Expert Guided Emergency Department- Planning, Designing and Commissioning at Aster Medcity

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Overview of hospital

- Aster Medcity provides comprehensive healthcare of the highest quality that revolves around its 9 Centre of Excellence. An integrated healthcare township that has exceptional infrastructure. Aster Medcity is set to surpass all current notions of healthcare .Conceptualized to give you the best-in-class environment. Aster Medcity offers primary, secondary, tertiary, and quaternary healthcare in a setting that is conducive for good health.
- Developed across a 1 km waterfront on 40 acres at Cheranalloor, Kochi.
- A multi-speciality hospital flanked by 9 Centre of Excellence.
- 3.2 million sq. ft. built up area in phase 1 and 2.
- 575 beds in phase 1,500 beds in phase 2.
- Green building concept designed for LEED Gold Certification.
- 500 seat medical convention centre.
- The township has the capacity to accommodate around 10,000 people.
- Has a helipad and boat jetty enabling quick air and marine connectivity.

VISION: "A caring mission with a global vision".

MISSION:-

- Become the preferred provider of high quality comprehensive healthcare to the mankind.
- Be an employer of choice to the job seeker.
- Pursue clinical and service excellence and set benchmarks in patient care, research education and social responsibilities through a compassionate and motivated team.

Introduction:

- An **emergency department** (**ED**), also known as **accident and emergency** (**A&E**), **emergency room** (**ER**), or **casualty department**, is a medical treatment facility specializing in acute care of patients who present without prior appointment, either by their own means or by ambulance. The emergency department is usually found in a hospital or other primary care centre.

Commissioning – what it is?

- Commissioning is bringing into use, on time, a facility that has been designed in consultation with those who will use it.
- It starts at the onset of the project, ie.before building onsite commences.
- It finishes with evaluation after the project has been completed and the facilities brought into use.

AIM: To design, develop and commission comprehensive Emergency Department based on expert expectancy.

OBJECTIVES:

- To identify factors responsible for a well commissioned service in the integrated Emergency Department.
- To develop and support an integrated emergency care pathway.
- To ensure delivering prompt high quality, safe, and accessible emergency care.

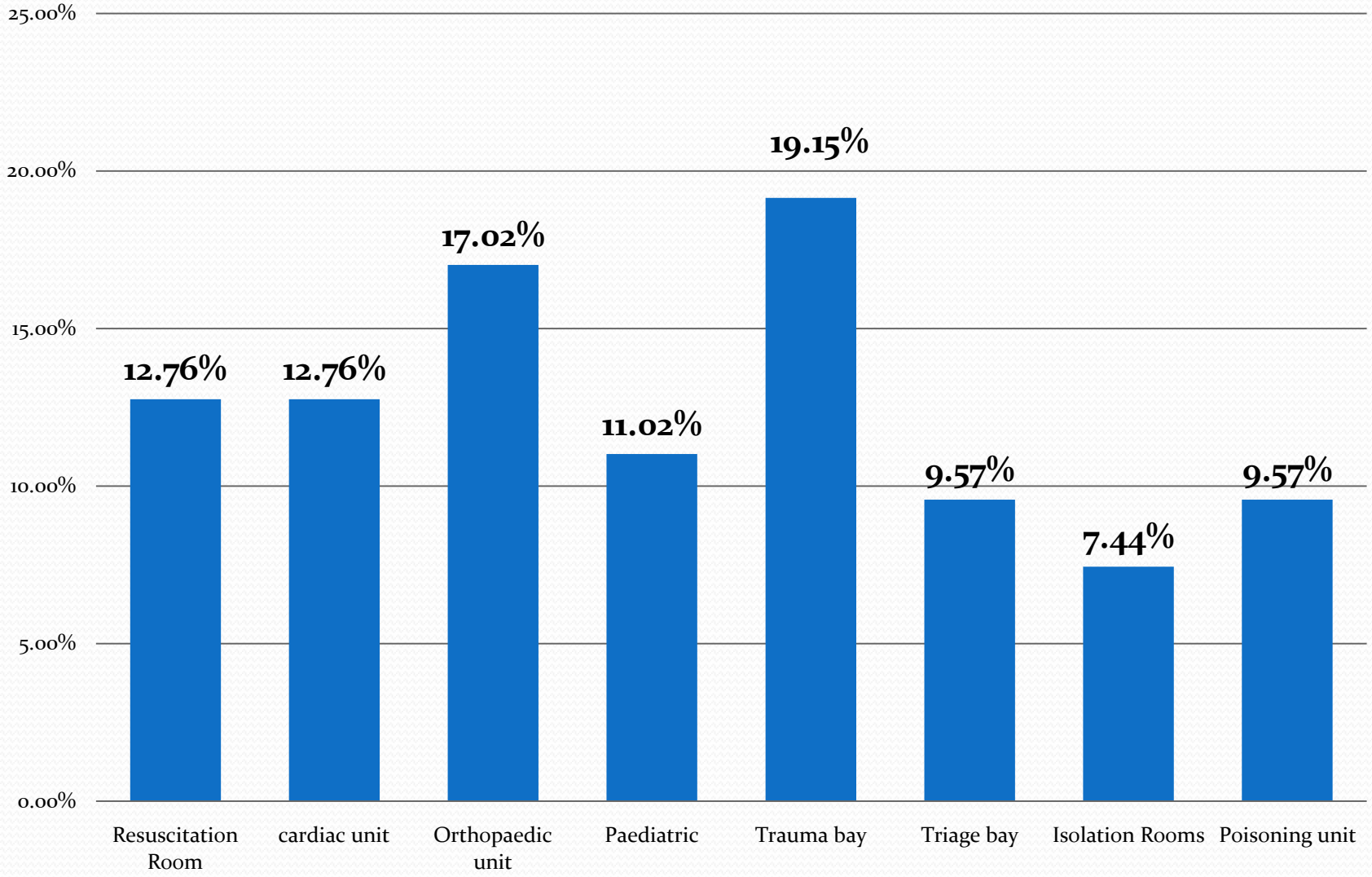
Methodology:

- Type of Study: - Exploratory Study.
- Location of Study: - D M Healthcare –Aster medcity, Kochi.
- Site of Study :- Emergency Department
- Sample size -40
- Sampling Method: - Purposive Sampling Technique.
- Source of Data :- in-depth review of literature
- Data collection tools :- Questionnaire, checklist , Observation and Face to face interview

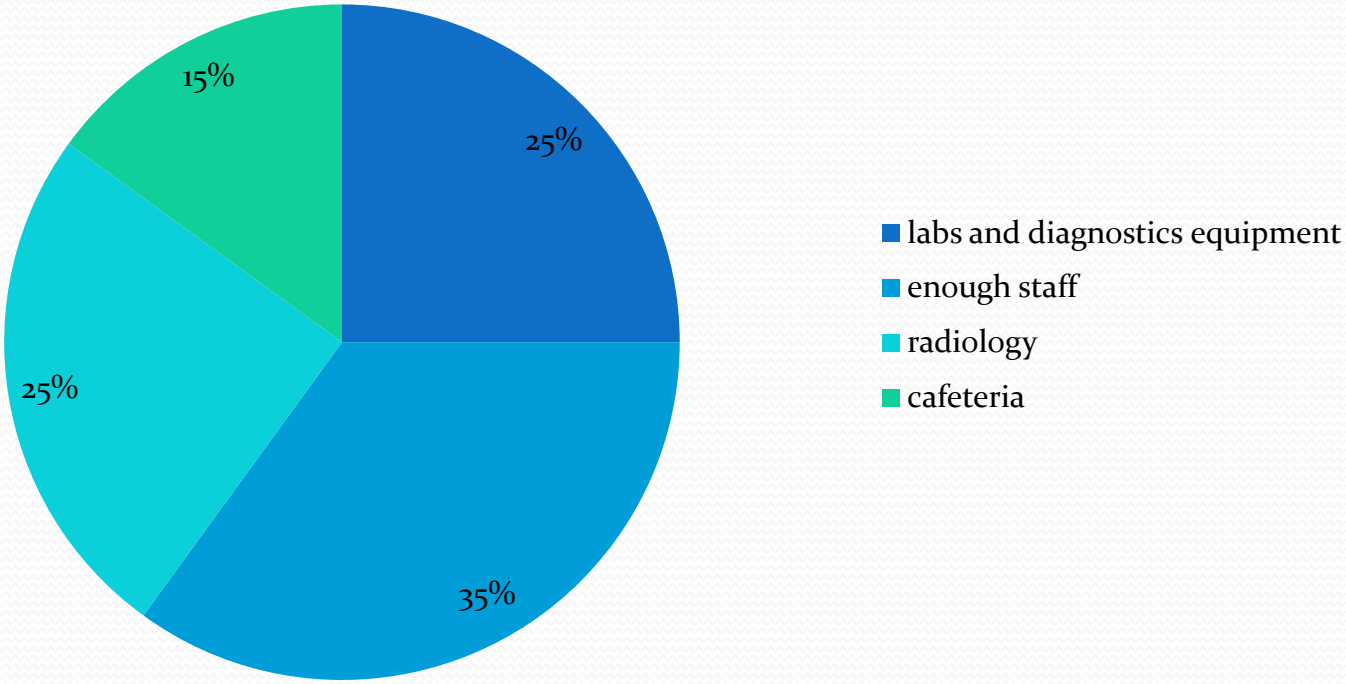
To identify factors responsible for a well commissioned service in the integrated Emergency Department.

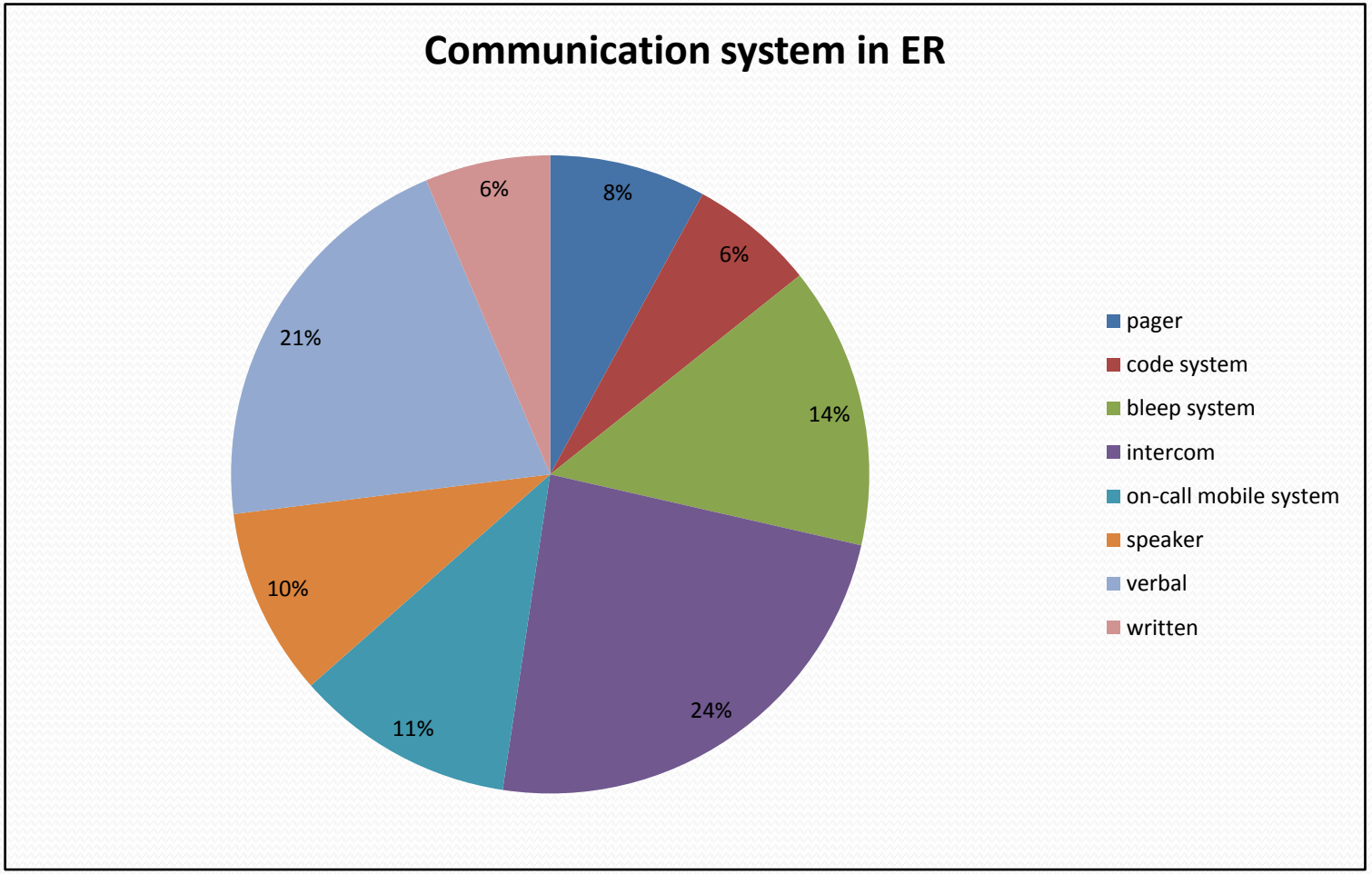
- Factors responsible for a well commissioned service in the integrated Emergency Department are :
  - Important areas in an ER.
  - Associated services with ER.
  - Manpower
  - Communication.

