

Pre hospital care and Trauma .

Dr Sanjaya Karki.

Department of Emergency/EMS/HEMS.

Emergency and Aviation medicine specialist .

PHC and Trauma

- Globally, road traffic injury (RTI)- eighth leading cause of death and is projected to rise to the top five by 2030.
- Approximately 90% of the estimated 1.2 million deaths from RTI occur in low-income and middle-income countries.
- Nepal - 14 512 deaths were recorded by the traffic police over the 12-year period, 2001–2013

PHC and Truama

- Trauma remains a leading cause of death in the U.S. Greater than 35,000 people die in traffic crashes each year, or about 4 every hour.
- One-fifth of those deaths, according to a report from the National Academies of Sciences, Engineering and Medicine (NASEM), could be prevented if victims received optimal emergency and trauma care.
- (National highway traffic safety administration) NHTSA data show that over one third of seriously injured motor vehicle crash victims are not taken directly to a level 1 or 2 trauma center.

PHC and Trauma

- NHTSA and the Office of EMS see an opportunity to save more trauma victim lives by:

Transporting more severely injured trauma victims to level 1 or 2 trauma centers

Implementing evidence-based guidelines for trauma care and destination decisions

Supporting the development of a national trauma care system

EMS

EMS is the acronym for Emergency Medical Services.

The EMS system is constantly evolving. Originally, the primary role was transportation.

Now, EMS refers to the treatment and transport of people in crisis health situations that may be life threatening.

Emergency medical support is applied in a wide variety of situations: from car accidents, to drowning, to incidents of heart attack.

EMS

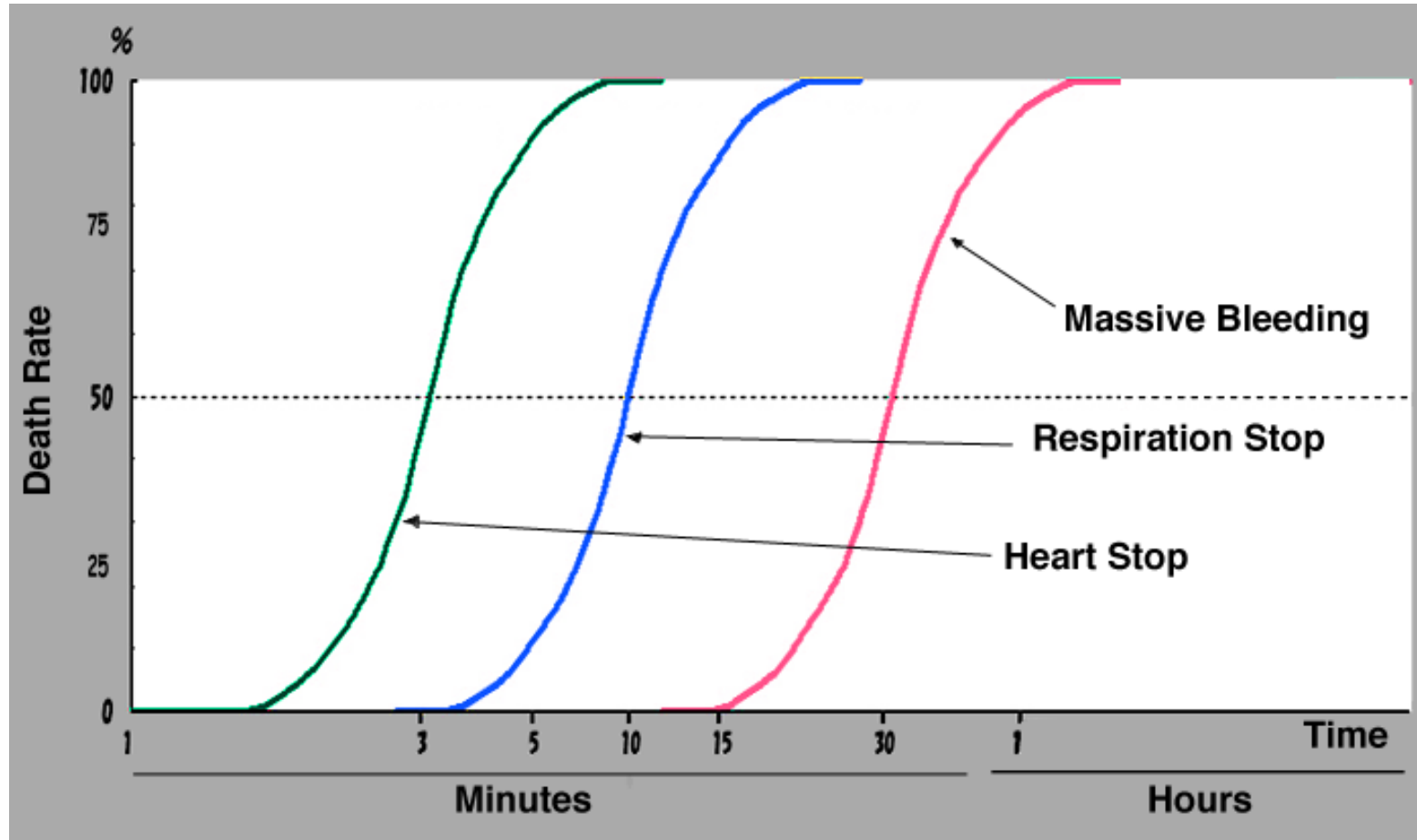
- Patient outcomes are determined by:
 - Bystander care
 - Dispatch
 - Response
 - Pre-hospital care
 - Transportation: According to a study in Nepal, only 10% arrive by ambulance, 54% arrive by taxi and 10% of them arrive by own.
 - Emergency room Care
 - Definitive care and Rehabilitation

