



Public Health and Emergency Medical Services: *A Global View of Systems*

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Outline

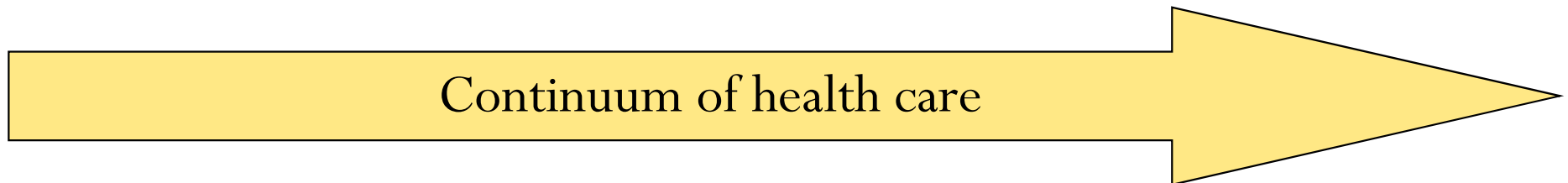


- Health system and EMS
 - Simple framework
- System requirements
 - Elements of such an approach
- Interventions already available
 - State of evidence
- Summary

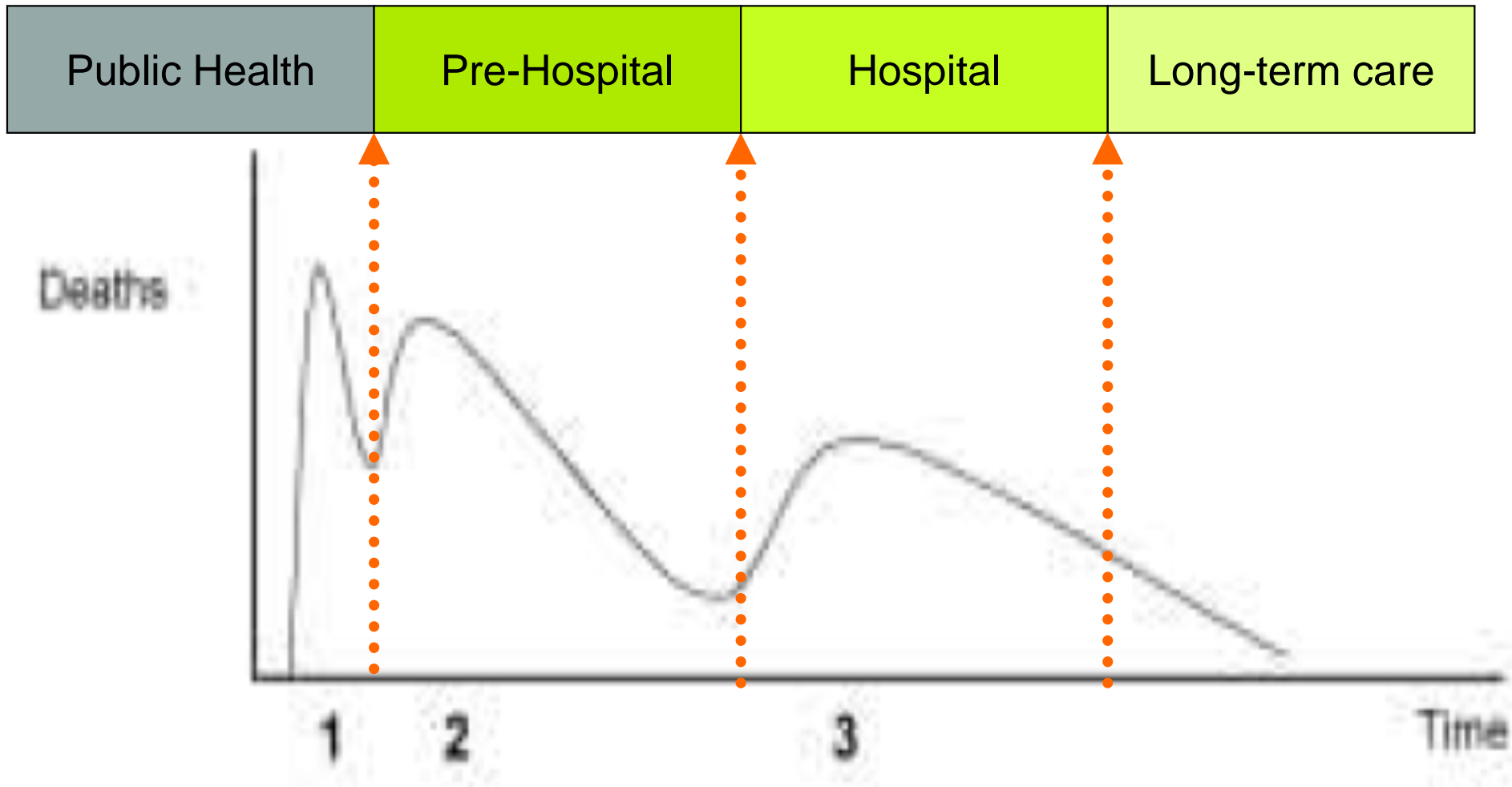
The “Health System” in EMS

