Emergency Medicine Ward

- more than gatekeeping of Hospital Services

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Background

- The concept of short stay wards not new
- Similar concept elsewhere in the world
- Set up for various reasons
  - Efficiency
  - Effectiveness
  - Access block

Background

- Go under a variety of names
  - Emergency Department Observation Unit
  - Clinical Decision Unit
  - Rapid Diagnostic & Treatment Unit
  - Short Stay Unit
  - Clinical Decision & Treatment Unit
  - Extended Evaluation Unit

- The pertinent feature is that patients managed within a designated short period of time

Background

- Observation wards/areas which many A&E departments have to allow a short period of monitoring
- Emergency Medicine (EM) wards – evolved from these previous models but **different**
- EM wards - unique roles and tailored for the different needs

Christopher W. Baugh

Emergency department observation units: A clinical and financial benefit for hospitals

Health Care Management Review Jan–Mar 2011

Observation units provide high-quality and efficient care to patients with common complaints seen in the emergency department. More frequent use of observation **can increase patient safety and satisfaction** while **decreasing unnecessary inpatient admissions** and improving **fiscal performance** for both emergency departments and the hospitals in which they operate.

The clinical benefits of observation medicine have been well established **across a variety of clinical conditions.** In most cases, observation units provide a **venue** for the **execution of efficient diagnostic and treatment algorithms** when applied to **appropriately selected patients** who can be managed outside the inpatient setting.

Sue Daly, Donald A Campbell and Peter A Cameron

Short-stay Units and Observation Medicine: A Systematic Review.

The Medical Journal of Australia 2003, 18(11):559-563.

Overseas literature had shown that short-stay clinical units had the potential to reduce patients' length of stay, improve the **efficiency** of emergency departments and **enhance the cost-effectiveness**

Roles of EM wards?

Are they just GATEKEEPERS of hospitals, reducing emergency admissions to the in-patient wards of other specialties ?

Roles of EM

- Flexible
- Adaptable
- Reduce avoidable admissions to other specialties
- Provide efficient patient care
- Quality and safety
- Multi-disciplinary and cross-specialty collaboration

Goals

1. Certain target disease groups
2. Efficiency
3. Effectiveness and Cost-effectiveness
4. Multi-disciplinary collaboration

Development

Final Report on Doctor Work Reform 2009/10

…its newly established EMW served to buffer hospital admissions at night while patients, upon receiving initial investigation, treatment and stabilization in the EMW, would be discharged or transferred out the following day. Under this new model, the emergency **medical admissions at night and the total medical admissions had been reduced by 51% and 33%** respectively in the review period.

...EMWs had improved the quality of care in terms of service timeliness and shortened hospital stay; and provided **a suitable platform for multi-disciplinary and cross-specialty collaboration in managing selected acute conditions.**

Development

Final Report on Doctor Work Reform 2009/10

Besides, EMWs had reduced much of the disturbance caused to the other clinical specialties by **centrally managing patients suffering from psychiatric problems as well as violent and drug-overdosed patients**; and were deemed to have considerable potential for tackling the rising service volume and reducing avoidable hospital admissions, hence workload of other clinical specialties

By concentrating resources to provide integrated and expedited care, EMWs were aimed at minimising avoidable hospital admissions, improving care for short-stay patients in selected acute conditions and rationalising night activities in different clinical specialties…

2015 - Where are we now?

Hospital	Date (Opening)	No. of beds
QEH	January 2007	40
TMH	January 2007	30
PYNEH	May 2007	40
POH	September 2007	40
PWH	October 2007	48
CMC	November 2007	34
PMH	November 2007	32
QMH	December 2008	20
YCH	December 2008	32
AHNH	December 2008	26 (6 for elective surgery)
NDH	August 2013	20
NLTH	September 2014	20
RH	**2015-16**	**10**
TKO	**2015-16**	**20**

- An EMW Working Group under Q&S Subcommittee of COC (A&E)
  - To stock take and align the common case-mix
  - To develop clinical guidelines (protocols) on common disease groups
  - To identify and share good practices
  - To work with the Stat on the methodology for performance monitoring

Goal No. 1

Certain target disease groups

Observation Unit Study
Clinical Epidemiology & Health Service Evaluation Unit, 2001

Commissioned by the Victorian Department of Human Services to investigate the use of Short Stay Observation Units and to understand the potential for expanding this model of care within Victoria.

