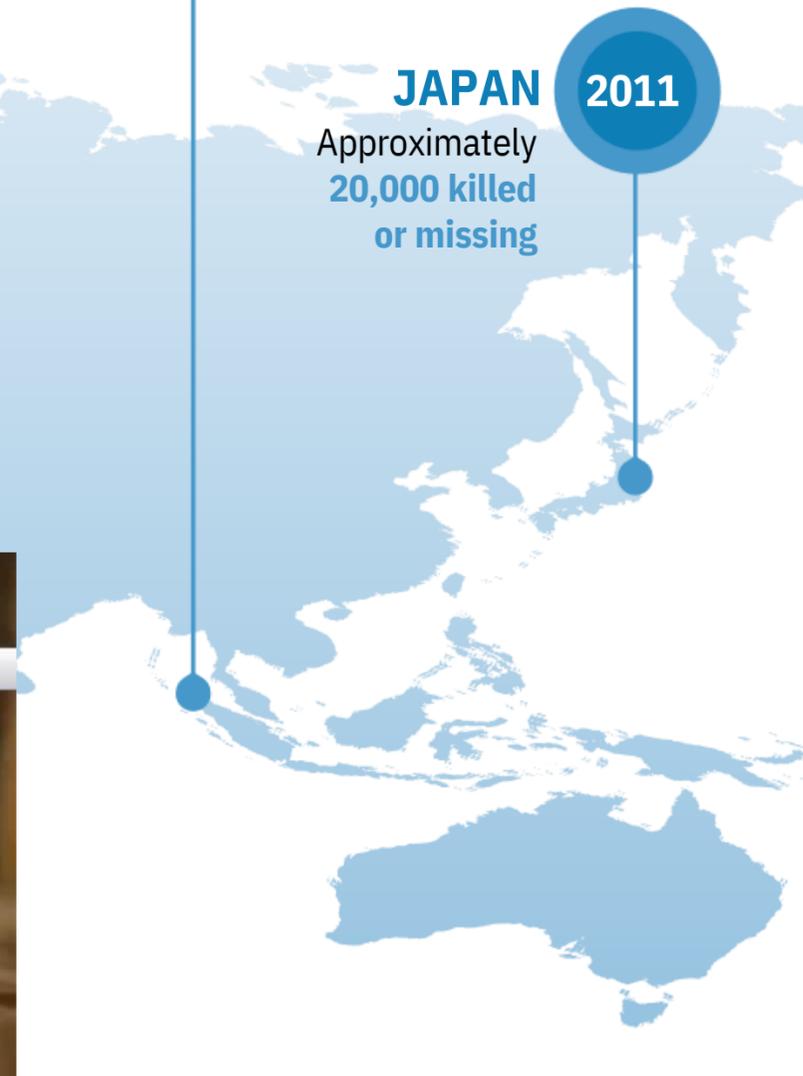
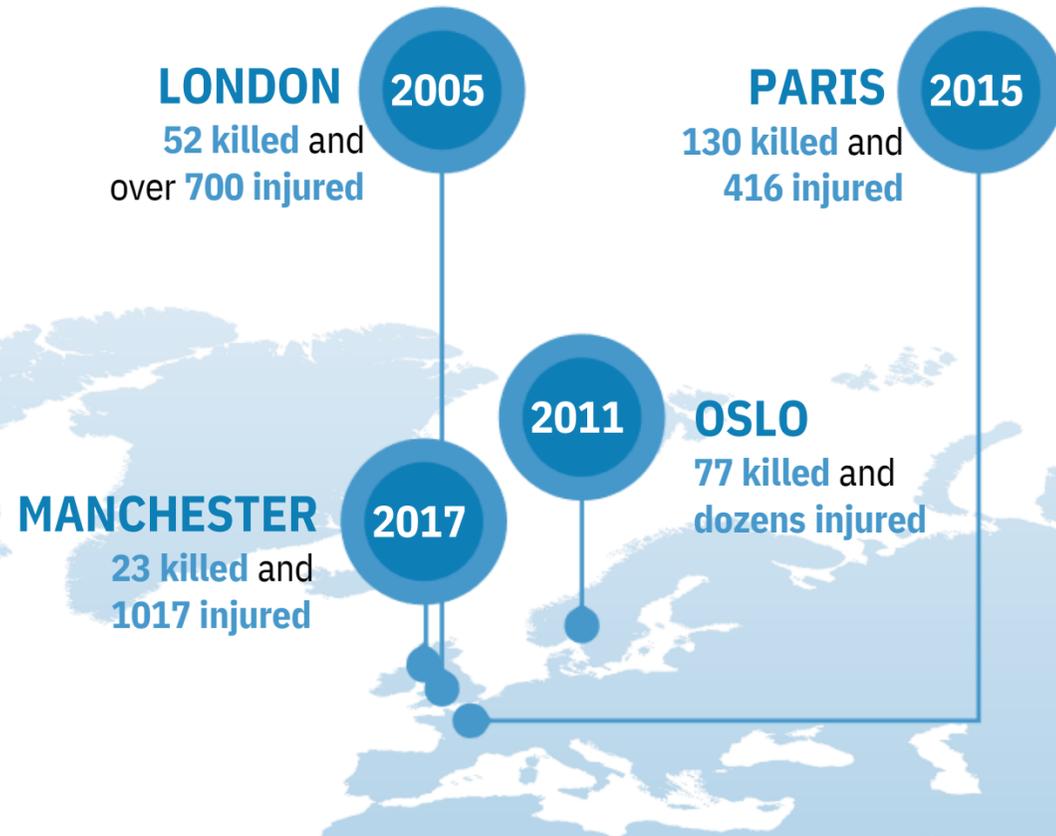