Departments in an ER

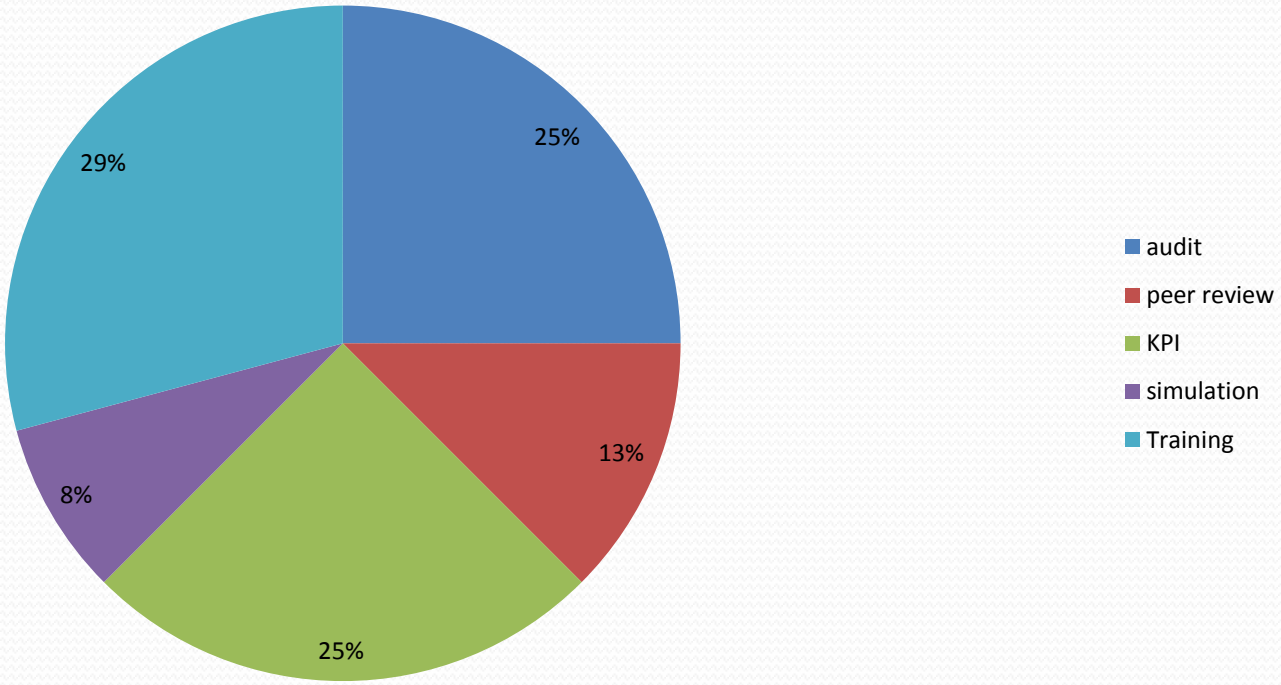


Services necessary all the time in ER



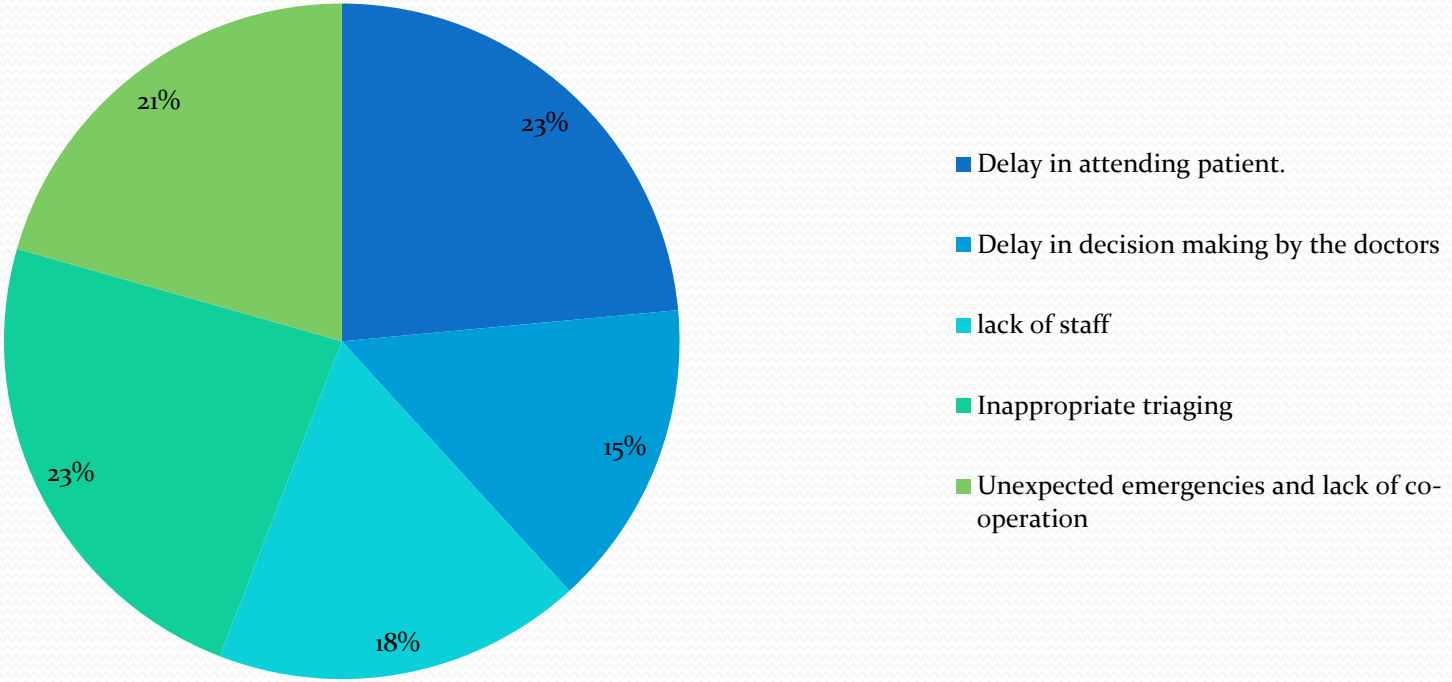

Communication system in ER
8%
6%
14%
24%
11%
10%
21%
6%
pager
code system
bleep system
intercom
on-call mobile system
speaker
