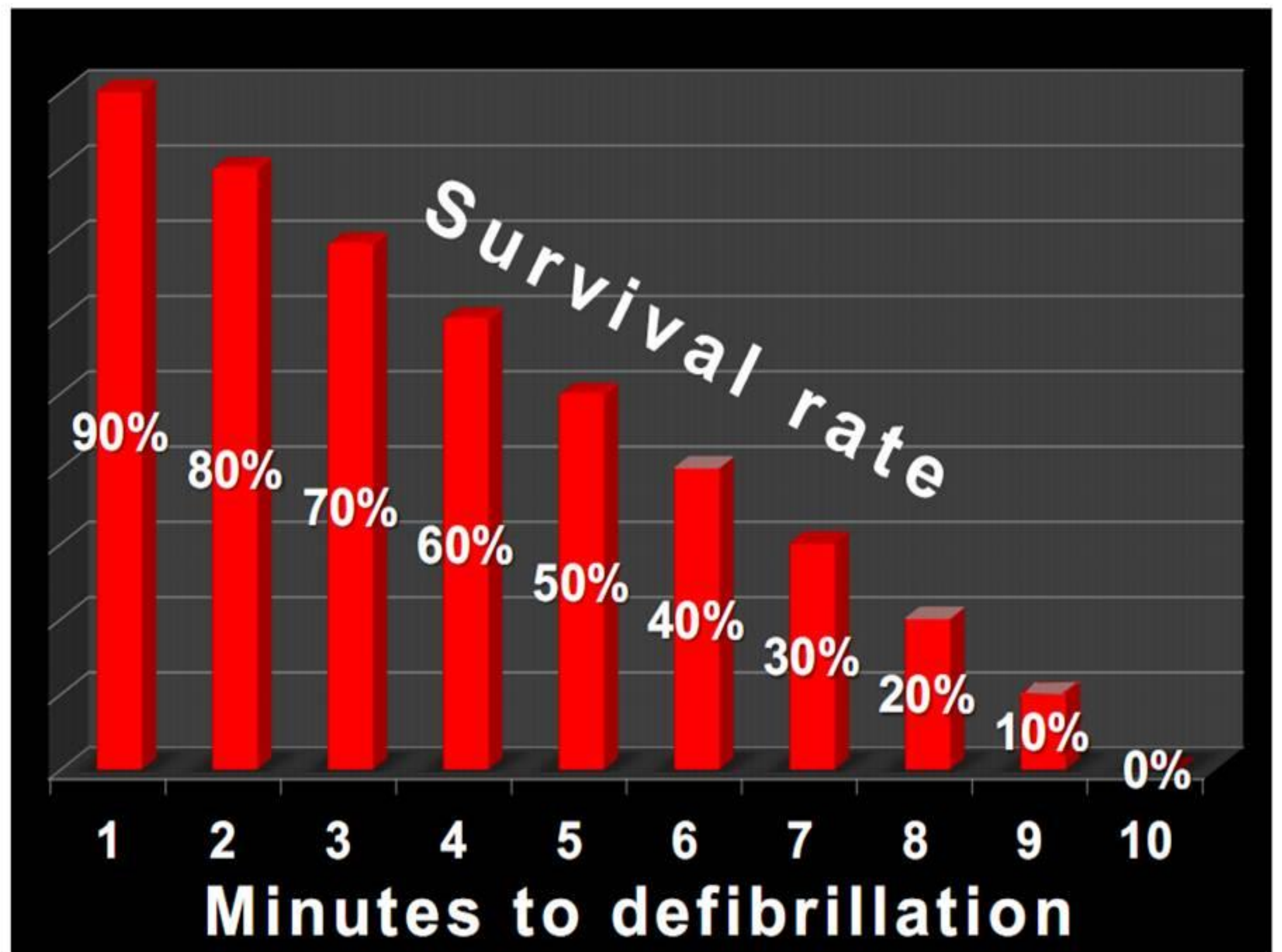


Controlling Out of Hospital Cardiac Arrest (OHCA) Risk

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Chance of survival from cardiac arrest



Source: Cardiac Arrest Survival Foundation, 2012

Presented by
Marcus Punch
CPEng

Marcus Punch Pty. Ltd.
Risk and Reliability

Mobile: +61 (0)432168849
Email: marcus@marcuspunch.com
Web: www.marcuspunch.com

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Overview

- What is ‘risk’?
- What is ‘risk management’ & ‘risk control’?
- How do we apply this to OHCA risk?