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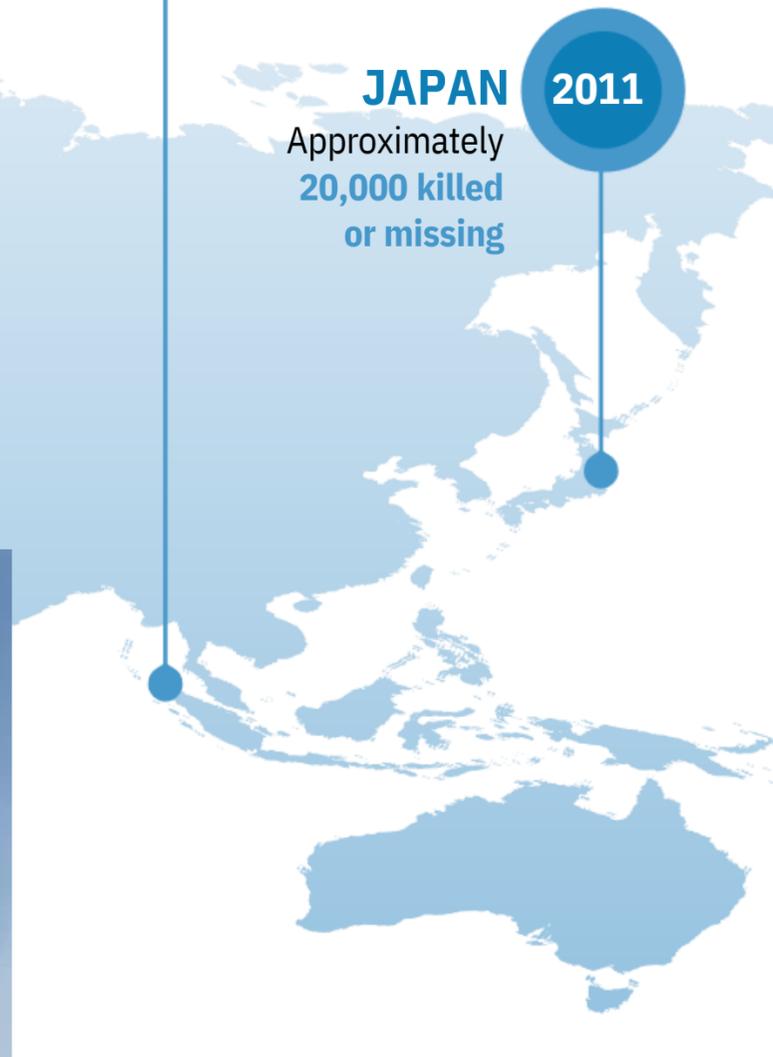