verbal
written

Efficiency of staff in ER

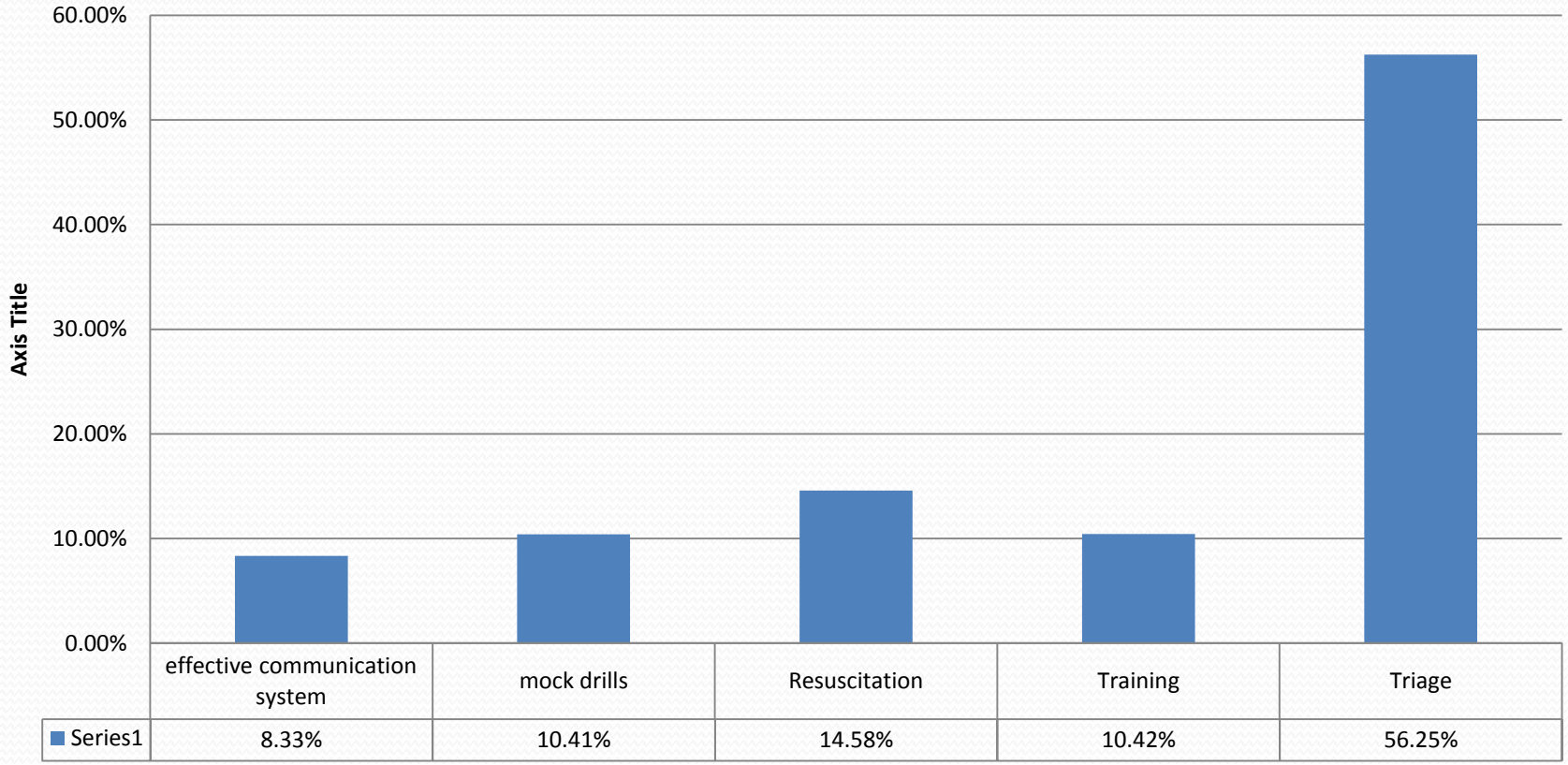


- To develop and support an integrated emergency care pathway:
- Factors responsible for crowding
- Streamlining flow
- Fasten “triage to discharge” time
- Contingency site for mass casuality.