DEFIBRILLATOR ALARM PRINCIPLES

BASED ON THE DEFIBRILLATOR GUIDELINES OCTOBER 2014 PUBLISHED BY THE AED DEPLOYMENT REGISTRY

<div><div>A</div><div>AWARE</div><div>Are you AWARE of what to do with it?</div></div>		<div>Defibrillator signage (overhead and directional) to be used</div> <ul style="list-style-type: none">• Attend annual training in CPR• Participate in annual defibrillator orientations
<div><div>L</div><div>LOCATE</div><div>Can you LOCATE it?</div></div>		<div>Defibrillator to be located no more than one to two minutes away from a Potential Victim</div> <ul style="list-style-type: none">• Positioned in a conspicuous and readily accessible location• Located along normal paths of travel and near exits
<div><div>A</div><div>ACCESS</div><div>Can you ACCESS it?</div></div>		<div>Defibrillator should never be locked away and should be</div> <ul style="list-style-type: none">• Visible• Accessible• Mapped to a smart phone where consent for public access is granted
<div><div>R</div><div>RELY</div><div>Can you RELY on it?</div></div>		<div>Defibrillator:</div> <ul style="list-style-type: none">• Preferably fully automatic with interchangeable pads• Clear rescue prompts• Automated daily self testing of pads, cable, battery and electrical circuitry• Extra set of pads• A first aid pack that contains pocket mask, wipes, razors and scissors <div>Defibrillator checking:</div> <ul style="list-style-type: none">• Small workplaces (fewer than 50 workers) should check and log their defibrillator daily.• Large workplaces (50 or more workers) and Public Spaces should have their defibrillators monitored 24/7 for defibrillator operability, access and safety <div>Defibrillator parts and consumables must be replaced:</div> <ul style="list-style-type: none">• before their expiry date• after being used• in accordance with the manufacturer's instructions
<div><div>M</div><div>MEASURE</div><div>Do you know about it?</div></div>		<div>Data collection and record keeping of all defibrillator components, trained rescuers, service records and site emergency details and reporting of all incident details for quality assurance and research purposes to improve response and outcomes.</div>

The Duty Holder is the person recorded as **responsible** for the defibrillator system conforming with the Defibrillator Guidelines.

Potential Victim is a person showing signs of a cardiac arrest.