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THE GLOBAL STATISTICS



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Reported disasters



Total deaths



Total affected

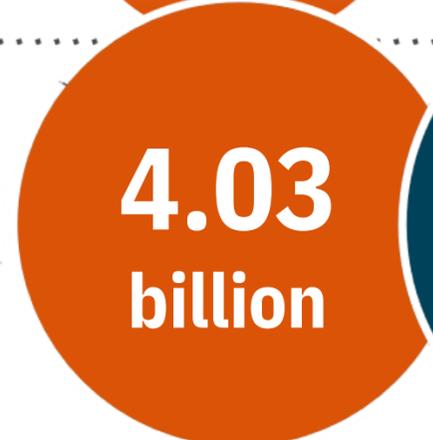
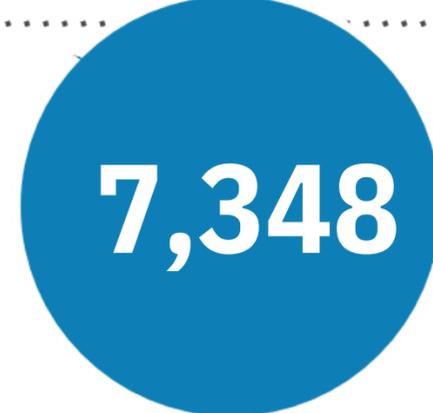


US\$ Economic losses

1980-1999



2000-2019



74% ↑

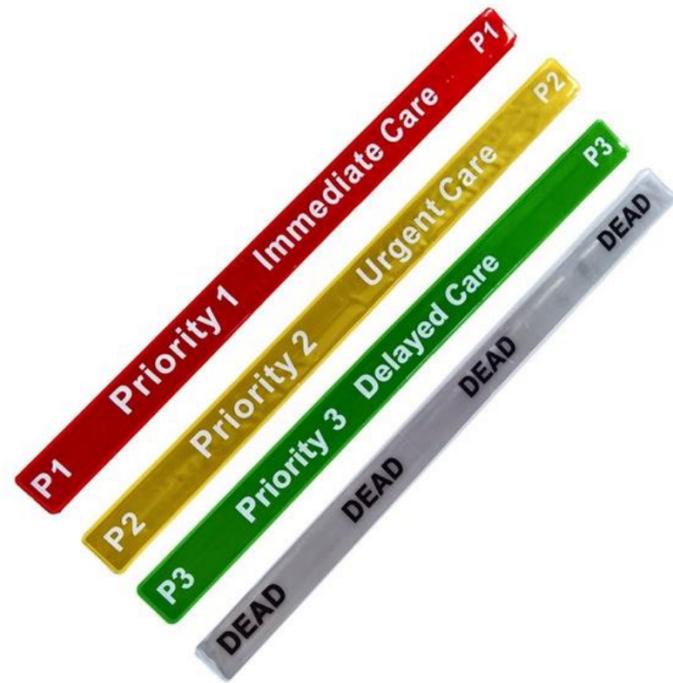
3% ↑

24% ↑

82% ↑

“The human cost of disasters: an overview of the last 20 years (2000-2019) UNDRR”

The Initial Triage




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What Are The Problems




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THE PROBLEMS:


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HOW
MANY?



THE PROBLEMS:


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**HOW
MANY?**



**HOW
SICK?**



THE PROBLEMS:


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HOW
MANY?



HOW
SOON?



HOW
SICK?



THE PROBLEMS:


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HOW
MANY?



HOW
SOON?



HOW
SICK?



WHERE
ARE THEY?



THE PROBLEMS:


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HOW MANY?



HOW SOON?



HOW SICK?



WHEN ARE THEY ARRIVING?



WHERE ARE THEY?

THE PROBLEMS:


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HOW MANY?



HOW SOON?



WHERE ARE THEY GOING?



HOW SICK?



WHEN ARE THEY ARRIVING?



WHERE ARE THEY?