EMS

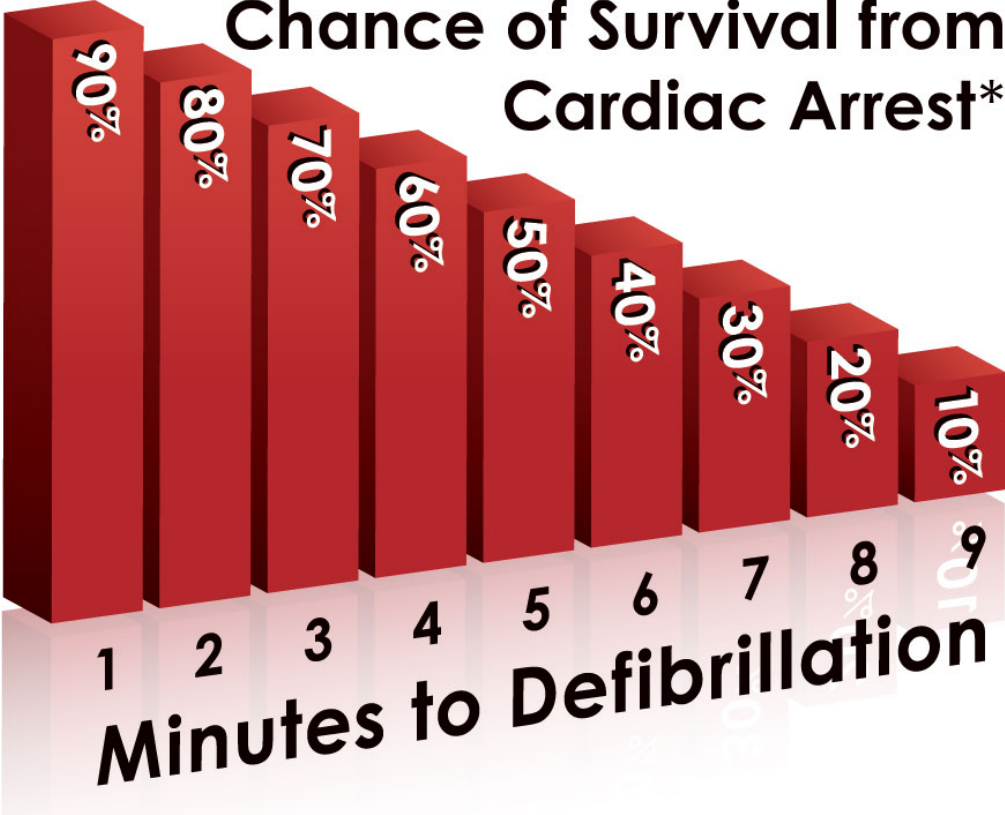
- Today, 54 per cent of the world's population lives in urban areas, a proportion that is expected to increase to 66 per cent by 2050.
- 28 mega cities-home to 453m people.
- Violent crimes, traumatic injuries, MVA
- Poorly regulated work environment ,unsafe road and vehicles, lack of well trained emergency medical personnel