Public Space is a place or a part of Premises that are open to the public

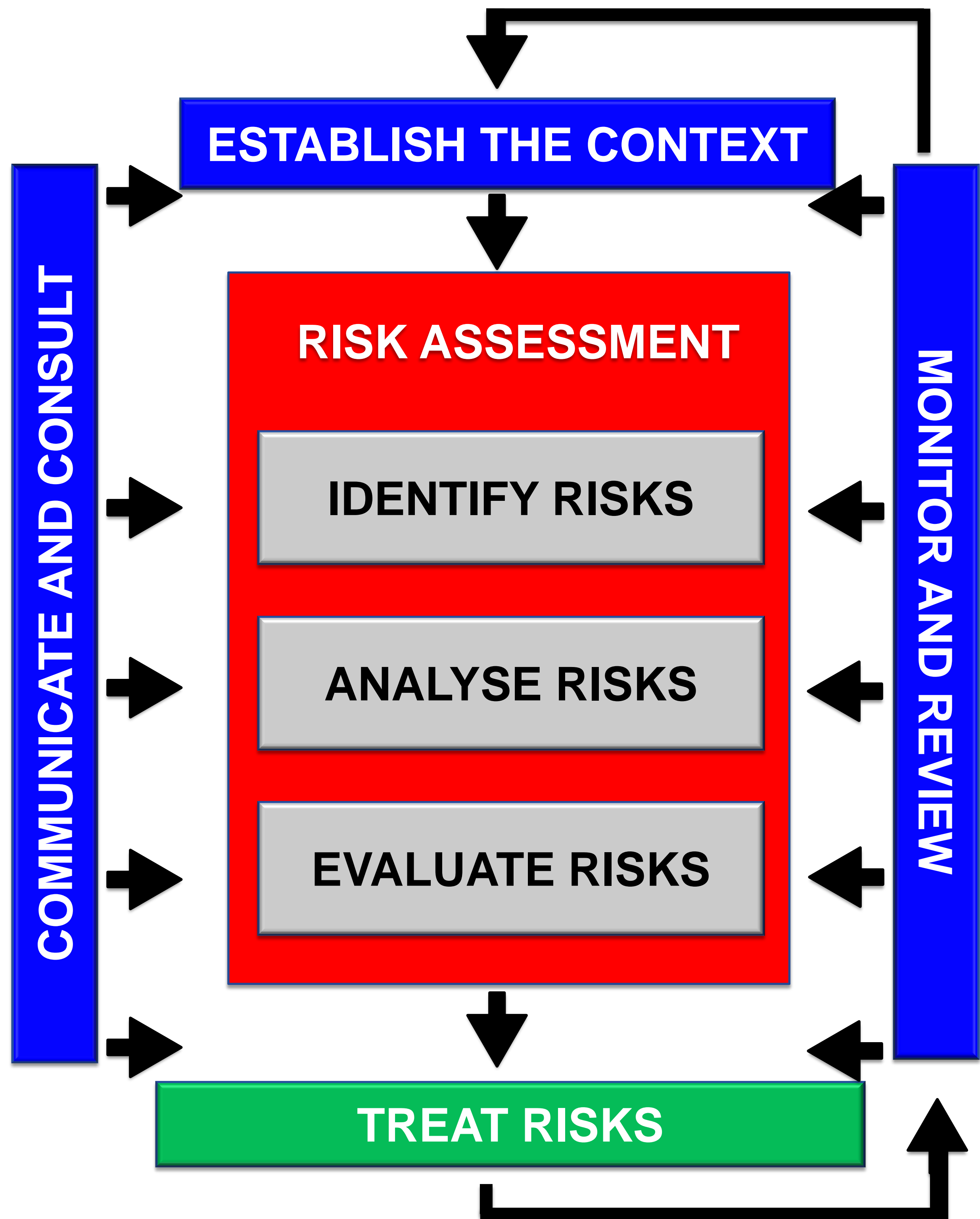
DAP201510 © AED Deployment Registry 2015 Guidelines available at www.aeddr.com

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Risk = the effect of uncertainty on objectives.