Components and Functions

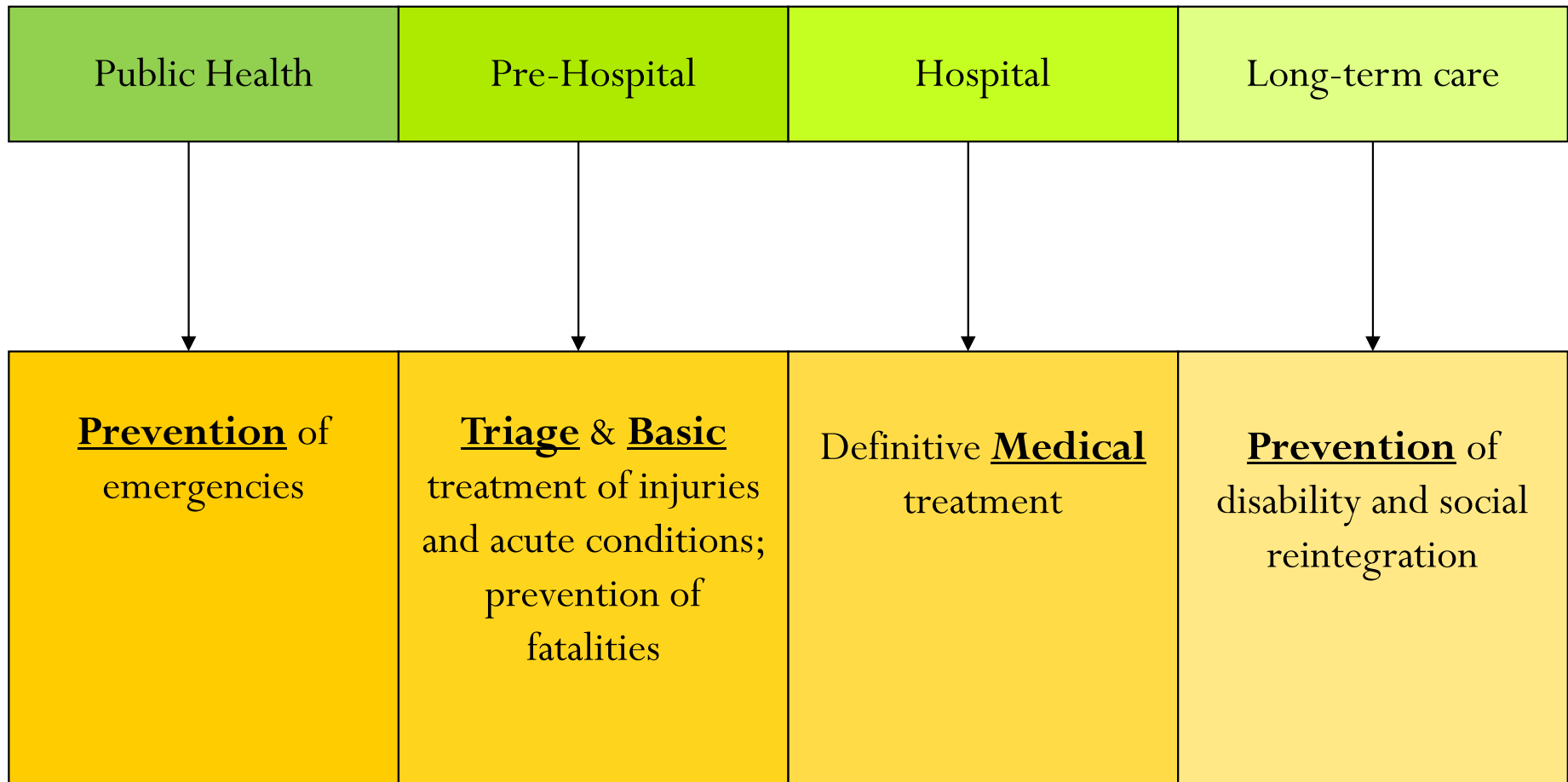
A Health System



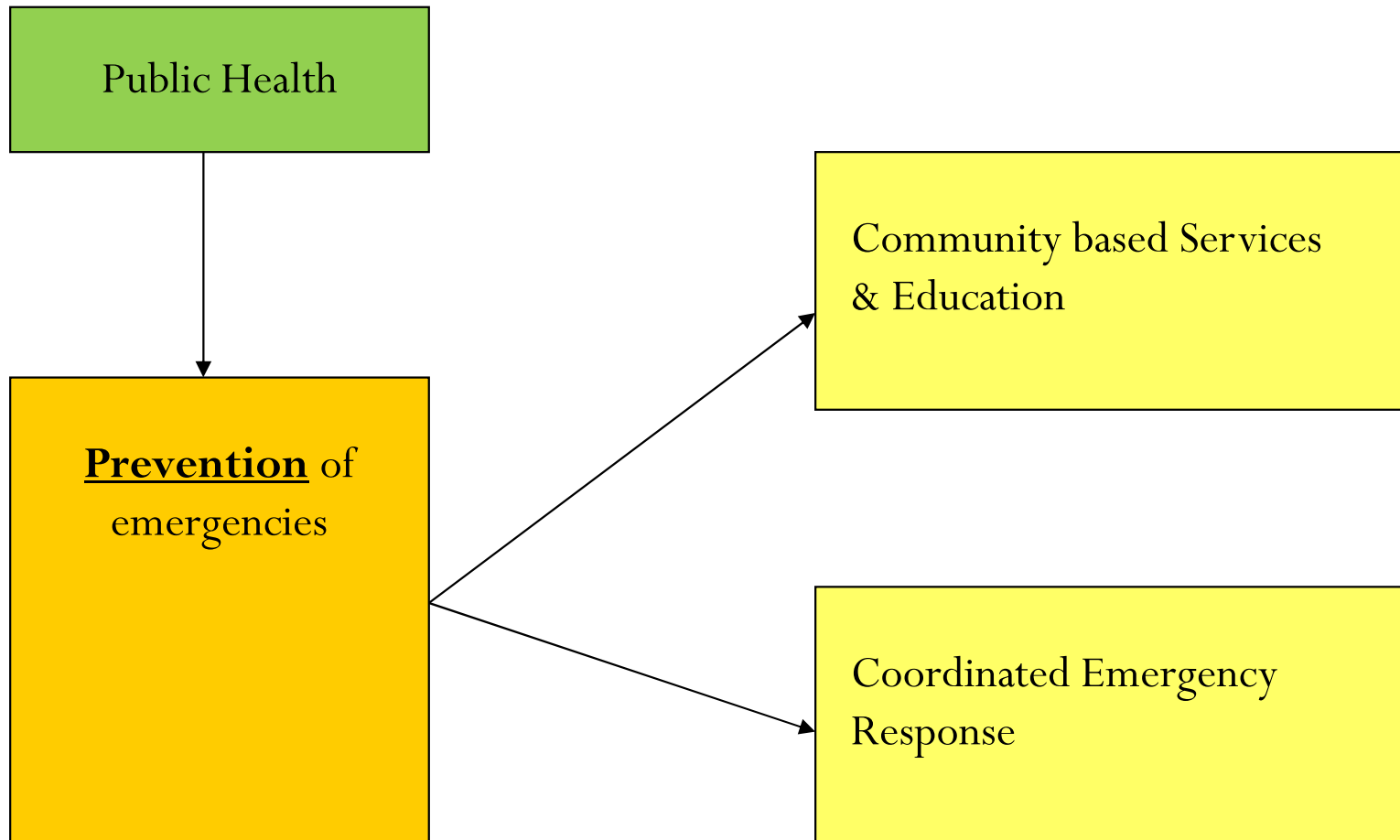
Traumatic Injury Survival



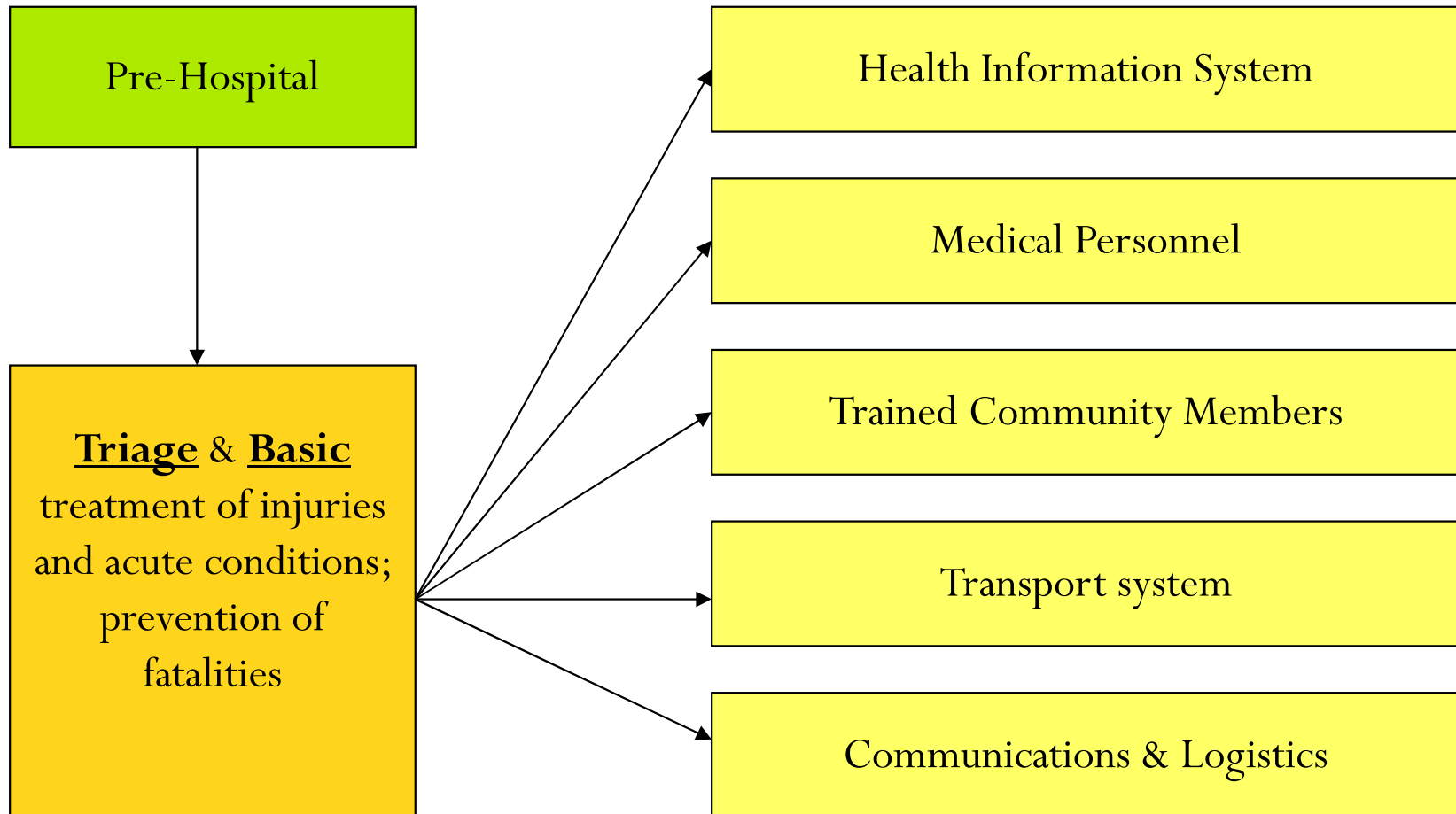
Role of a Health System



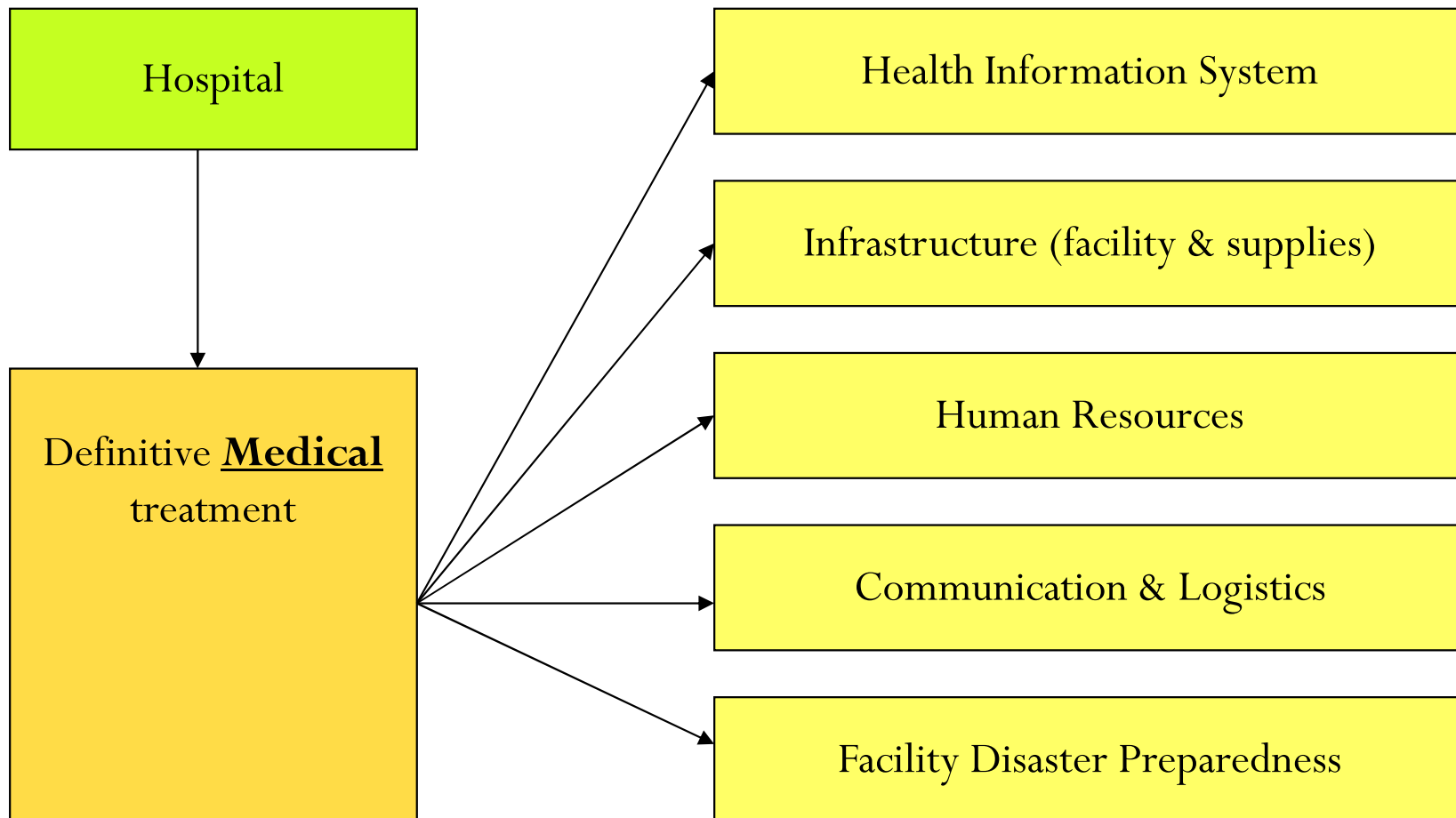
Public Health



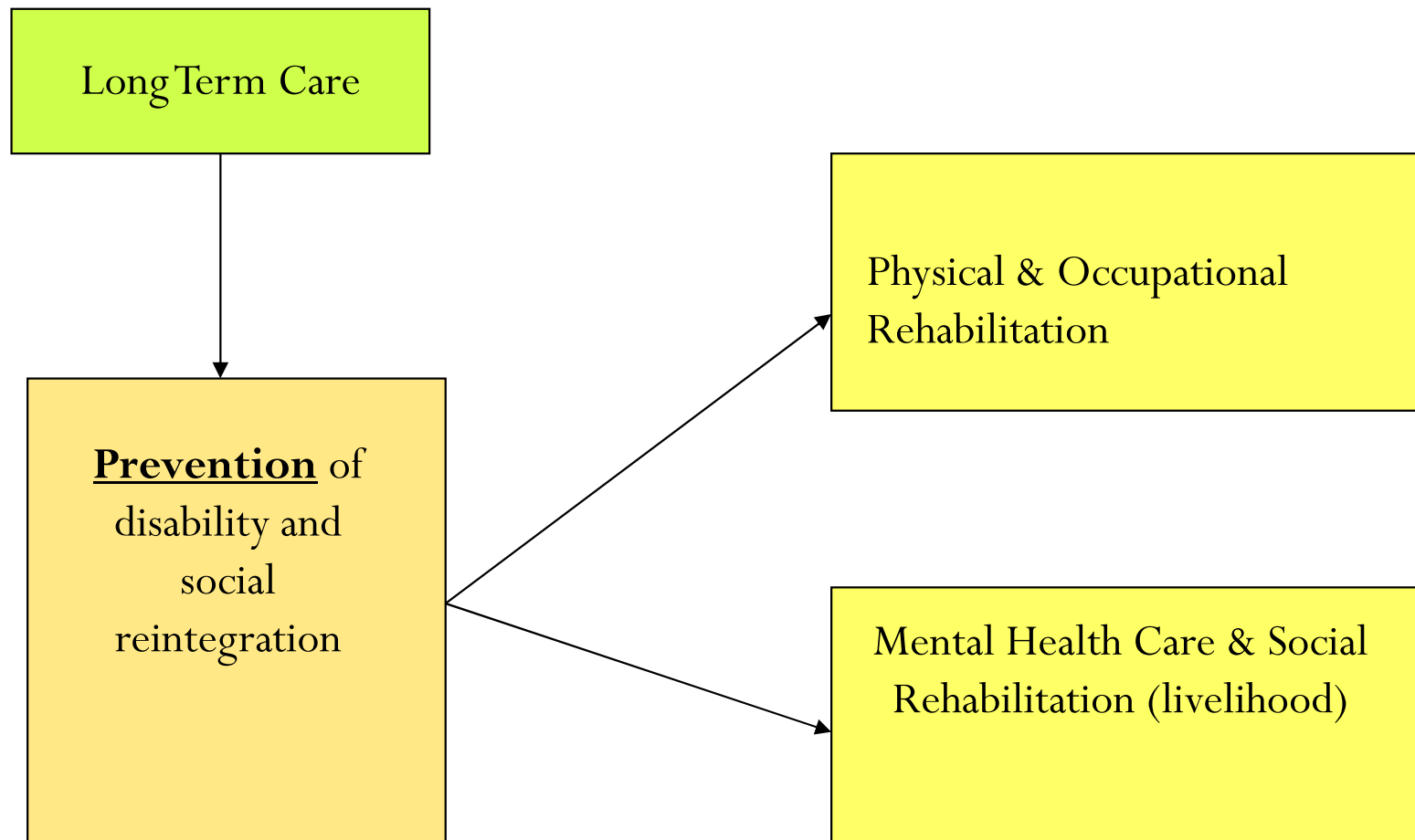
Pre-Hospital Care Level



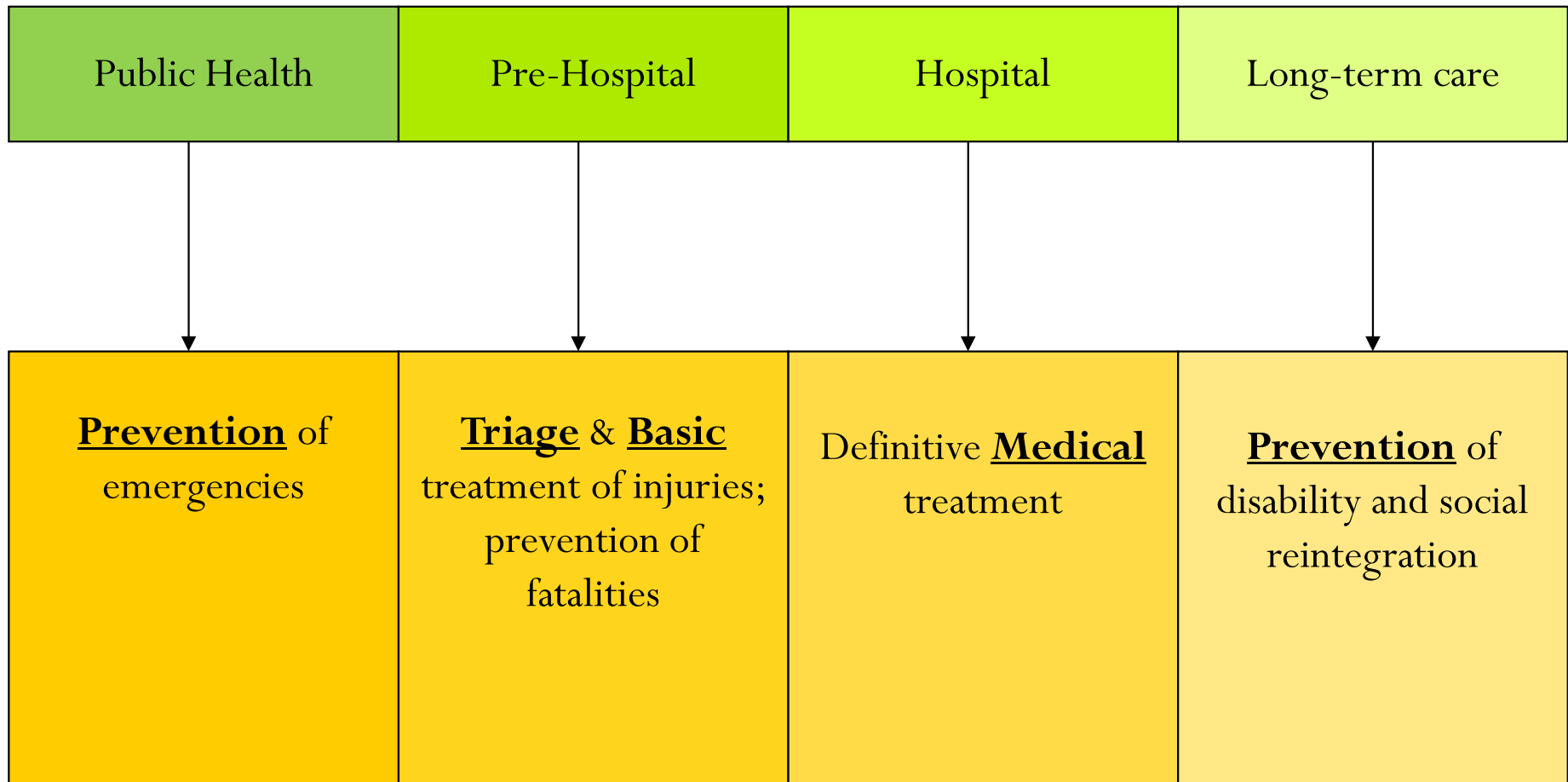
Hospital Level



Long Term Care