Goal of EMS

‘Get the right patient, to the right place, in the right amount of time’



Chance of Survival from Cardiac Arrest*



History of EMS

- 1485
 - First use of an ambulance
 - Transport only
- 1800s
 - First use of ambulance/ attendant to care for injuries/ill patients on site
- 1926
 - Service started similar to present day
- 1940s
 - EMS turned over to fire and police departments
 - No standards set







Pre Hospital Care

- EMS
 - Anglo-American
 - Franco-German
 - Hybrid
- HEMS
 - Traditional
 - Community based
 - Government operated



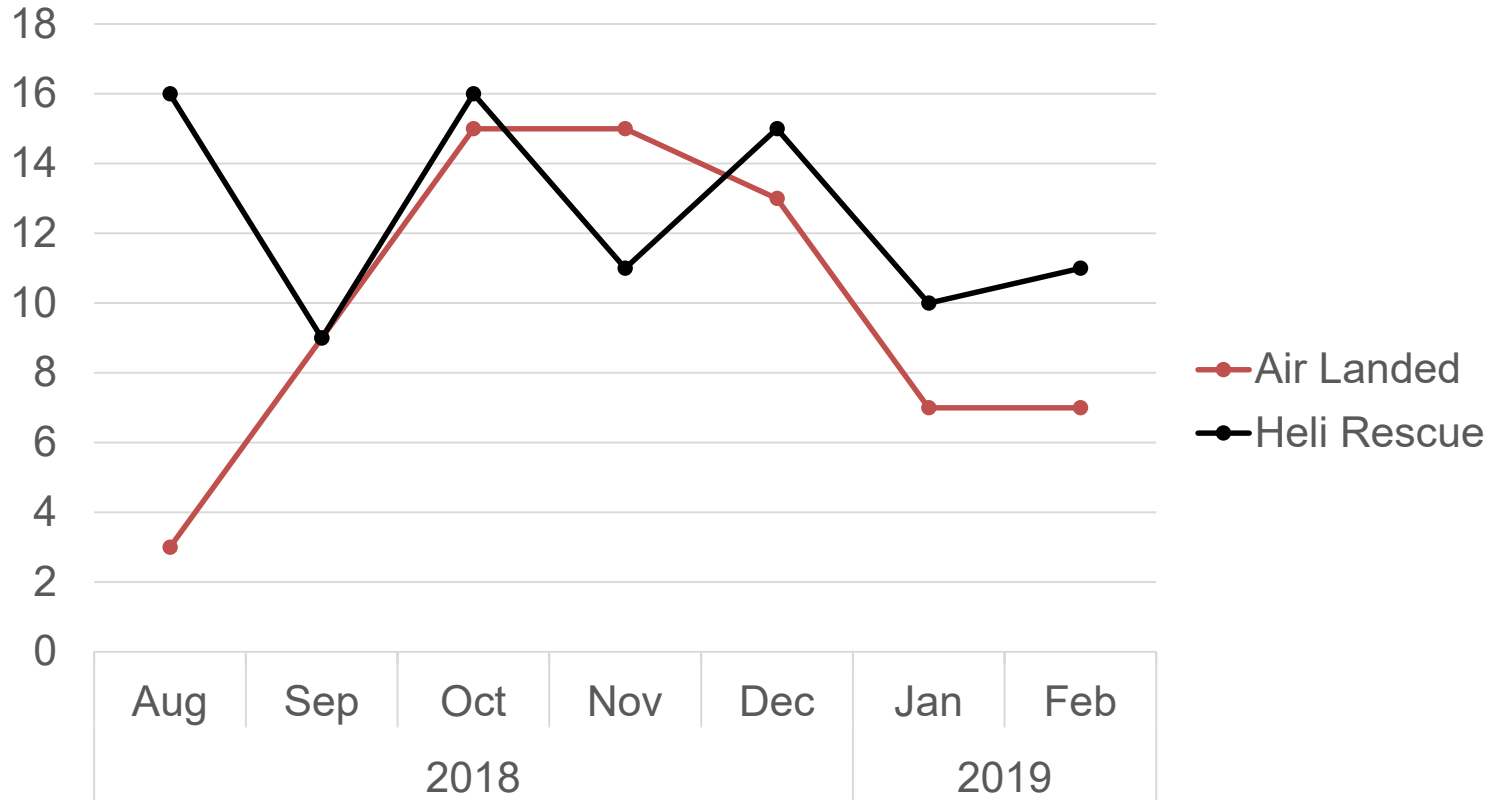




Helicopter emergency medical services by Nepal Mediciti

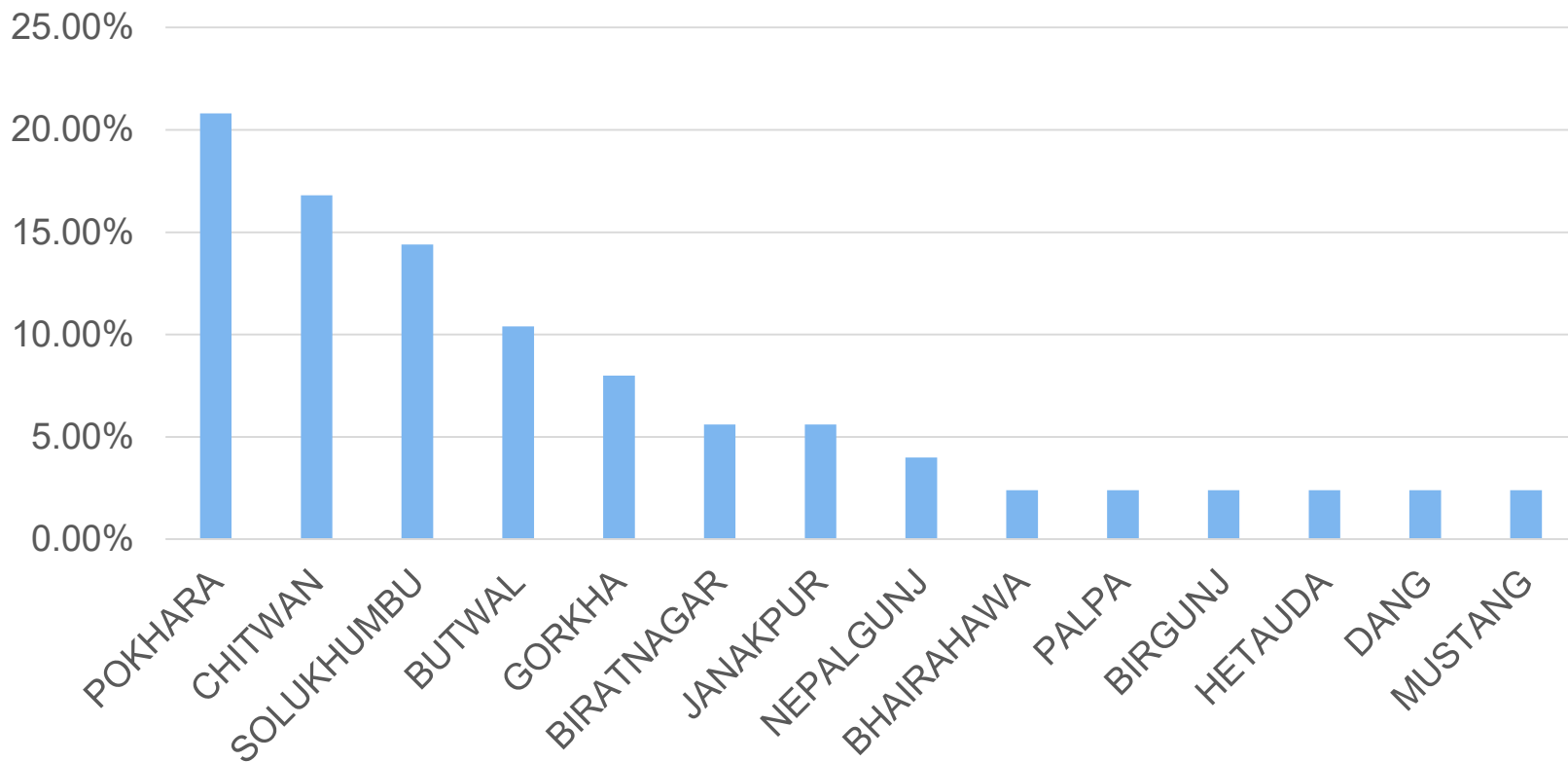
Years	Date	Air Landed	Heli Rescue	Grand Total
2018	Aug	3	16	19
	Sep	9	9	18
	Oct	15	16	31
	Nov	15	11	26
	Dec	13	15	28
2018 Total		55	67	122
2019	Jan	7	10	17
	Feb	7	11	18
2019 Total		14	21	35