THE PROBLEMS:



HOW MANY?



HOW SOON?



WHERE ARE THEY GOING?



HOW SICK?



WHEN ARE THEY ARRIVING?



WHERE ARE THEY?



INCREASED COGNITIVE LOAD

THE PROBLEMS:



HOW MANY?



HOW SOON?



WHERE ARE THEY GOING?



HOW SICK?



INACCURATE OR NO CRITICAL PATIENT DATA



WHEN ARE THEY ARRIVING?



WHERE ARE THEY?



INCREASED COGNITIVE LOAD

THE PROBLEMS:



HOW MANY?



HOW SOON?



WHERE ARE THEY GOING?



DIFFICULTY TRACKING



HOW SICK?



INACCURATE OR NO CRITICAL PATIENT DATA



WHEN ARE THEY ARRIVING?



WHERE ARE THEY?



INCREASED COGNITIVE LOAD

THE PROBLEMS:



HOW MANY?



HOW SOON?



WHERE ARE THEY GOING?



DIFFICULTY TRACKING



HOW SICK?



INACCURATE OR NO CRITICAL PATIENT DATA



WHEN ARE THEY ARRIVING?



WHERE ARE THEY?



INCREASED COGNITIVE LOAD



INCONSISTENT TRIAGE

THE PROBLEMS:



HOW MANY?



HOW SOON?



WHERE ARE THEY GOING?



DIFFICULTY TRACKING



HOW SICK?



INACCURATE OR NO CRITICAL PATIENT DATA



COMPLEX INTER-AGENCY COMMUNICATION



WHEN ARE THEY ARRIVING?



WHERE ARE THEY?



INCREASED COGNITIVE LOAD



INCONSISTENT TRIAGE

THE PROBLEMS:



HOW MANY?



HOW SOON?



WHERE ARE THEY GOING?



DIFFICULTY TRACKING



HOW SICK?



WHAT RESOURCES ARE NEEDED AND WHERE?



INACCURATE OR NO CRITICAL PATIENT DATA



COMPLEX INTER-AGENCY COMMUNICATION



WHEN ARE THEY ARRIVING?



WHERE ARE THEY?



INCREASED COGNITIVE LOAD



INCONSISTENT TRIAGE

The Problems Confirmed



"There is currently nothing in technology to fix some of the problems in mass casualty events..."

"We get our information from the TV news"