“Health System” in Emergency Response



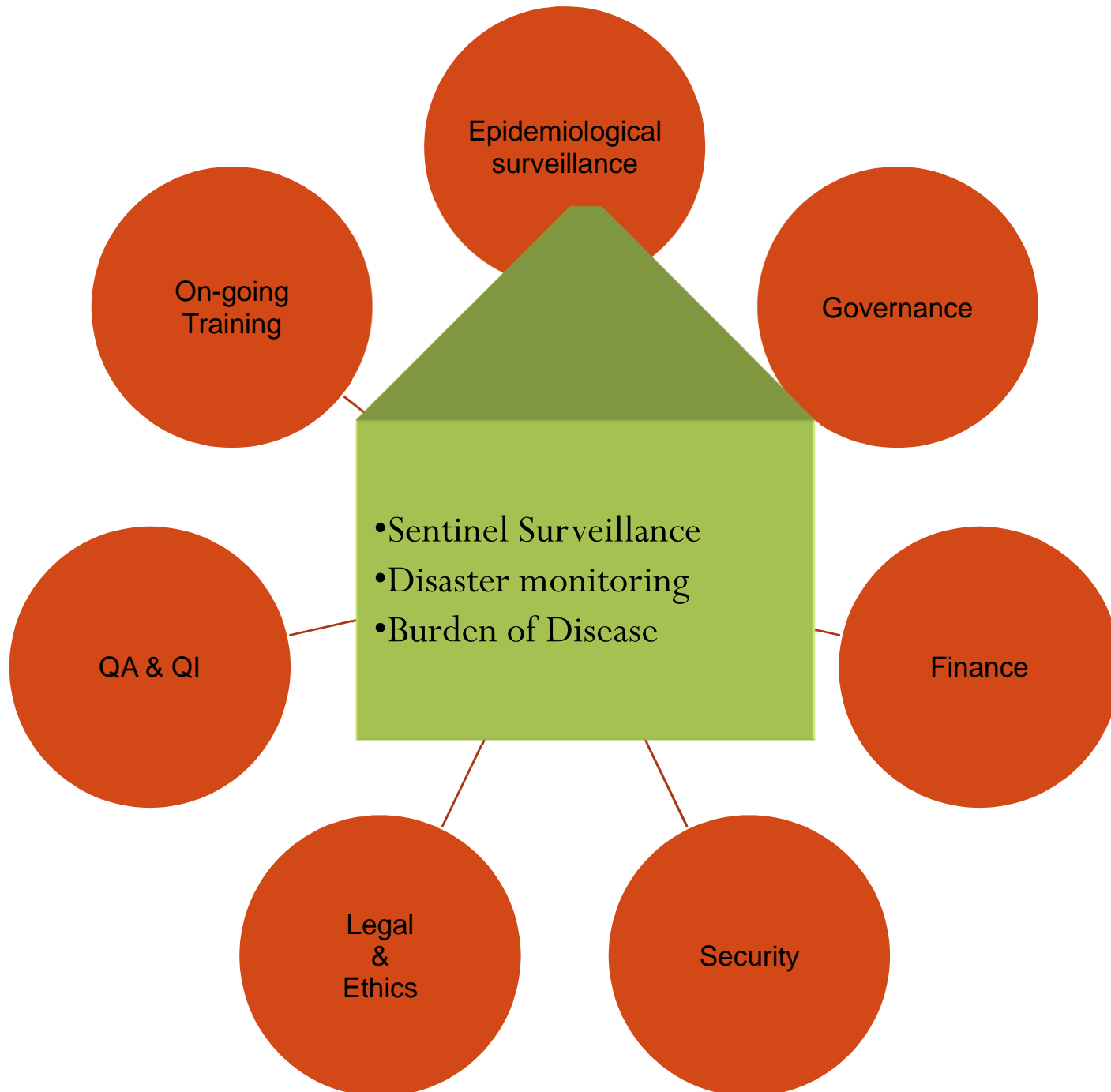
System Requirements for EMS

Functions

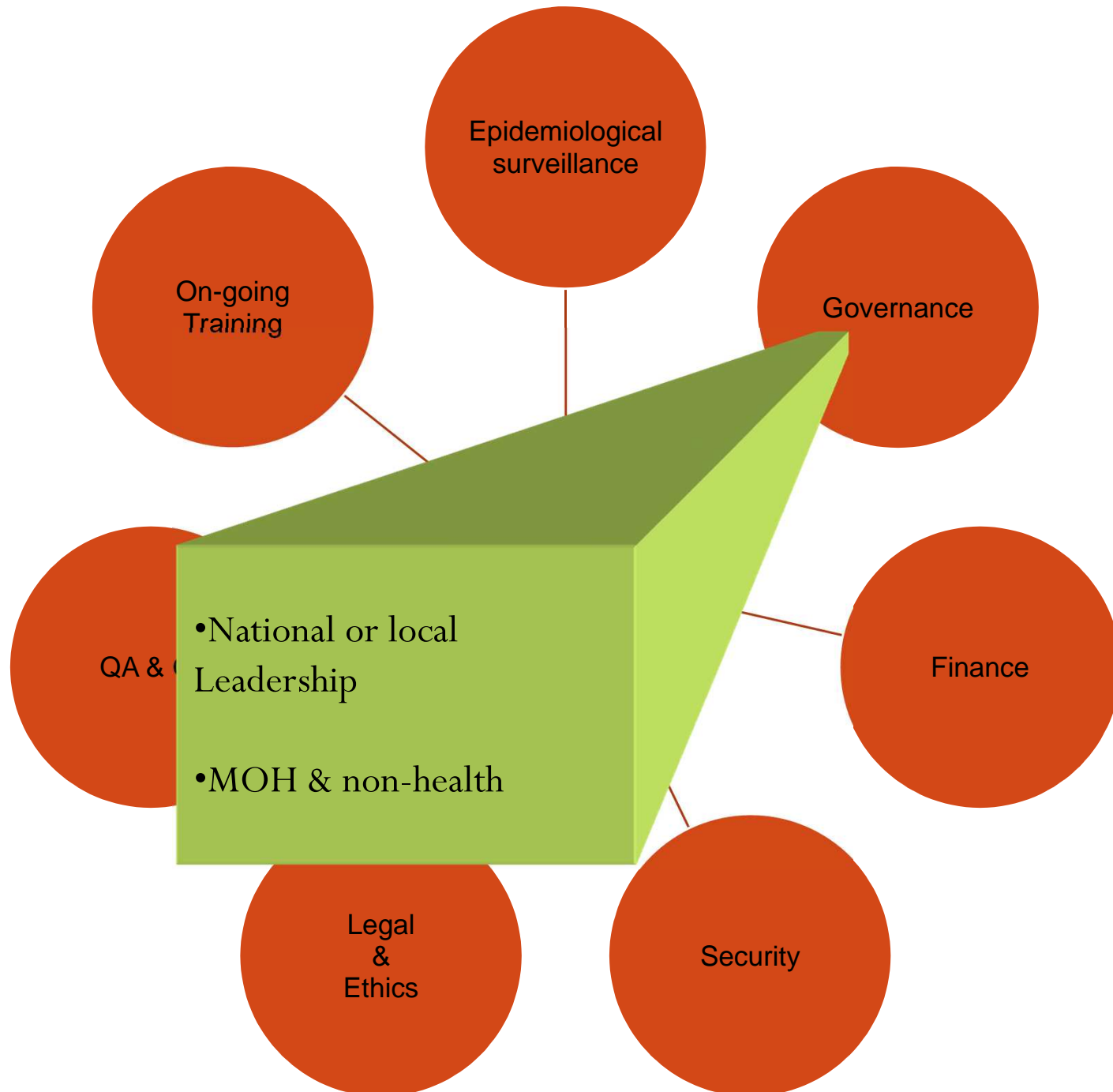
System Requirements



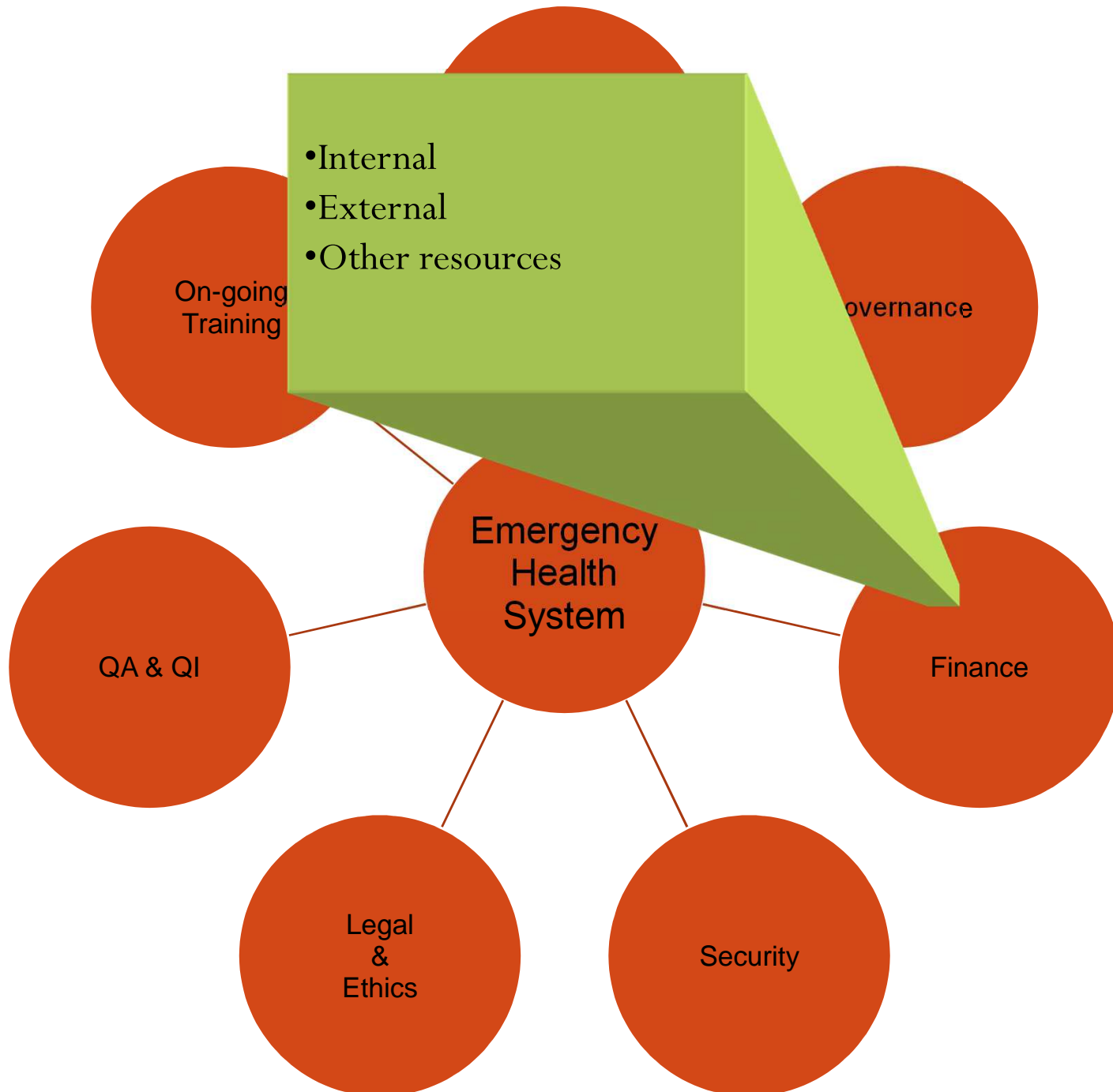
System Requirements



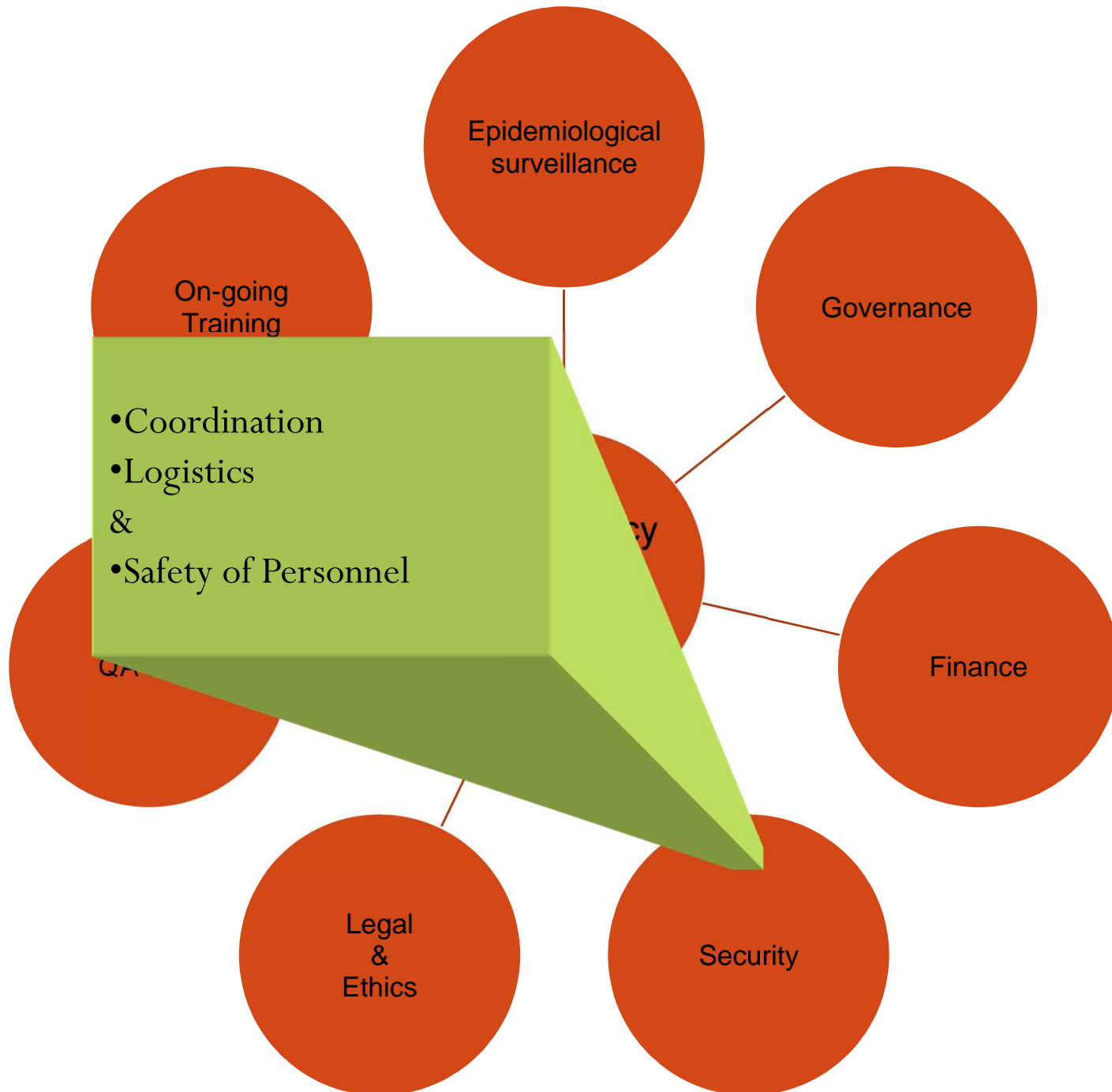
System Requirements



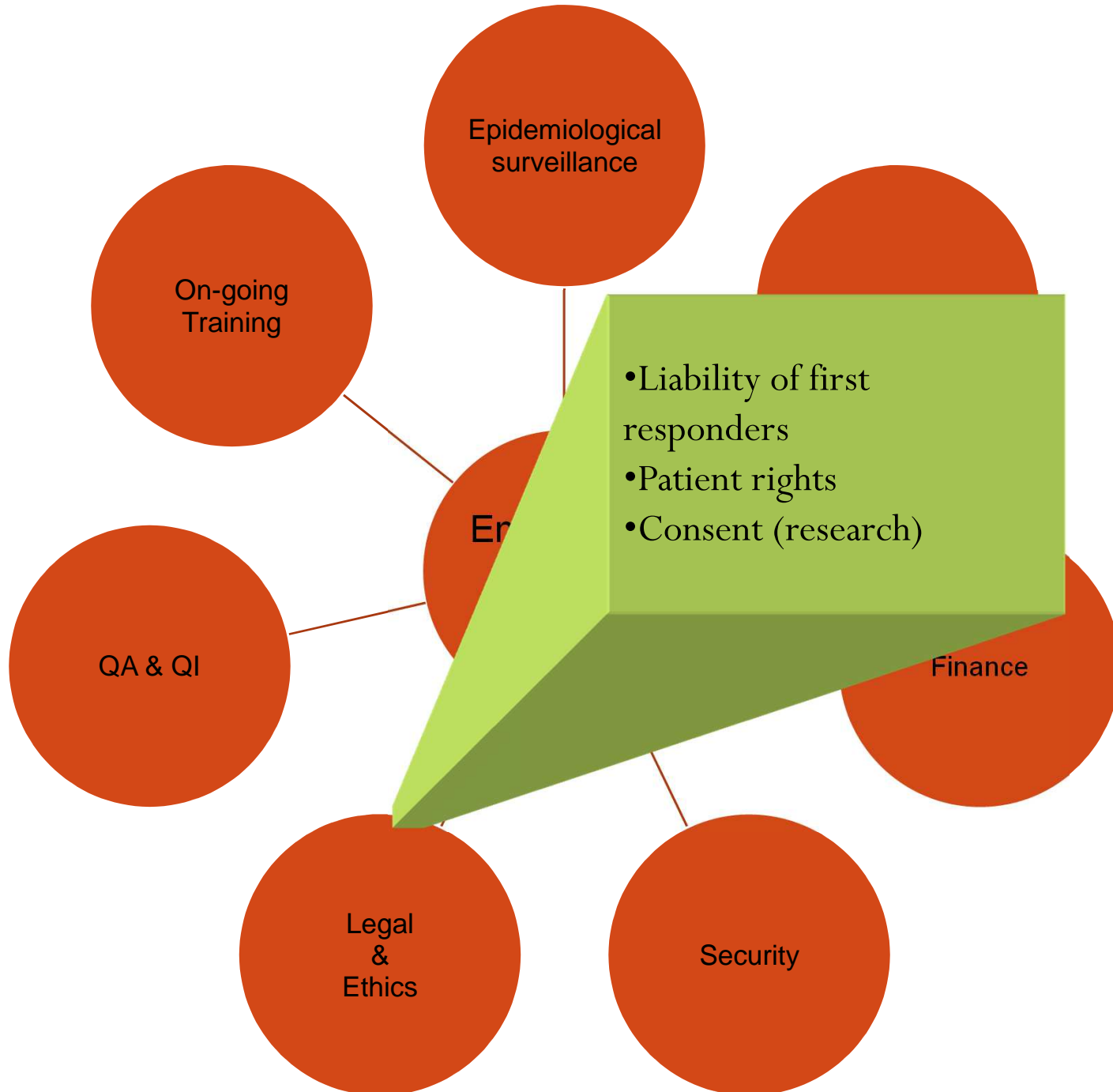
System Requirements



System Requirements



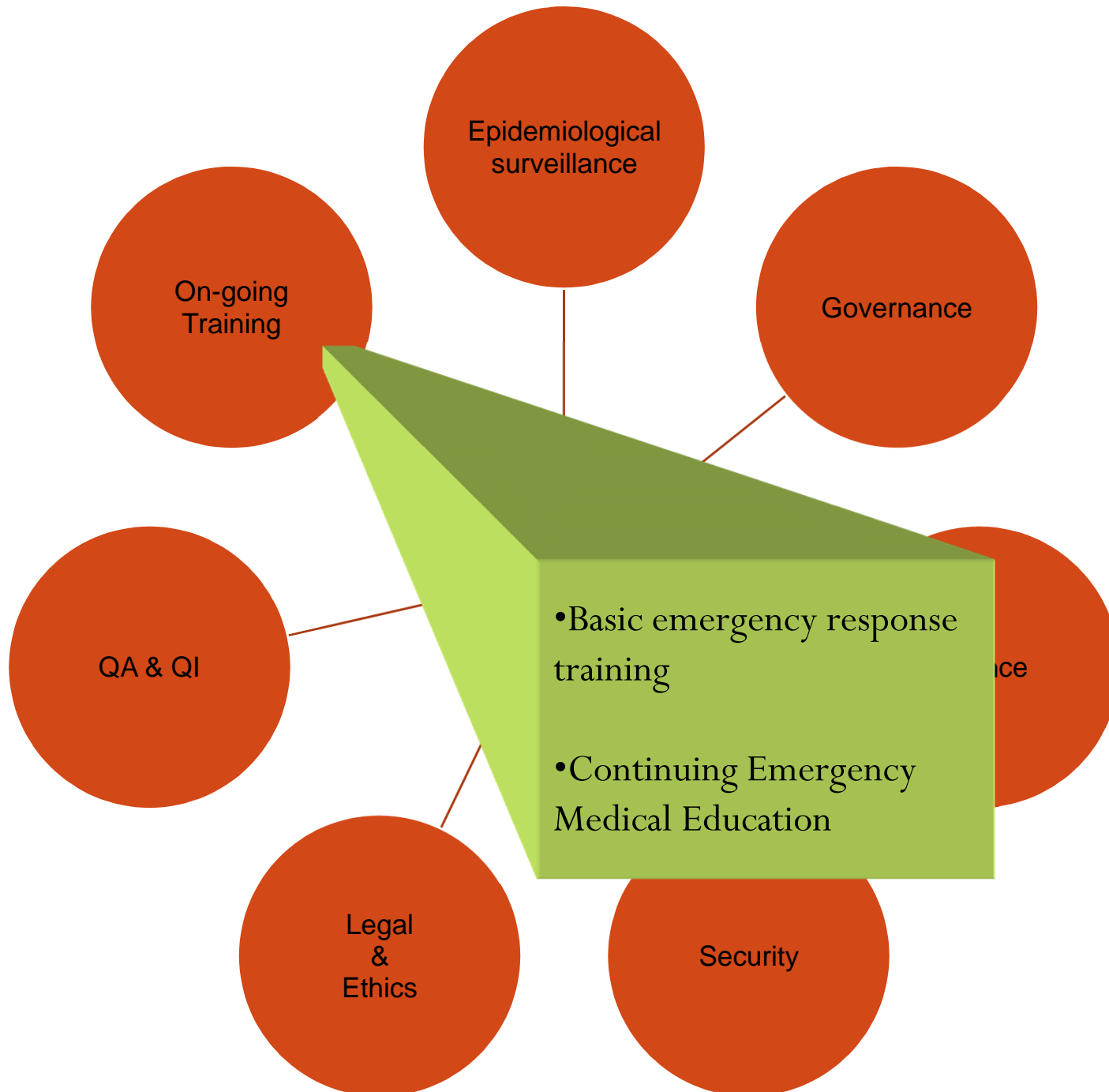