Rescue Status (Monthly)



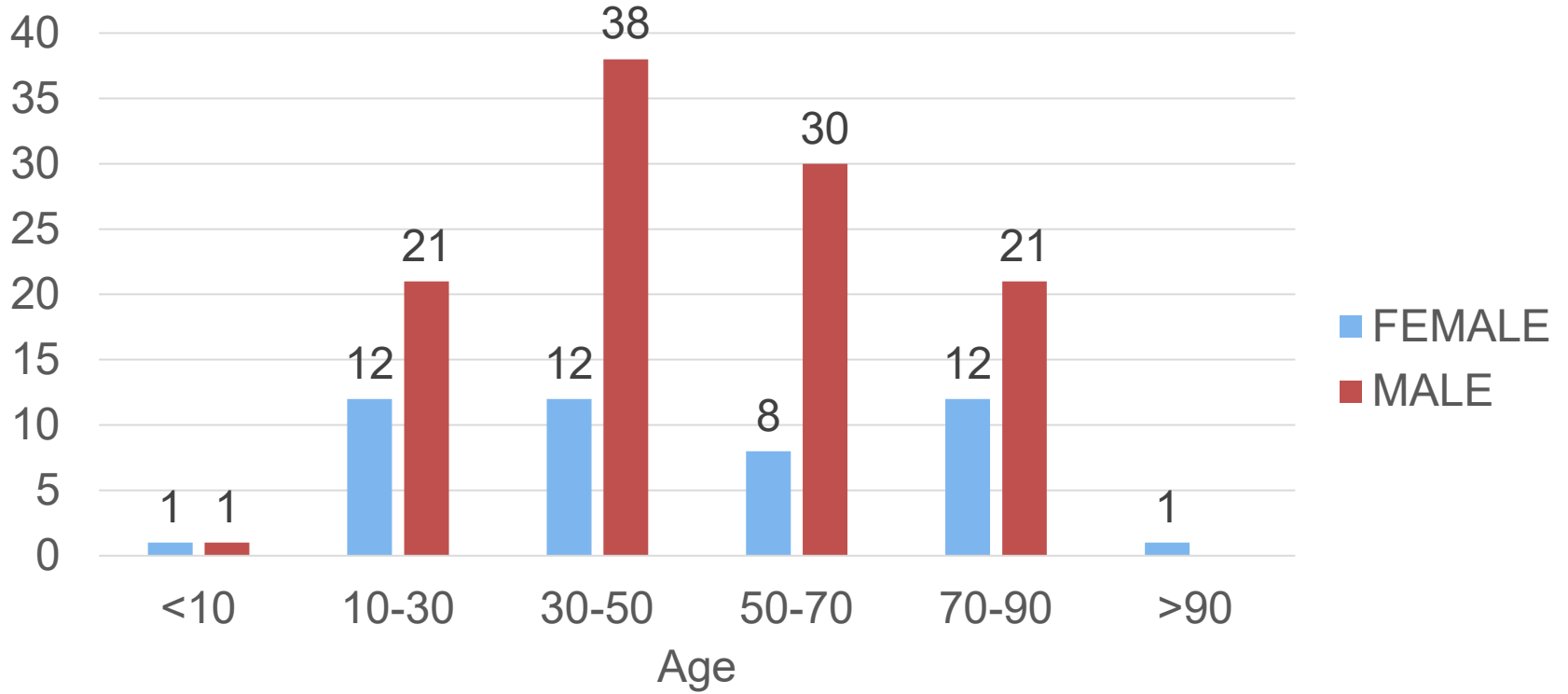
Geography	Number of pts based on Geography(Out of 157 Patients)
POKHARA	20.80%
CHITWAN	16.80%
SOLUKHUMBU	14.40%
BUTWAL	10.40%
GORKHA	8.00%
BIRATNAGAR	5.60%
JANAKPUR	5.60%
NEPALGUNJ	4.00%
BHAIRAHAWA	2.40%
PALPA	2.40%
BIRGUNJ	2.40%
HETAUDA	2.40%
DANG	2.40%
MUSTANG	2.40%