Observation for Diagnostic Evaluation	Short-Term Therapy

• **Abdominal Pain**
• **Chest Pain**
• **Fever**
• **Seizure**
• **Trauma**
  • **Abdominal Trauma**
  • **Head Trauma**
  • **Thoracic Trauma**
• **Other conditions**
  • Confusion
  • Dizziness
  • Syncope
  • Vaginal bleeding
  • Gastrointestinal bleeding
  • Genitourinary bleeding
  • Headache
	• **Asthma**
	• **Dehydration**
	• **Infection**
	• **Overdose**
	• **Pancreatitis**
	• **Psychiatric emergency**
	• **Alcohol and substance abuse**
	• **Paediatric Patient Care**
	• **Geriatric Patient Care**
	• **Other Short Term Therapy Conditions**
	  • Congestive heart failure
	  • COPD
	  • Hyperglycaemia/hypoglycaemia
	  • Hypertensive emergencies
	  • Hematological conditions

Use of emergency observation and assessment wards: A systematic literature review
M W Cooke, J Higgins, P Kidd **Emerg Med J 2003;20:138–142**

Diagnostic groups to benefit

- **Asthmatic patients**
- **Diagnostic chest pain**
- **High-risk, non-evident trauma**
- **Pyelonephritis**
- **Deliberate self harm cases**
- **Head injuries**
- **Elderly population**
- **Children**

Table 1 A summary of the benefits of an assessment/admission ward with respect to certain groups of patients

First author (year)	Patient group	Summary of benefits gained from presence of an assessment/admission ward
Khan, SA (1997)[58]	Elderly	Short stay ward can reduce some patients stay in hospital and reduce demand for in-patient places. Increased level of care for elderly patients.
Beattie, TF (1993)[44]	Children	Children get comfortable beds more quickly. Improved awareness of simple pathology.
Biddulph, J (1984)[59]		Most children admitted to an observation unit were sent home without requiring hospital treatment. Observation easier and more efficient than if admitted fully to hospital.
Ryan, J (1996)[60]	Self Harm	Most patients discharged next day without need for further follow up. Potential cost savings made.
Jones, A (1995)[39]	Head injuries	Observation ward offers safe and monitored area for recovery. Few patients require admission to other wards.
Brown, SR (1994)[61]		Number of inappropriate discharges decreased.
Gouin, S (1997)[22]	Asthma	An observation unit lowered the hospitalisation rate for children with asthma, yet there was an increased rate of repeat visits to the ED.
Willert, C (1997)[62]		Holding room therapy for childhood status asthmaticus is beneficial both medically and cost wise.
Hutchins, CJ (1978)[63]	Gynaecology patients	Of 408 patients admitted to one gynaecological unit, 56% were in hospital for less than 6 hours and a further quarter did not require hospital admission. Full staffing of a unit could release a number of beds for other selected work.
Gaspoz, JM (1994)[64]	Chest pain	Short stay units prevent unnecessary long stays in hospital, and are safe and cost effective.
Goodacre, SW (2000)[27]		There is insufficient evidence to say that an observation unit will improve outcomes if clinical practice is good. Not proven to be financially beneficial in the UK yet.
Henneman, PL (1989)[65] conditions	Abdominal and trauma	Abdominal trauma and negative diagnostic peritoneal lavage can be safely managed in an observation unit.
Conrad, L (1985)[66]		Patients with initial negative test results can be evaluated in observation units.
Israel, RS (1991)[67]		72% of patients treated for pyelonephritis were successfully managed on an observation ward and were discharged early.

ACEP Policy Statements

Search this Section Search

ACEP board-approved policy statements highlight the scope of issues being addressed in emergency medicine. New policies are initially distributed to ACEP members via Annals of Emergency Medicine and posted here. In addition, the ACEP Board of Directors has directed that all policy statements undergo automatic review when they are seven years old. Unless a policy still contains relevant information, it will then sunset. Due to the extensive time required to review seven-year-old or older policies, some are still under review.

Breadcrumb: Policy Statements

Related Links
Policy Statements
» Compendiums
» Out-of-Hospital Severe Hemorrhage Control
» Medical Direction of Mobile Integrated Healthcare and Community Paramedicine Programs
» Maximizing the Potential of Women in Emergency Medicine
» Emergency Department Patient Advocate Role and Training

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Certification/Credentialing (24) Contracts & Compensation (7)
Disaster Preparedness & Response (23) Diversion (6) Ethics (27)
EMS (54) Health Care Reform (6) Hospitals (27) Imaging (4)

Policies:

2011 State of the Art - Observation Units in the ED 0511
2013 Model EM
2015 Policy Compendiums
A Culture of Safety in EMS Systems

The American College of Emergency Physicians (ACEP) and the National Association of EMS Physicians (NAEMSP) believe that safety must become a foundational component of every EMS system.