System Requirements



System Requirements



System Requirements



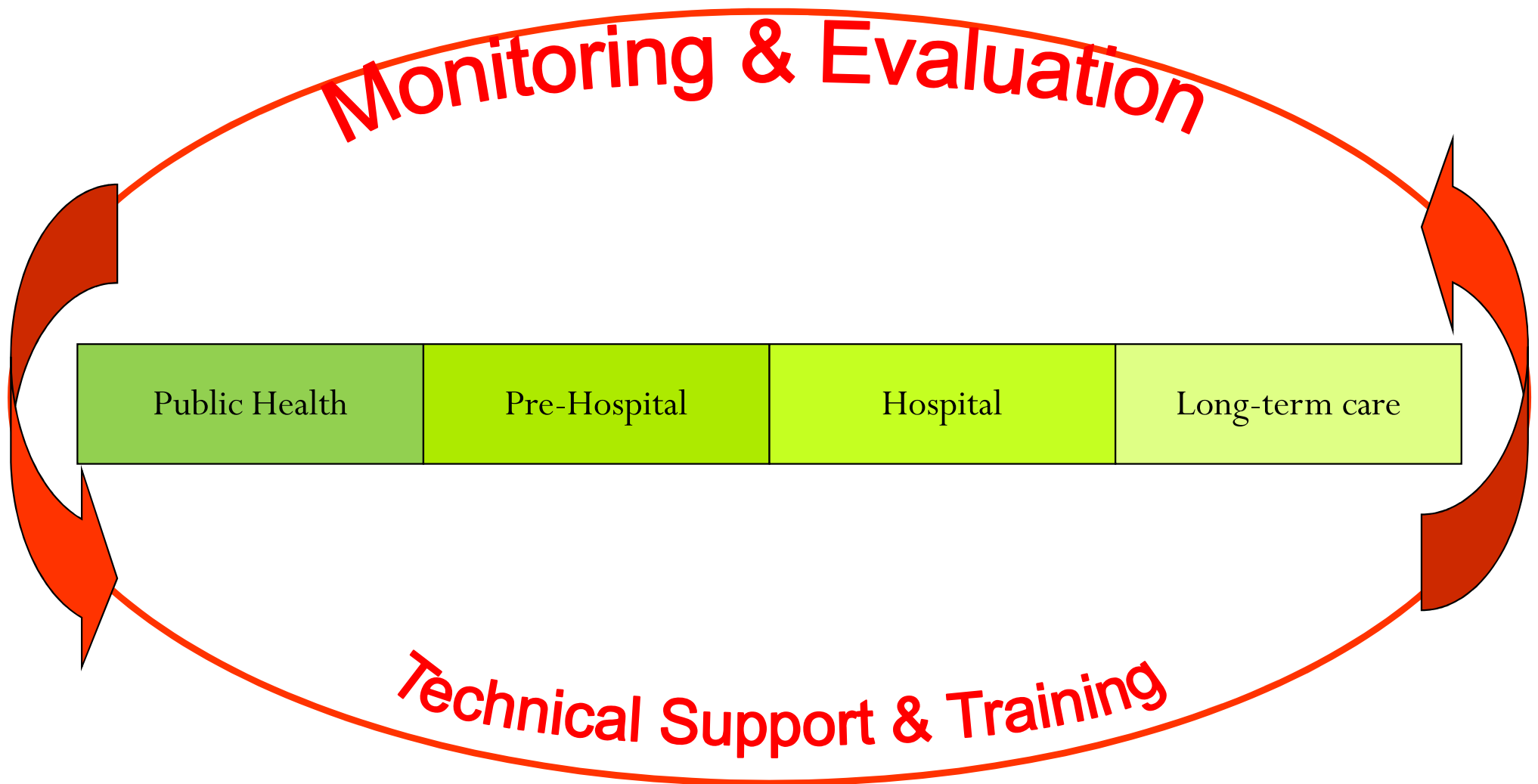
System Requirements



Day to Day Interventions

Evidence Based Lessons from EMS

Health Systems and Emergencies



Trained Lay first Responders & Volunteer Paramedics

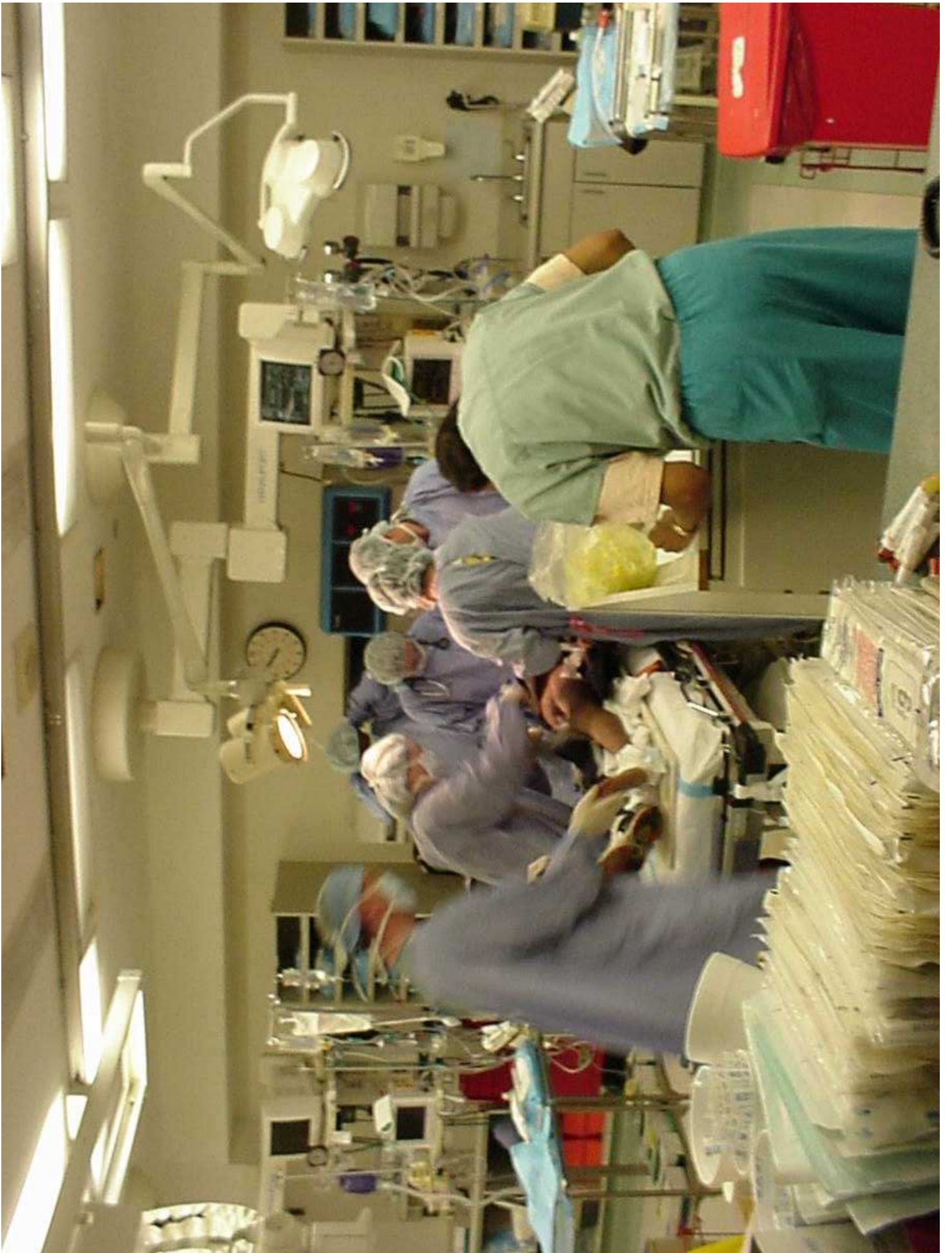


Cost Per Death Averted			
Region	Low	Best	High
East Asia-Pacific	\$74	\$130	\$203
MENA	\$89	\$283	\$708