Patient Category (Geography Wise)



Count based on age and Sex	Sex		
Age (yrs)	FEMALE	MALE	Grand Total
<10	1	1	2
10-30	12	21	33
30-50	12	38	50
50-70	8	30	38
70-90	12	21	33
>90	1		1
Grand Total	46	111	157

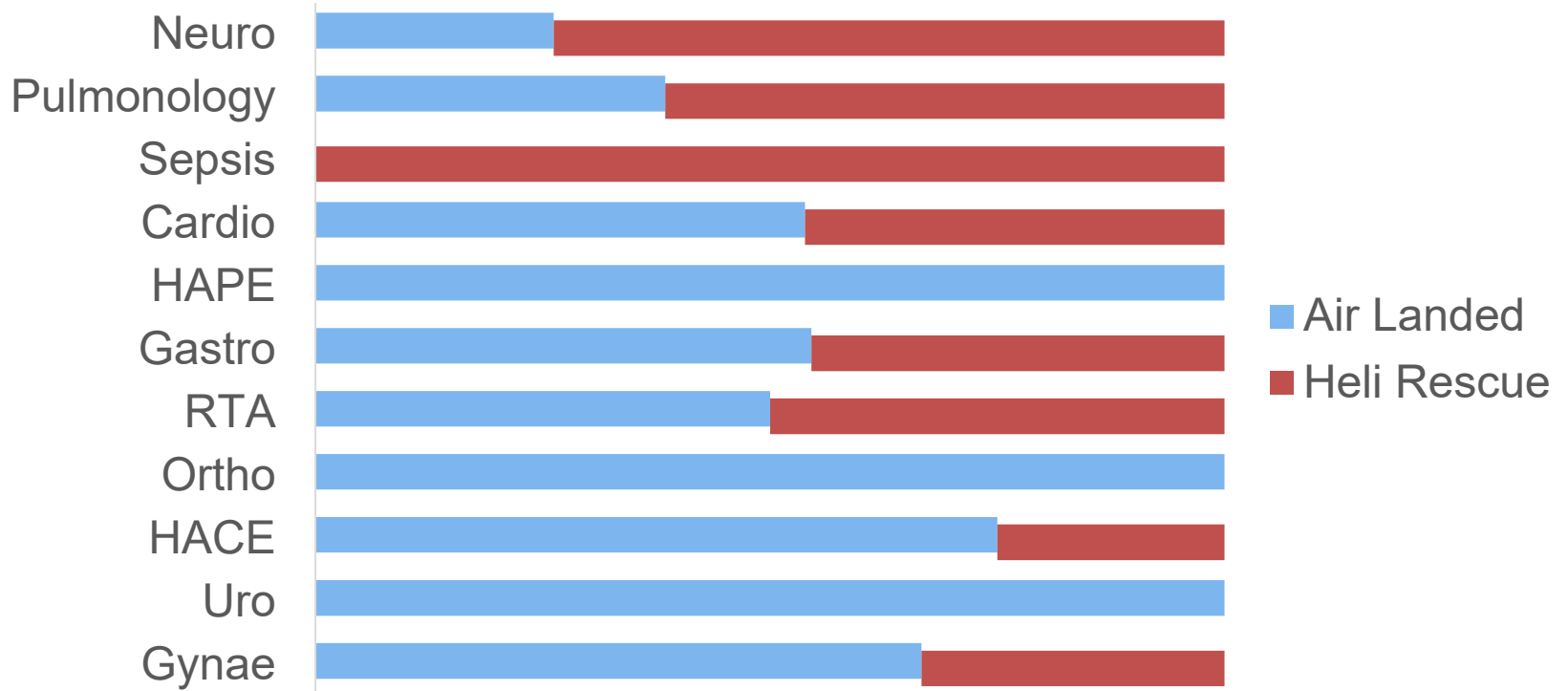
Age/ Sex Distribution of Patients