ACEP Policy Statement – State of the Art Observation Units in the ED

- A well-defined reason for observation
  - further diagnostic testing
  - continued treatment of an acute condition
  - management of psychosocial needs

- Specific types patients for observation

Chest pain	Asthma	CHF	Abdominal pain
Syncope	Dehydration	Transient Ischemic Attack	Atrial fibrillation
Deep vein thrombosis	Infections – pneumonia, cellulitis, pyelonephritis	Treatment of painful conditions	Patients at risk of self harm (suitable monitoring setting)

- What conditions are we managing in our EMW?
- Are we treating the appropriate diagnostic groups ?

Diagnostic groups

- **Methodology**
  - EMW In-patient diagnosis (discharges & deaths)
  - Period : Jan to Mar and Jul to Sep 2014
  - Principal Diagnosis (ICD9)
  - Grouping into different categories (36 categories)

- **Result**
  - Patients : 32873
  - Missing diagnosis code :18 (0.055%)

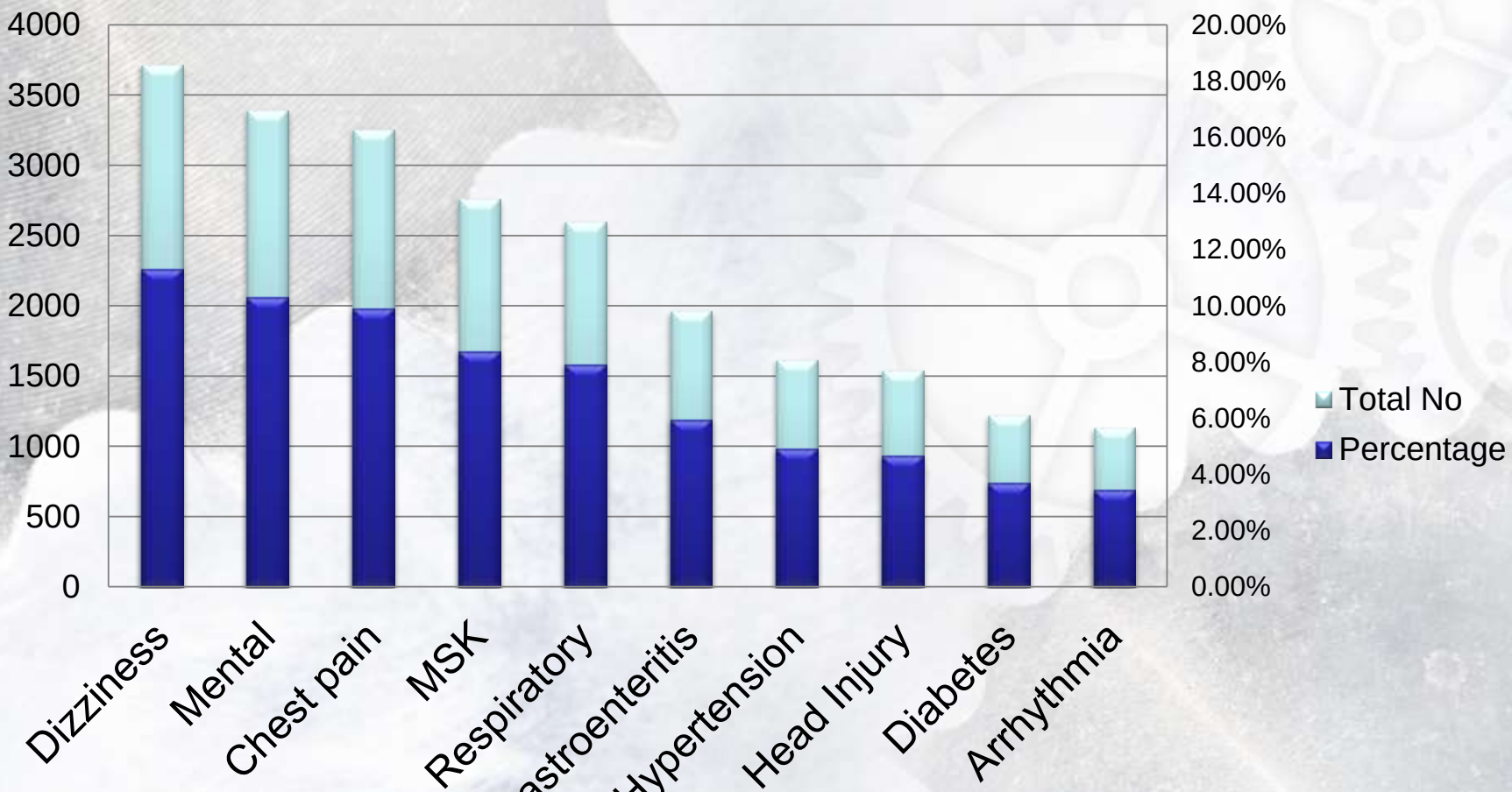
Diagnostic groups (36)