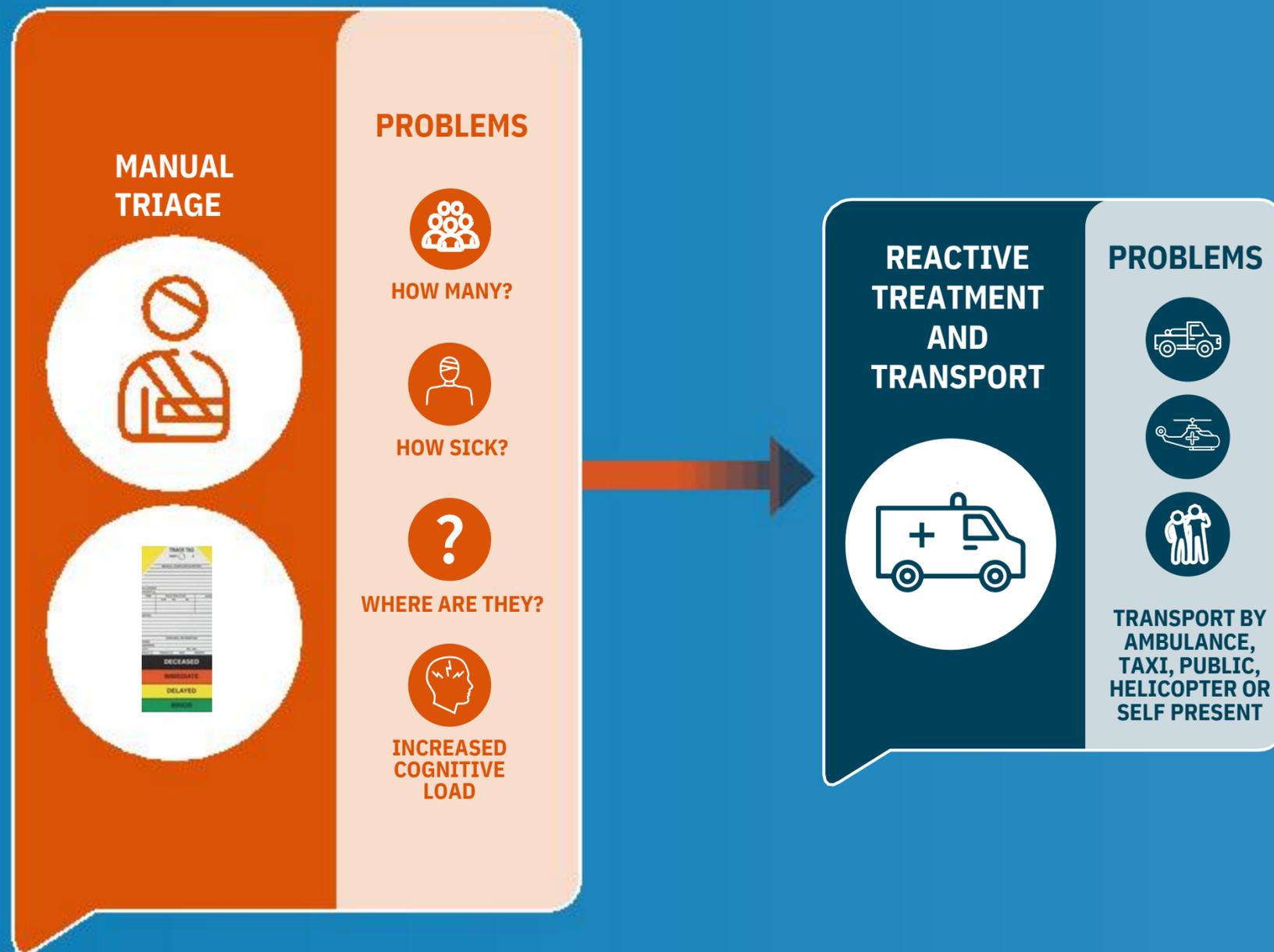
Professor Karim Brohi,
Head of London Trauma Network - 2019

THE CURRENT PROCESS:




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MANUAL TRIAGE

PROBLEMS

- HOW MANY?
- HOW SICK?
- WHERE ARE THEY?
- INCREASED COGNITIVE LOAD

REACTIVE TREATMENT AND TRANSPORT

PROBLEMS

- TRANSPORT BY AMBULANCE, TAXI, PUBLIC, HELICOPTER OR SELF PRESENT

OTHER MEDICAL FACILITIES

MULTI-AGENCY

OTHER SCENE OFFICERS	EMS	HOSPITALS
FIRE	POLICE	GOVERNMENT

PROBLEMS

HOW SOON ARE THEY ARRIVING?	WHERE ARE THEY GOING?	DIFFICULTY TRACKING
INACCURATE OR NO CRITICAL PATIENT DATA	WHAT SPECIALIST RESOURCES ARE NEEDED?	COMPLEX INTER-AGENCY COMMUNICATION

Chemical, Biological, Radiological, Nuclear Attacks


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Industrial Accidents




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Terrorist Attacks


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Cyber Attacks



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Crowd & Mass Gathering Incidents


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Natural Disasters





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**ARE YOU
PREPARED?**

Thank You



References

Dr Dominic Fleischer

<https://www.croakey.org/reflections-and-lessons-from-christchurch-hospital-and-the-frontlines-of-an-emergency-response-to-violent-trauma/>

Open Forum With Professor Karim Brohi - 2019

<https://www.youtube.com/watch?v=yXxduZs1KrY>

Karim Brohi, Rosel Tallach,
Mass casualty medicine: time for a 21st century refresh,
British Journal of Anaesthesia, Volume 128, Issue 2

<https://www.sciencedirect.com/science/article/pii/S0007091221007960>

Dr Jan. Bone

https://youtu.be/3UBgEe_Z--w?feature=shared