Factors Causing Crowding in ER

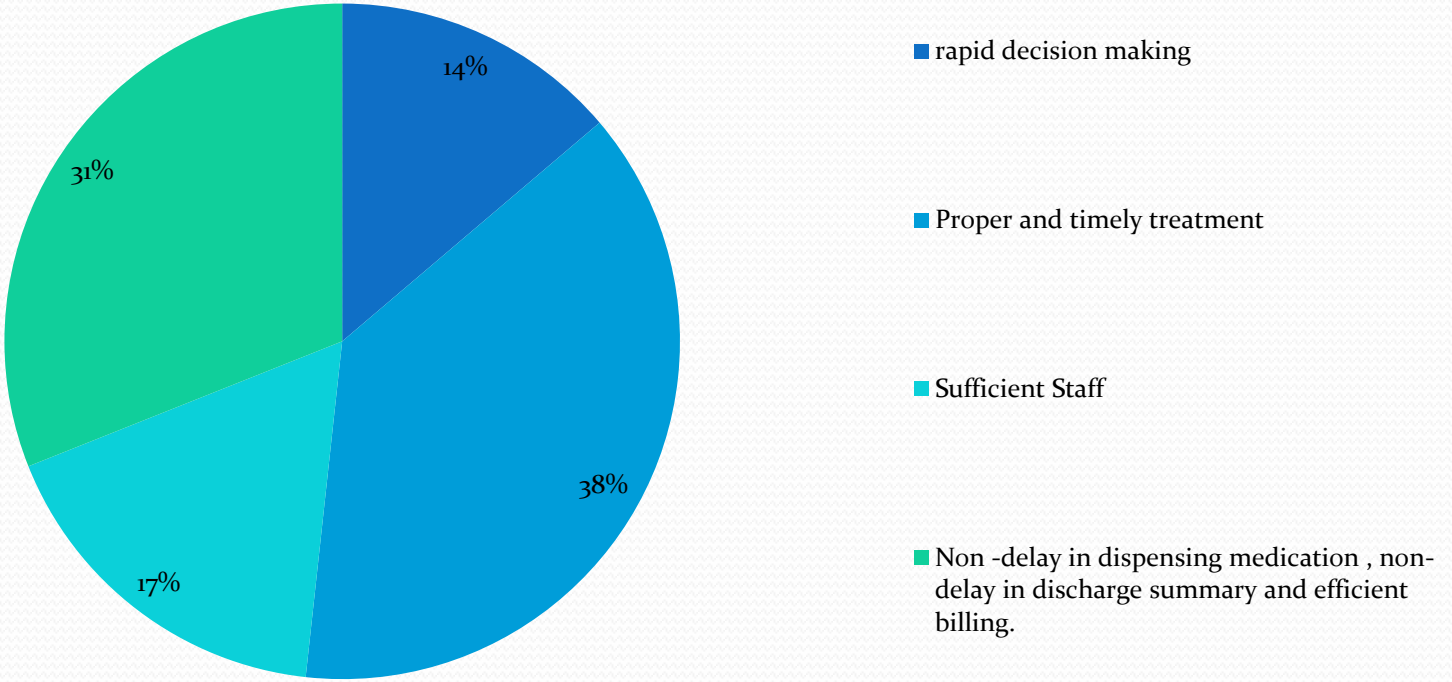


Streamlining the flow in Emergency Department

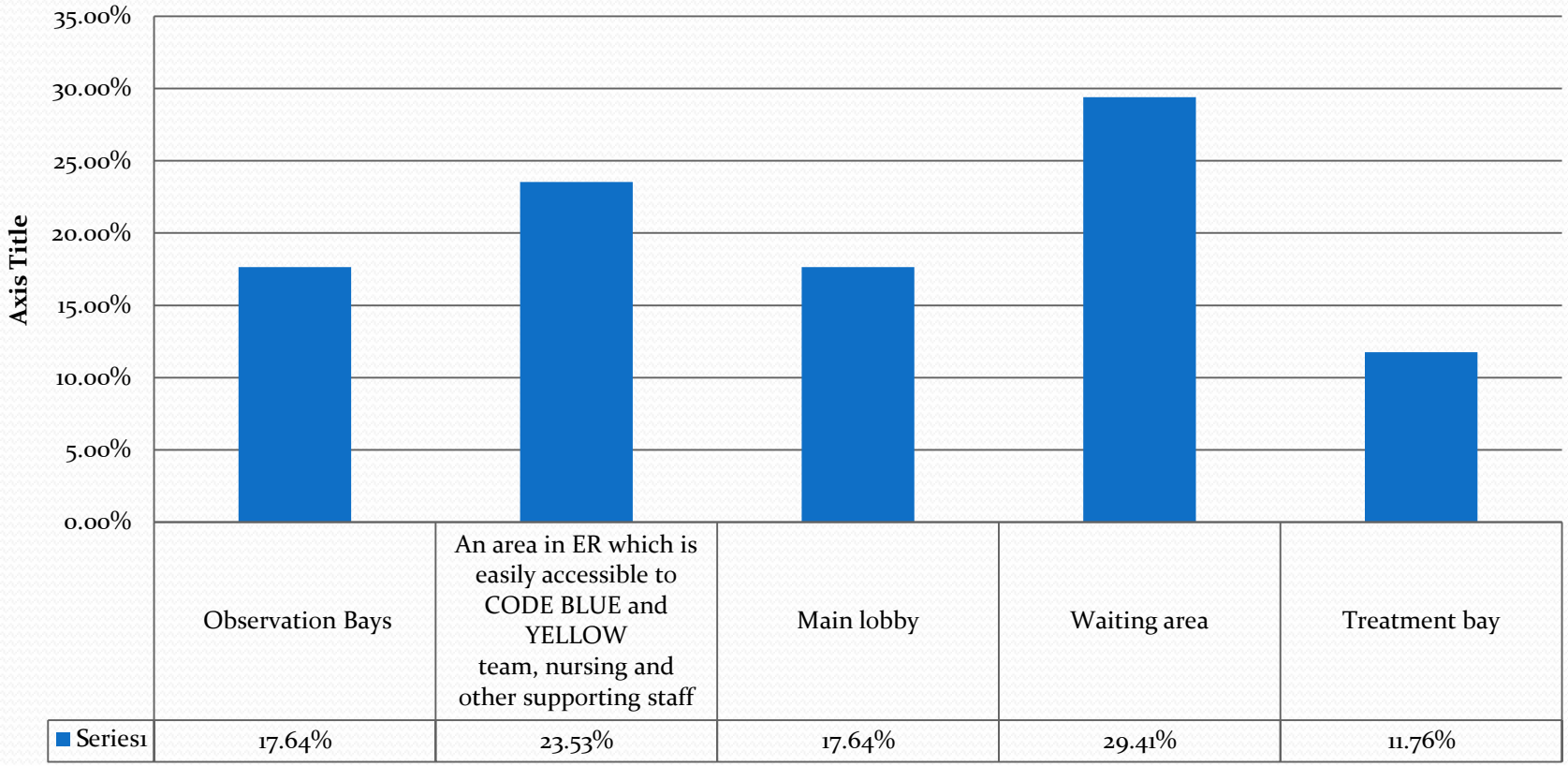


	effective communication system	mock drills	Resuscitation	Training	Triage
Series1	8.33%	10.41%	14.58%	10.42%	56.25%