LAC	\$89	\$202	\$299
Africa	\$83	\$141	\$311
<i>Average</i>	\$82	\$170	\$342

Based on estimates for population of 1 million people; International US\$

Kobusingye, Hyder et al, 2006









Estimates for Latin America & Caribbean (LAC)



Intervention	Trained Lay First Responders and Paramedic Responders	Staffed Community Ambulance <u>Urban</u>	Staffed Community Ambulance <u>Rural</u>
Cost Per Death Averted			
LAC	\$202	\$2,215	\$6.656
<i>LMIC Average</i>	<i>\$170</i>	<i>\$1,818</i>	<i>\$5,468</i>
Cost per Life Year Gained			
LAC	\$8	\$111	\$335
<i>LMIC Average</i>	<i>\$7</i>	<i>\$95</i>	<i>\$284</i>

Potential Burden to be addressed by EMS - Global



Group	Disease	Deaths (000)	DALYs (000)
I: Communicable	diarrheal diseases	1,777	58,697
	childhood cluster	1,362	43,131
	maternal conditions	507	26,383
	meningitis	169	5,475
	malaria	1,207	39,961
II: Chronic	diabetes	757	15,804
	hypertensive heart	760	9,969
	ischemic heart	5,699	71,882
	cerebrovascular	4,608	62,669
	asthma	205	11,514
III: Injuries	unintentional	3,214	113,235
	intentional	1,501	42,615
Total "EMS-related":		21,766	501,335
<i>% of LMIC total:</i>		45	36

Remember the Health “System”

Systems Approach to EMS

Summary



- The health “system” has to be an integral component of any emergency response and preparedness
- In fact, it can be the *driver for change* – by developing its capacity to monitor and address emergencies
- There are specific *system requirements* that need to be understood and developed
- Regular “practice” that involves good preparedness principles allows the health system to function well on a day to day basis and when disasters strike



Thank you!

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