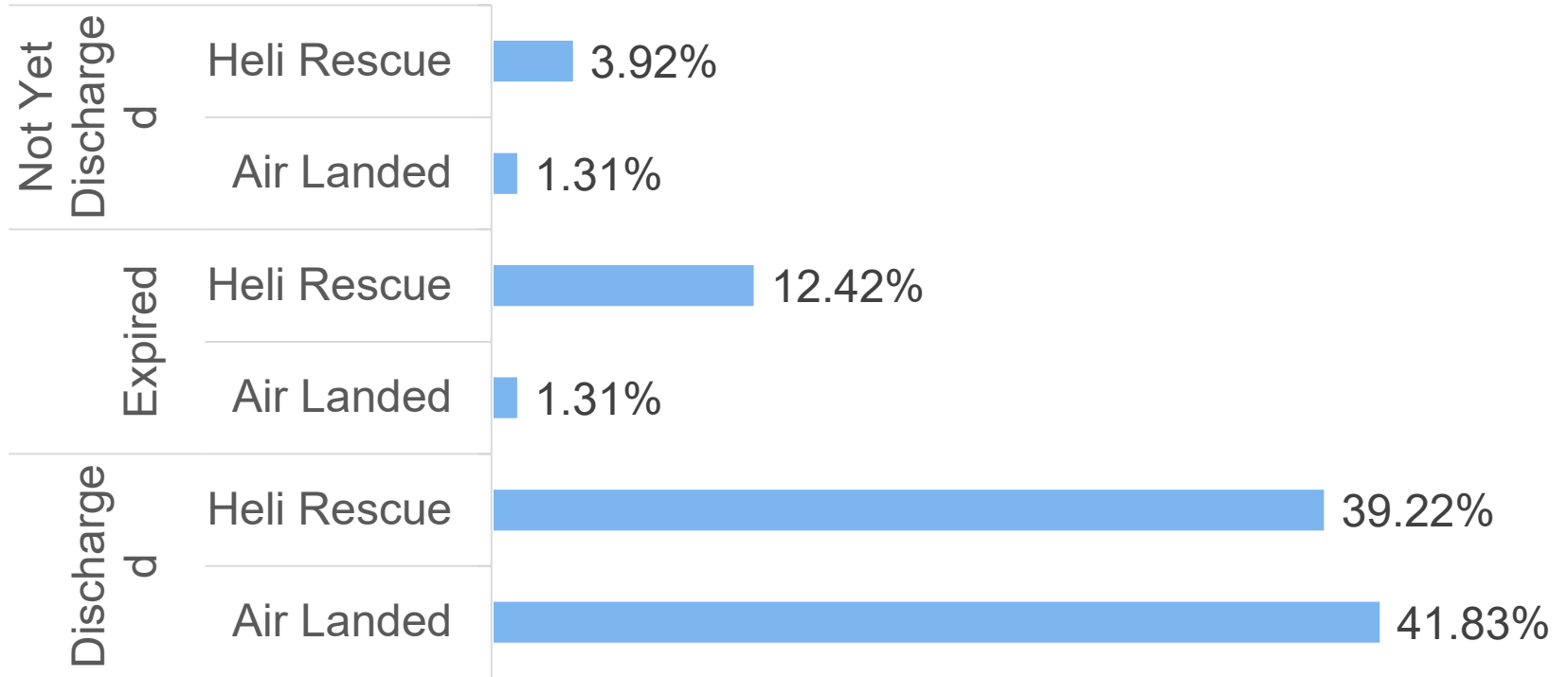
Based on disease (System)

System Wise	Air Landed	Heli Rescue	Grand Total
Neuro	11	31	42
Pulmonology	10	16	26
Sepsis		16	16
Cardio	7	6	13
HAPE	11		11
Gastro	6	5	11
RTA	5	5	10
Ortho	6		6
HACE	3	1	4
Uro	3		3
Gynae	2	1	3
Grand Total	64	81	145