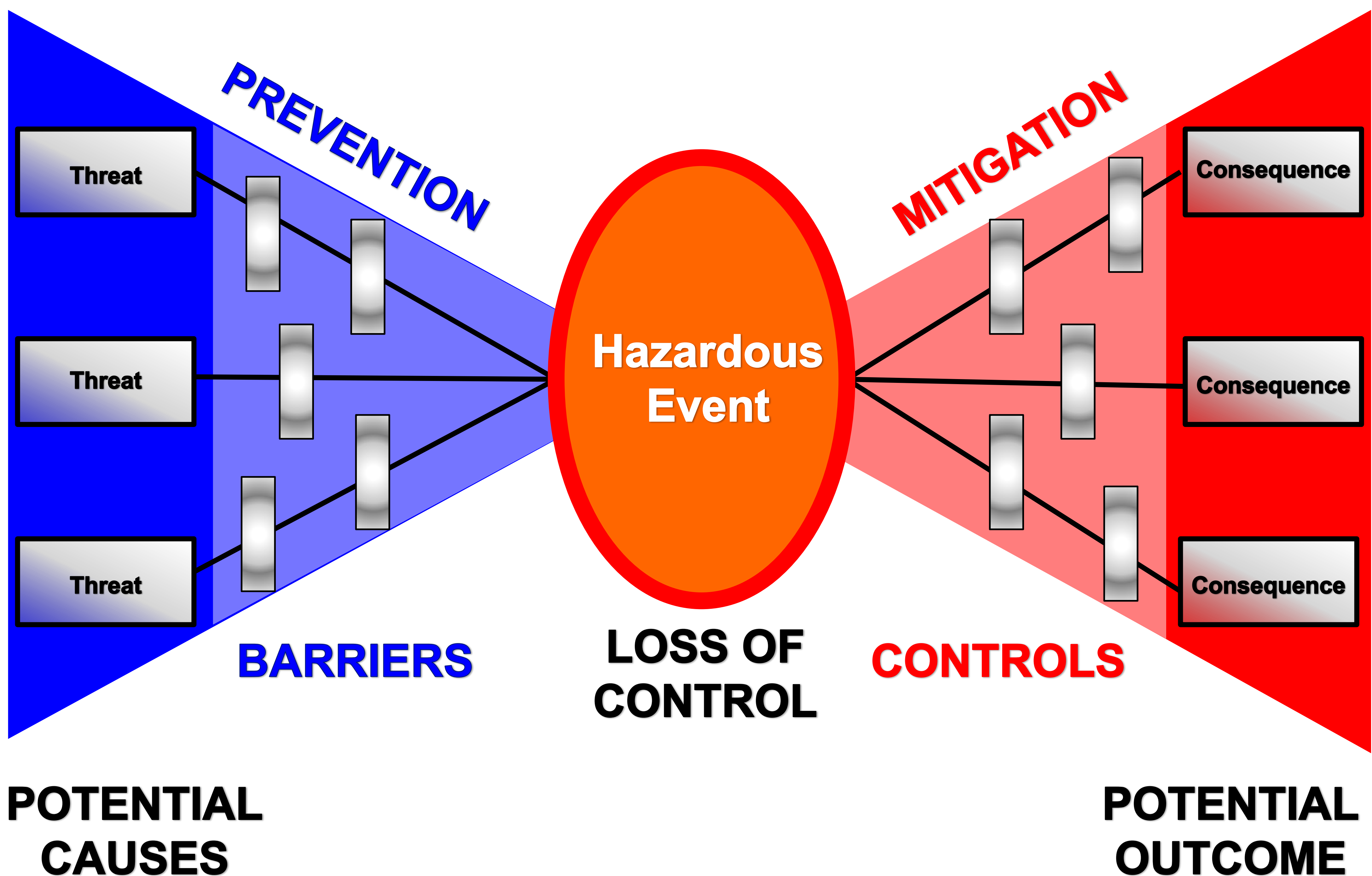
- What are our objectives?
- What can go wrong?
- How likely would that be?
- How would it impact our objectives?
- What can we do about it?
- Is this sufficient? Are there further safeguards available?
- Do it & review it.



4 What is 'risk control'.....?



The function of a risk control / safeguard / barrier is to **prevent or stop** an adverse sequence of events or to bring about a **less severe** consequence.