Fasten "Triage to Discharge Time"



Contingency site for Triage in mass casualties

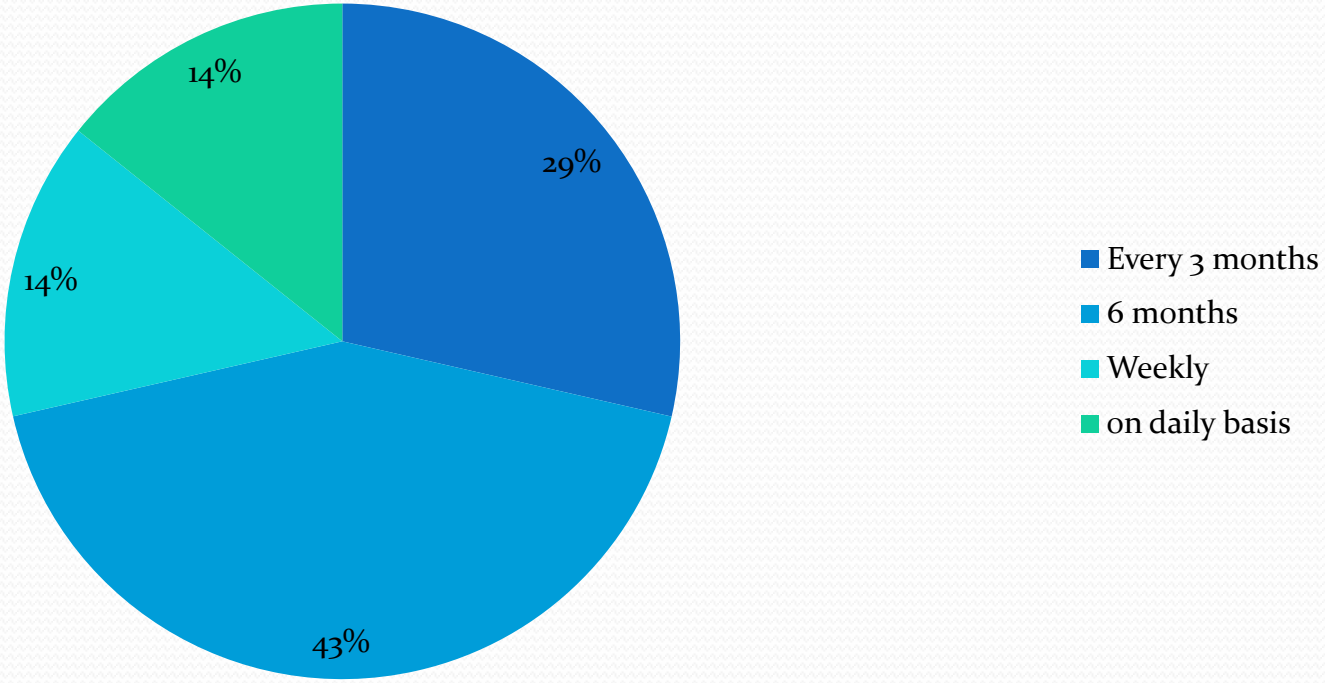


	Observation Bays	An area in ER which is easily accessible to CODE BLUE and YELLOW team, nursing and other supporting staff	Main lobby	Waiting area	Treatment bay
Series1	17.64%	23.53%	17.64%	29.41%	11.76%

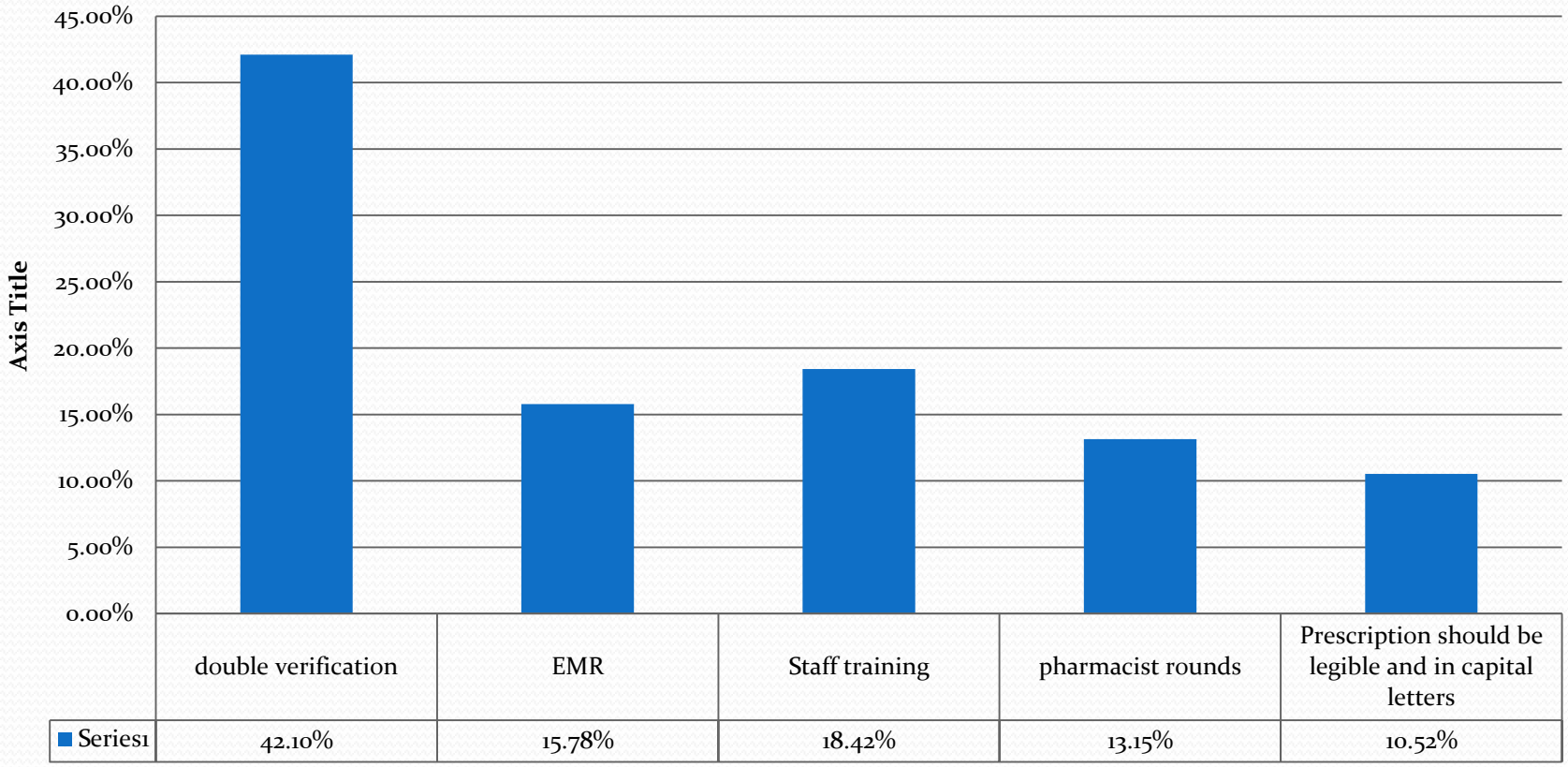
To ensure delivering prompt high quality, safe and accessible emergency care.