Abdominal pain	Dizziness	Hypertension
Allergy	Diabetes	Hypotension
Anaemia	Electrolyte	LOC
AROU	Epistaxis	Mental conditions
Arrhythmia	Fall	Musculoskeletal
Bell's Palsy	Fever	Numbness
Cellulitis	Fluid balance	Pneumothorax
Chest pain	Gastroenteritis	Renal Colic
Convulsion	GI	Respiratory
CVA	Head Injury	Sepsis
Dementia	Headache	Toxicology
Dermatology	Heart Failure	UTI

1st-10th Diagnostic groups

		Total No	Percentage
1	Dizziness	3722	11.32%
2	Mental conditions	3396	10.33%
3	Chest pain	3260	9.92%
4	Musculoskeletal (MSK)	2765	8.41%
5	Respiratory	2603	7.92%
6	Gastroenteritis	1966	5.98%
7	Hypertension	1619	4.93%
8	Head Injury	1545	4.70%
9	Diabetes	1223	3.72%
10	Arrhythmia	1138	3.46%

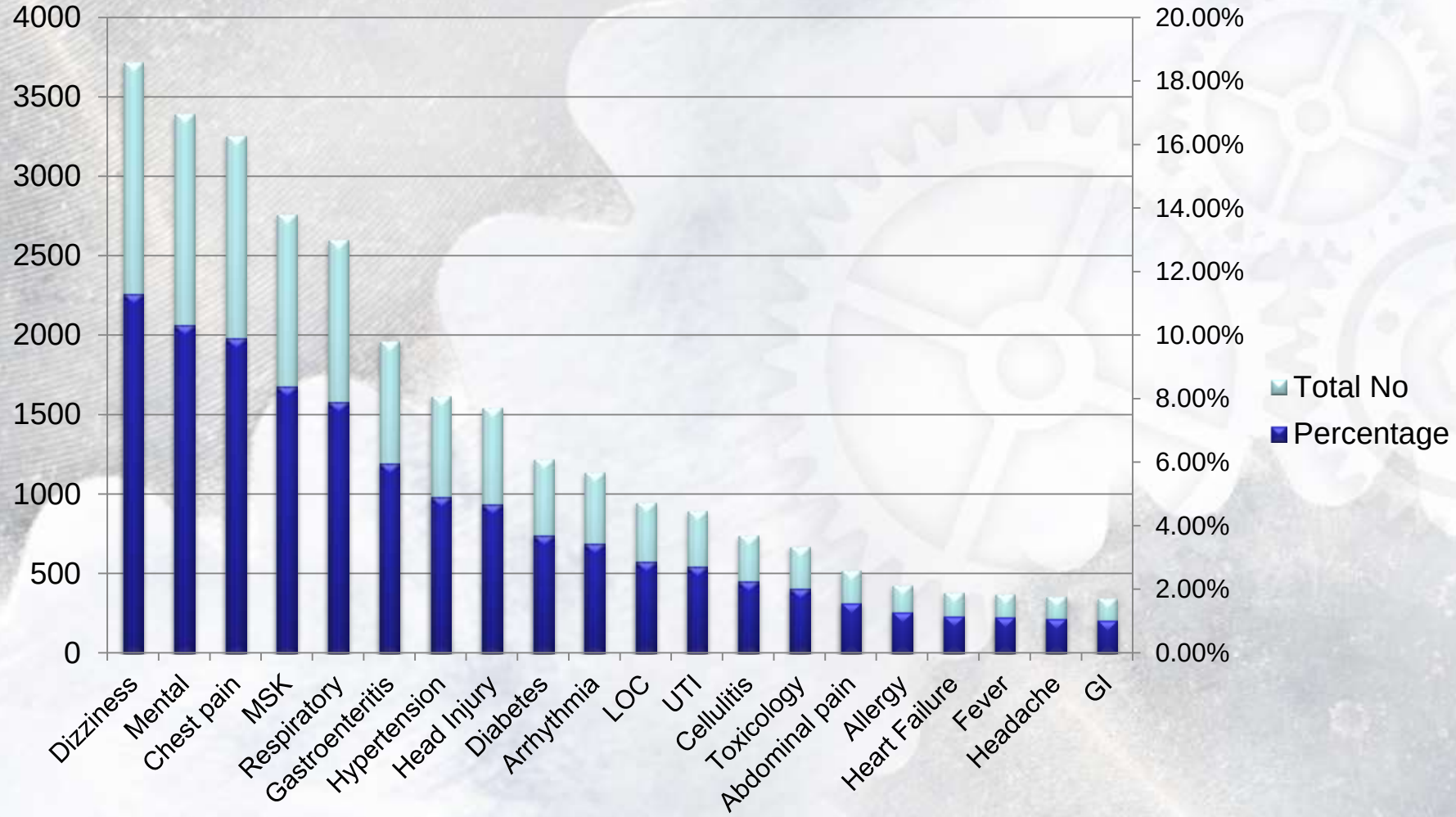
Top 10 Diagnosis



11th-20th Diagnostic groups

		Total No	Percentage
11	LOC	951	2.89%
12	UTI	896	2.73%
13	Cellulitis	743	2.26%
14	Toxicology	672	2.04%
15	Abdominal pain	524	1.59%
16	Allergy	427	1.30%
17	Heart Failure	384	1.17%
18	Fever	373	1.13%
19	Headache	359	1.09%
20	Other GI complaints	343	1.04%

Top 20 Diagnosis



Goal No. 2
Efficiency

- A survey with all the current operating EMWs was performed

- The current EM wards have in place all the features that we are consider that would make them efficient
  - EP rounds (specialist level)
  - A few rounds in a 24 hour period and ad-hoc when needed
  - Access to in-patient investigations – radiological