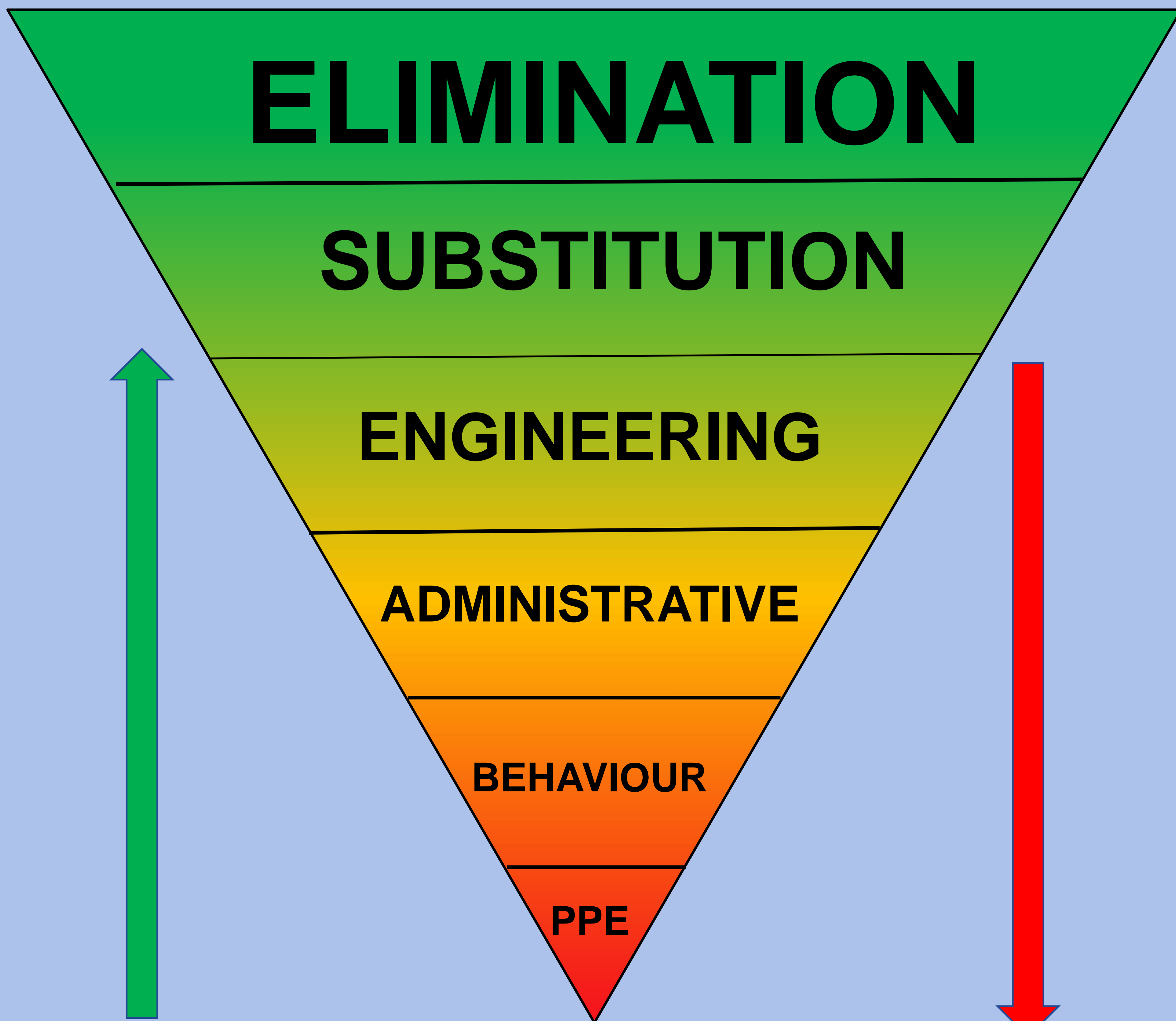


5 What type of 'risk control' is best..?



Hierarchy of Control

Apply the highest level of control commensurate with the risk level. Lower value controls may be used in the interim until long-term controls are implemented