Categorywise Distribution of Patient



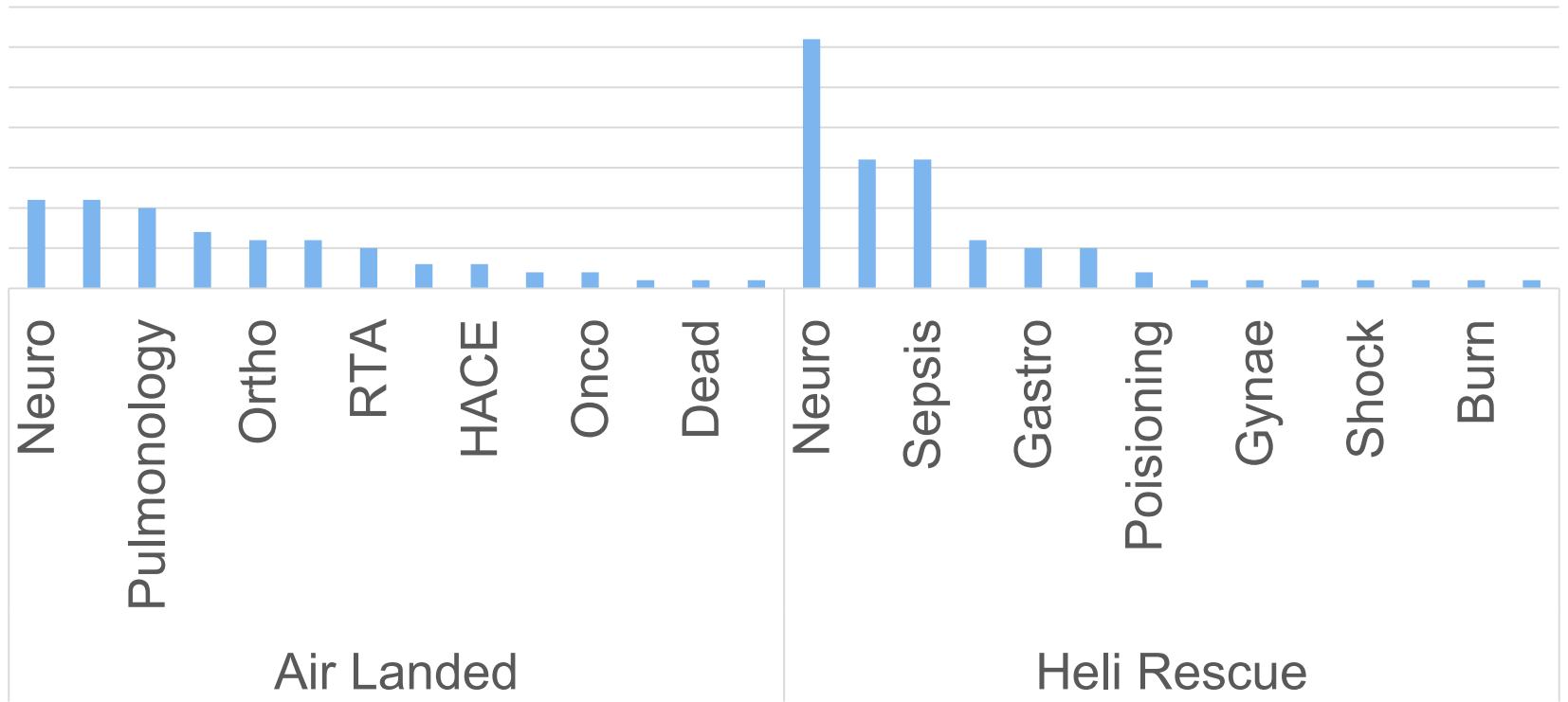
Discharge/Expired Status of Rescued Patients



Category	Average of Length of Stay in ICU	Average of Length of Stay in Ward	Average of Length of Stay in hospital (Days)
Air Landed	2	7	10
Heli Rescue	6	15	21
Average Length of Stay	5	11	16

Category	System Wise	Count of System Wise
Air Landed	Neuro	11
	HAPE	11
	Pulmonology	10
	Cardio	7
	Ortho	6
	Gastro	6
	RTA	5
	Uro	3
	HACE	3
	Gynae	2
	Onco	2
	Surgery	1
	Dead	1
	Nephro	1
Air Landed Total		69
Heli Rescue	Neuro	31
	Pulmonology	16
	Sepsis	16
	Cardio	6
	Gastro	5
	RTA	5
	Poisoning	2
	Snake Bite	1
	Gynae	1
	HACE	1
	Shock	1
	Hepatology	1
	Burn	1
	Nephro	1
Heli Rescue Total		88

Categorized Rescue-Systemwise



THANK YOU