- To ensure the delivery of high quality, safe and accessible emergency care:-
- Training of staff
- To reduce medication error
- Transport for emergency services
- Effective ambulance
- Escorting system in ER

Training in ER

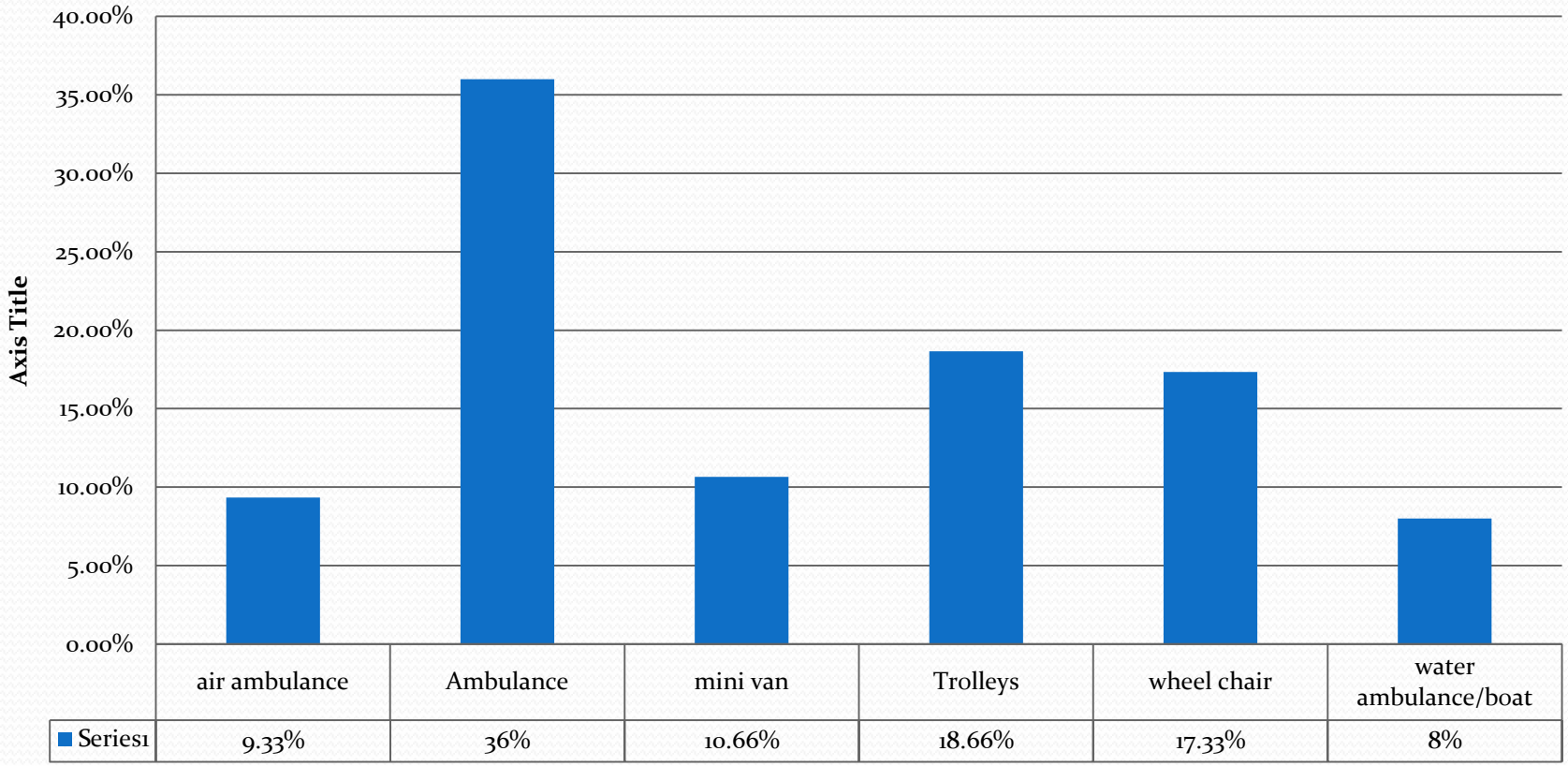


Reduction of Medication Error in ER



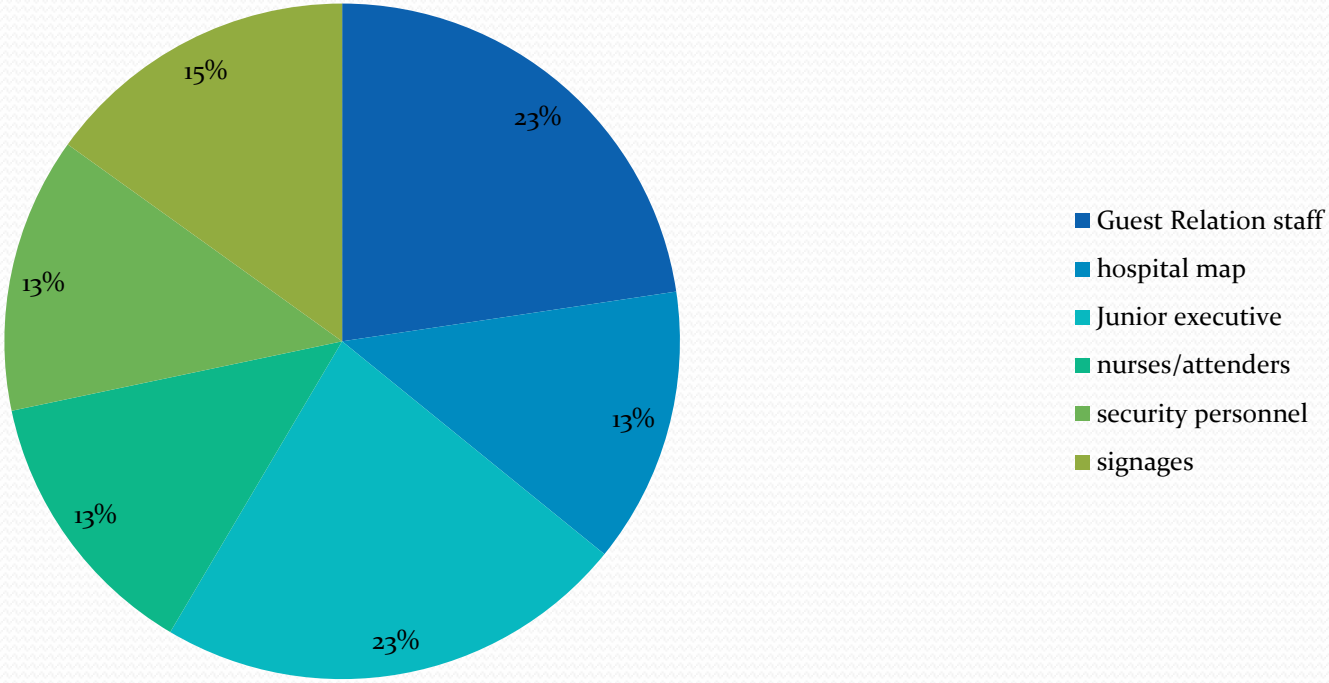
	double verification	EMR	Staff training	pharmacist rounds	Prescription should be legible and in capital letters
Series1	42.10%	15.78%	18.42%	13.15%	10.52%

Transportation systems for Emergency Patients

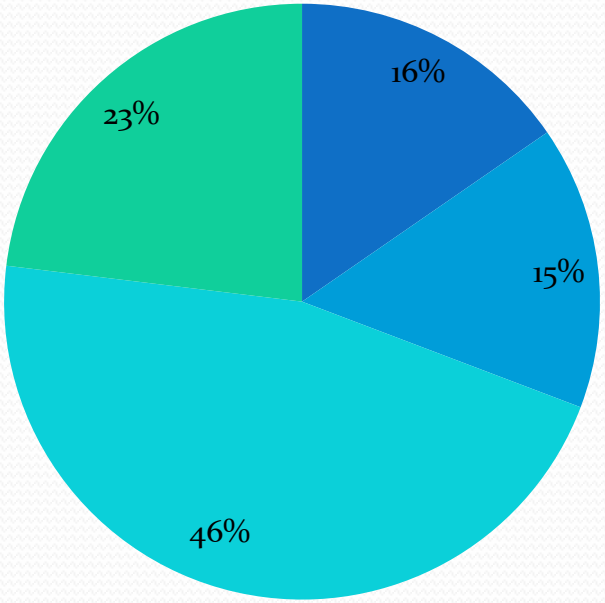


	air ambulance	Ambulance	mini van	Trolleys	wheel chair	water ambulance/boat
Series1	9.33%	36%	10.66%	18.66%	17.33%	8%

Escorting mechanism in ER



Ambulance Services



RESULT:-

- 56 % -Triage to streamline the flow
- >25%- KPI and regular audit to check competency of staff.
- 21% - Intercom for communication.
- 29%- waiting area as contingency site.
- 42%- confirmed that double verification of prescription to reduce medication error.
- 31%- To fasten “triage to discharge time”-non delay in dispensing medication, discharge and billing.

BEFORE

AFTER

BEFORE

AFTER

AMBULANCE:

Recommendations:

- In Emergency Room, there is a need to create paediatric bay.
- Emergency Department should have a designated, poisoning unit with observation capabilities that allow for better patient safety.
- To avoid **crowding** some of the recommendations are-

i. Define response times for both initiation and completion of consultations.

ii. Assign a physician to triage.

iii. To study TAT associated with ancillary services like investigations and try to reduce it.

- Carefully evaluate staffing needs.
- Monitor individual practitioners in the ED with regard to overall TAT, numbers and type of test ordered and percentage of patients admitted.
- Hospital maps should be there to guide the patient as well as the visitors.
- Timely communication of information with ambulance services, GPs and hospital in-services.
- Jidoka-(Autonomation) – To reduce medication error in ER .Errors cause machine to stop and root cause can be find quickly. For eg: in case of wrong medication, Drug-Drug interaction occurs and when we entered in HIS some indication we will get and we will correct it on time without compromising patient safety.
- Ensuring that A&E department adopt best practice for handling “major cases” including seniors.

Conclusion:

- This report has made important recommendations which I hope commissioners, clinicians, and policy makers involved in configuring emergency services will consider. The adoption of these recommendations should ensure the delivery of safe and high quality care within the Emergency Department

THANKS