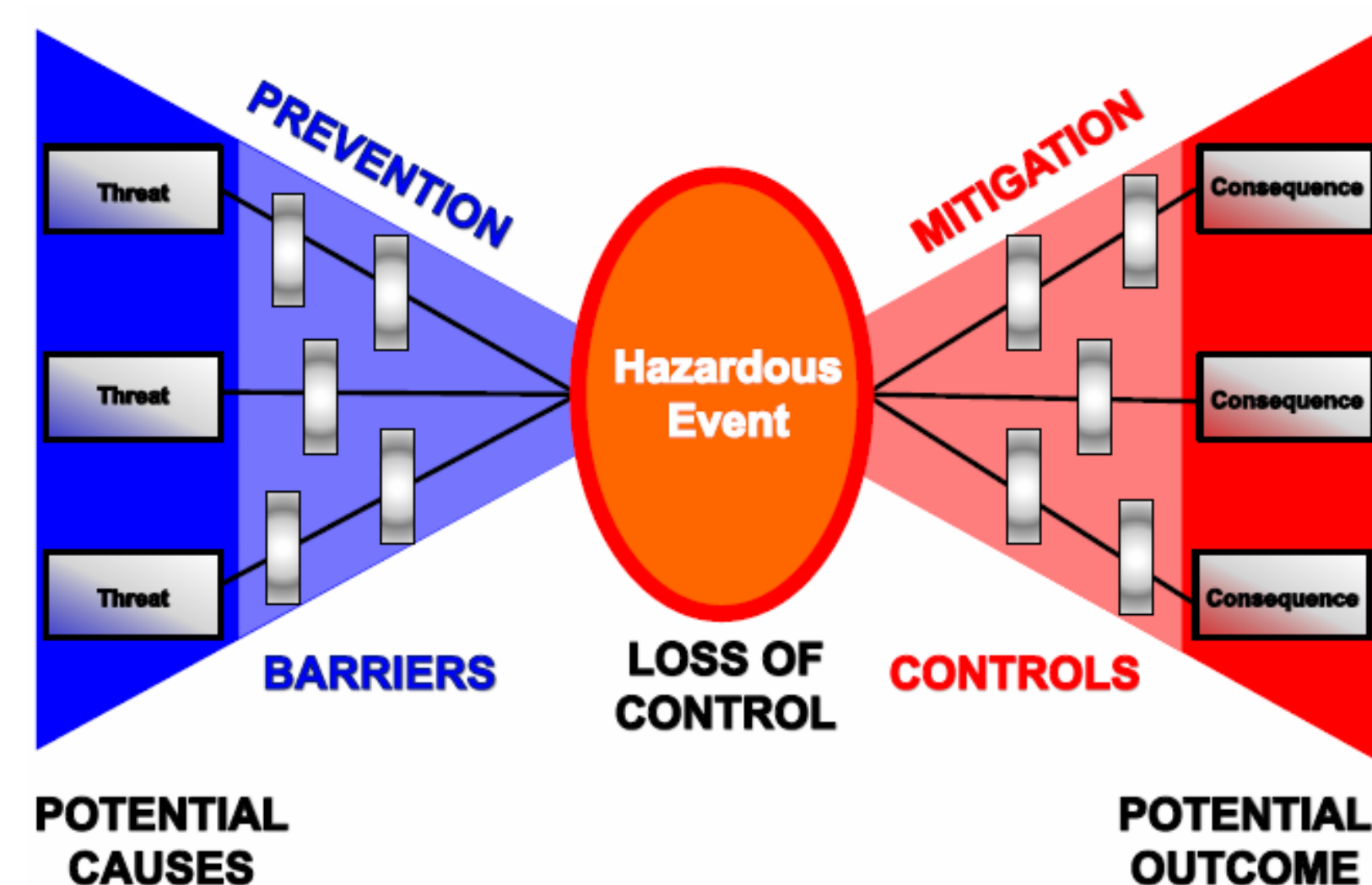
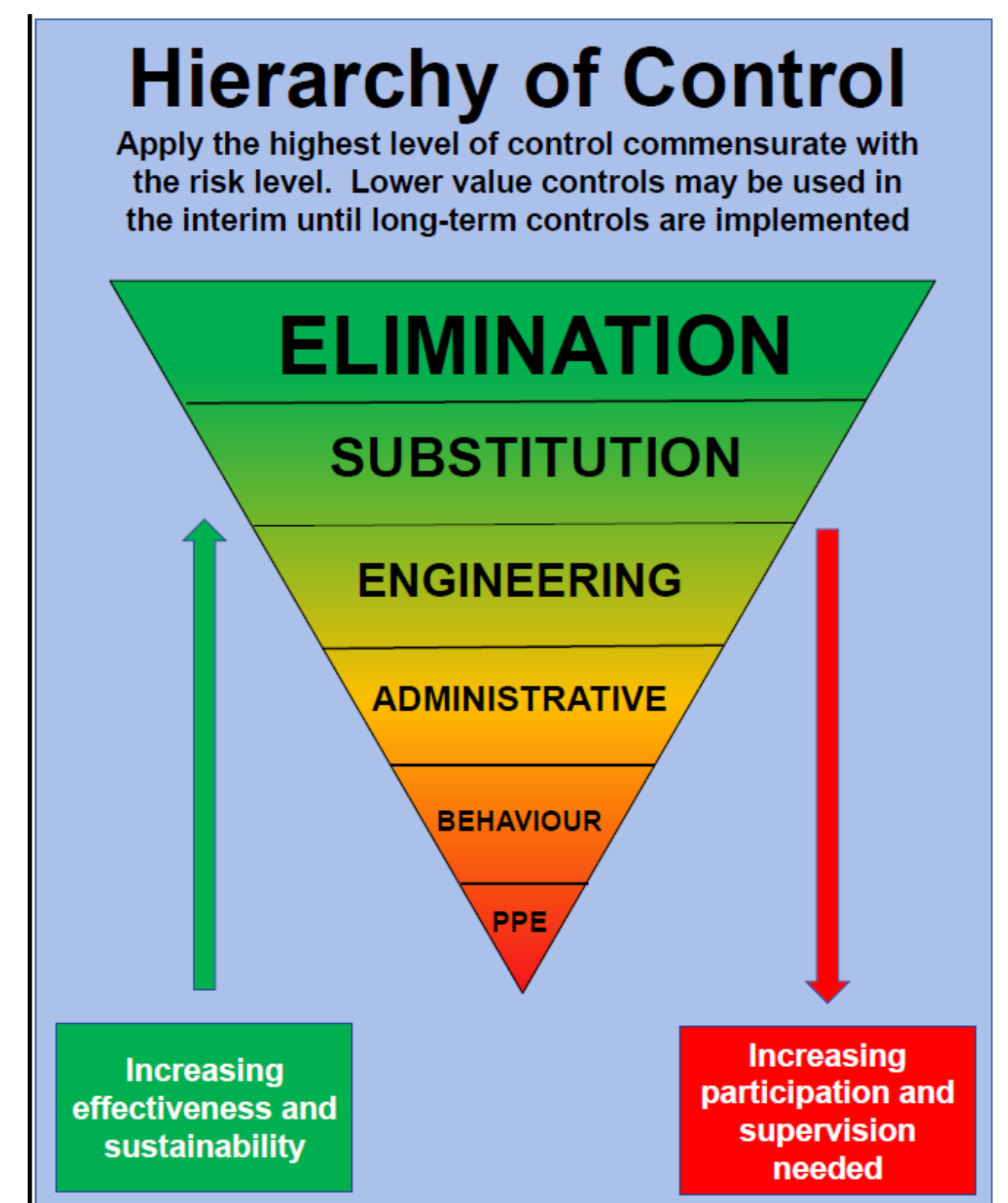