  - **Integrated clinical care plans, guidelines, protocols**

- Policy manuals and protocols of care are two of the main operational resources that can also make the OU more efficient.
  1. Mace SE: Patient quality (continuous quality improvement), safety, and experience for the observation unit. In The Textbook of Observation Medicine: The Healthcare System's Tincture of Time. 2nd edition. ACEP: Irving, TX; 2011.
  2. Graff L: Principles of observation medicine. In The Textbook of Observation Medicine: The Healthcare System's Tincture of Time. 2nd edition. ACEP: Irving, TX; 2011.
  3. Nahab F, Leach G, Kingston C, Mir O, Abramson J, Hilton S, Keadey M, Gartland B, Ross M: Impact of an emergency department observation unit transient ischemic attack protocol on length of stay and cost. J Stroke Cerebrovasc Dis 2012, 21(8):673–678.

- The hospital that did not have a policy manual or protocols of care had an unfavorable bed turnover rate (0.3 patients/bed/day) and LOS (26 hours). Conversely, another hospital having just two protocols (chest pain and general) had a favorable bed turnover rate (2.1 patients/bed/day) and LOS (11 hours).
  - Komindr et al. International Journal of Emergency Medicine 2014, 7:6

- The ACEP website publishes sample OU protocols from several US hospitals.
  - Sample condition specific guidelines/order sets. Available at: http://www.acep.org/Content.aspx?id=46142.