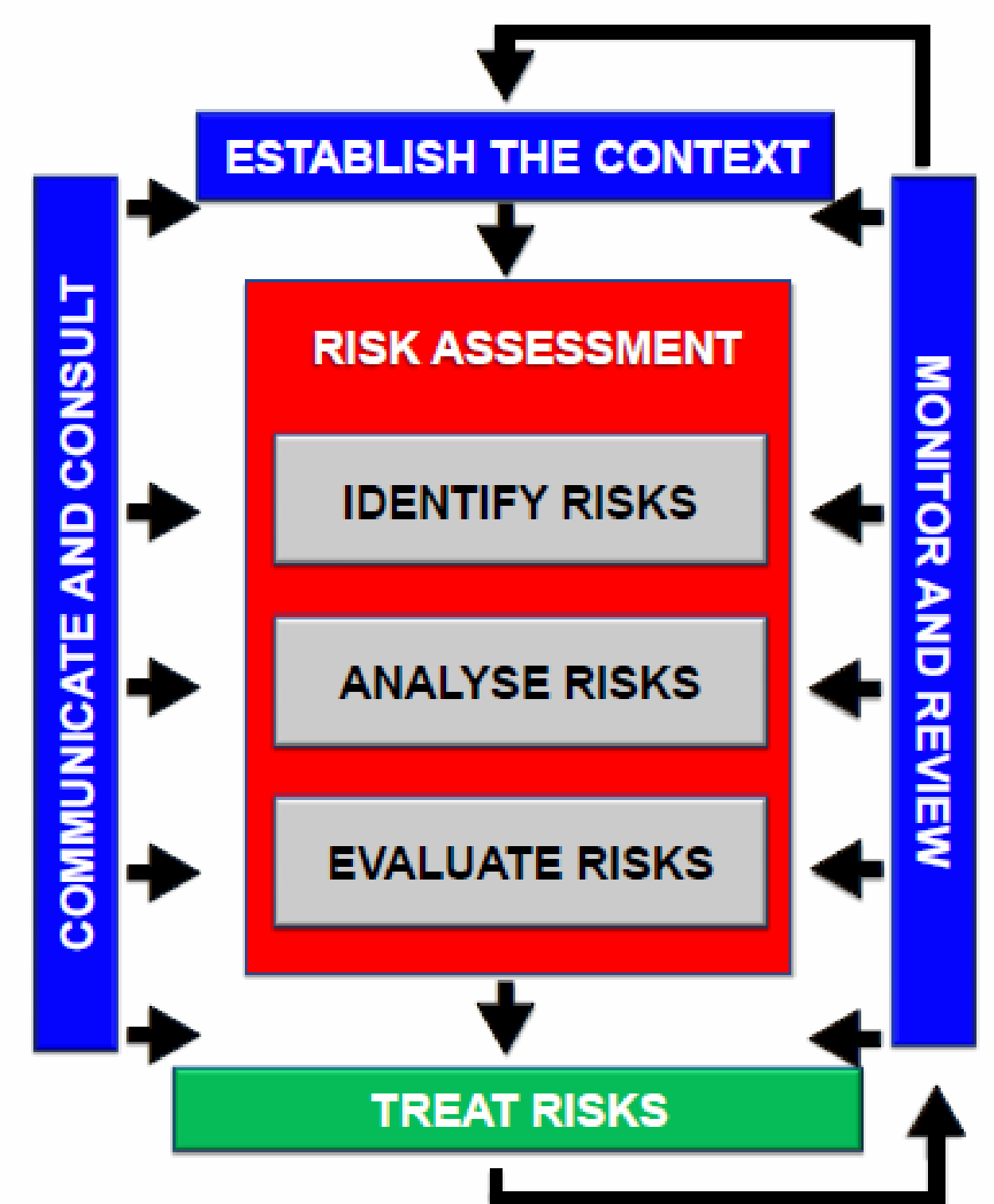
Increasing effectiveness and sustainability

Increasing participation and supervision needed

6 Framework for Control of OHCA Risk



1. **Identify** risks
(sources of uncertainty, threats to ALARM principles)
2. Analyse the **causes**, **likelihood** and the **consequences**
3. Identify all **known**, **available and suitable** safeguards against the risks.
4. First, try to **eliminate** the risk.
5. If not possible, use the **hierarchy of risk controls** – eg. try to engineer it out.
6. Remember the **“Bowtie”** – prevention is better than cure.
7. Duty of Care - **what can be done, should be done!**



Example – OHCA Risks (Uncertainties)

Step	Unwanted Event (ie. Hazard / Risk) Description	Potential Consequences	Current Risk Controls	Additional Risk Controls / Actions
1. AWARE. Know how to use the AED.	1. Bystanders do not know how to operate an AED correctly (eg. never used one before, never trained)	Unable to defibrillate casualty if required. Reduced chance of survival.	Administrative: Public awareness and training on AED's.	
			Administrative: Instructions provided with AED.	
2. LOCATE. Seek out the AED.	1. Only one by-stander.	Unable to defibrillate casualty. Reduced chance of survival.		
	2. Location of AED unknown.	Unable to defibrillate casualty. Reduced chance of survival.		1. Administrative: National register of AED locations - accessible by 000 operators.
	3. Incorrect location of AED given (eg. by other bystander, 000 operator etc....).	Unable to defibrillate casualty. Reduced chance of survival.		2. Engineering: The “internet of things” – web-enabled AED's. 3. Administrative: Maintenance of AED location register. 2. Engineering: The “internet of things” – web-enabled AED's.
3. ACCESS. Obtain the AED.	1. Access to AED restricted (eg. locked away).	Unable to defibrillate casualty. Reduced chance of survival.		
	2. Access to AED not granted by owner.	Unable to defibrillate casualty. Reduced chance of survival.		
4. RELY. Use the AED.	1. AED does not work correctly, or at all (eg. faulty ~20% chance - JAMA report).	Unable to defibrillate casualty. Reduced chance of survival.	Engineering / Administrative: Built-in-test within AED's combined with regular inspection / checks.	
			Engineering: On-line monitoring of AED's (eg. back-to-base reporting of faults).	
5. MEASURE. Collect data, analyse, improve.	1. Data collection and analysis not integrated.	Difficulty in obtaining accurate and/or meaningful statistical results. Reduced capacity to respond to trends. Identification and implementation of effective improvements potentially affected.		4. Engineering: Common data collection and record-keeping platform.