Integrated clinical care plans, guidelines, protocols

- Most have protocols/guidelines for common conditions
- Some have collaboration with other departments , part of the clinical care pathways
- Some have build in discharge follow-up, allowing safe early discharge

	Clinical Services / Chief of Service (Accident & Emergency)	Document No.:	AED(TMH)-C-RE-002
		Version:	3
	Mobile chest drain use in Primary Spontaneous Pneumothorax	Effective Date:	01 APR 2014
		Next Review:	01 APR 2016
		Page:	Page 1 of 7

Mobile chest drain use in Primary Spontaneous Pneumothorax

Version	Effective Date
1	09 DEC 2010
1.1	01 JUL 2011
2	08 MAR 2012
2.1	01 SEP 2013
3	01 APR 2014

HOSPITAL AUTHORITY
NORTH LANTAU HOPSITAL
Accident & Emergency Department
Emergency Ward Clinical Checklists
(Last Updated: Oct 2014)

Chest Pain, Palpitation — Page 1
Syncope, Seizure — Page 2
Headache, Dizziness — Page 3
Hypertension — Page 4
DM: Hyperglycemia, Hypoglycemia — Page 5
Cellulitis, Gout — Page 6
DO: Paracetamol — Page 7
DO: Nacrotic, Sleeping Pills — Page 8
COPD, Pyelonephritis — Page 9

CHEST PAIN

EM Ward Admission Checklist

☐ Exclusion of dangerous / complicated features

☐ Indication for observation & treatment before discharge

EM Ward Management

EM Ward Disposal

PALPITATION

EM Ward Admission Checklist

☐ Exclusion of dangerous / complicated features

☐ Indication for observation & treatment before discharge

EM Ward Management

Asthmatic Attack

Immediate assessment of severity by signs & symptoms

Mild	Moderate	Severe	Life threatening attack
1. talk in sentence 2. ↑ RR 3. not using accessory muscle 4. AR < 100 / min 5. SpO_2 >95%	1. talk in phases 2. ↑ RR but <25 /min 3. using accessory muscle 4. AR 100-120 / min 5. SpO_2 91-95%	1. can't finish complete sentence in one breath or 2. RR ≥ 25 /min or 3. AR ≥100 /min or 4. SpO_2 ≤ 90%	1. ↓BP, ↓AR or 2. silent chest or 3. poor respiratory effort or 4. cyanosis or 5. exhaustion or confusion

Acute treatment in cubicle → Symptomatic improvement
Acute treatment in R Room → Significant Clinical Improvement
Resuscitate. Admit ICU after stabilization

Hx of ICU adm or recent long hosp stay

Yes / No

- Discharge with advice
- Upon discharge, make sure patient has inhaled β-agonist with correct inhalation technique
- consider a short course of steroid
- Channel for re-assessment or follow up

Admit Med

Admit EM Ward
- Pup up
- BP/P/ SpO_2 monitoring
- O_2 prn
- ABG in severe case
- CXR
- ECG
- Ventolin puff
- Steroid
- Antibiotic if sign of bacterial infection

Kowloon Central Cluster

Hospital Authority

Queen Elizabeth Hospital

Accident & Emergency Medicine Department guideline:

The management of fast AF

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Goal No.3

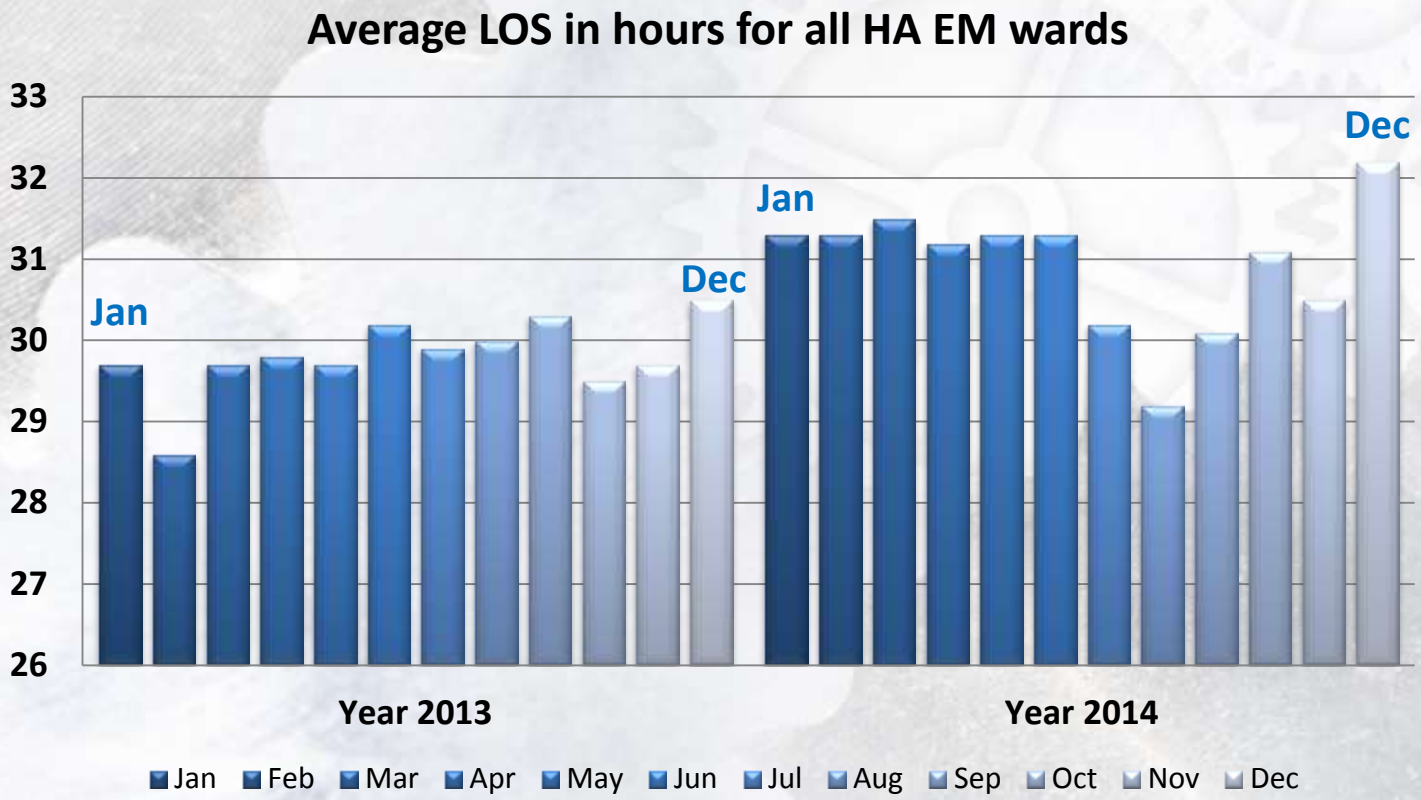
Effectiveness and Cost-effectiveness

Reduce admission to other in-patient specialties

- Certain patient groups are not admitted to other specialties
- Examine the patient groups we treat – chest pain, poor control hypertension would have been admitted previously to Medical
- Head injury requiring a period of monitoring not admitted to Neurosurgical
- Other specialties now can concentrate their efforts in managing other patient groups or require highly specialized care

Rationalize night time in-hospital service & short LOS

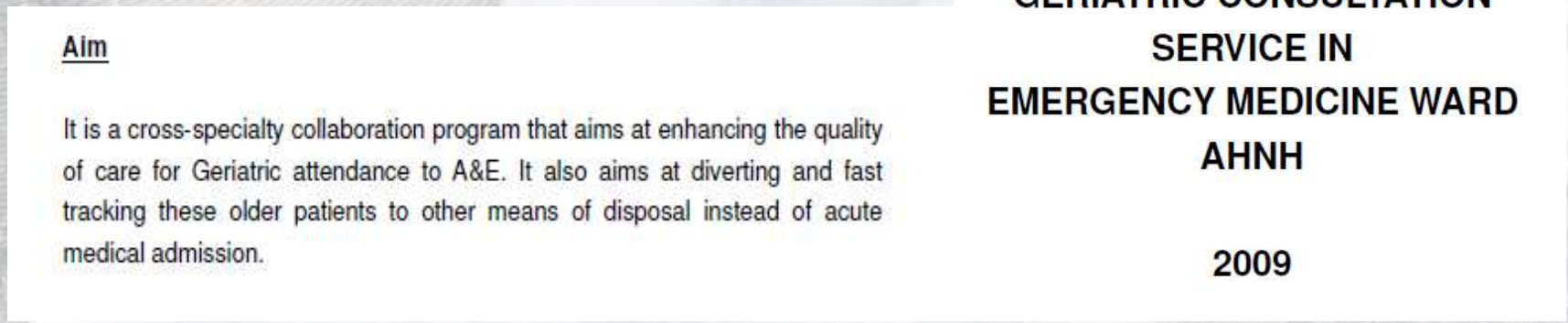
- Hospital at night (Flexible)
- LOS



Goal No.4

Multi-disciplinary collaboration

- Collaboration with different clinical specialties
  - Psychiatric consultation
  - Geriatric service
  - Others



Aim

It is a cross-specialty collaboration program that aims at enhancing the quality of care for Geriatric attendance to A&E. It also aims at diverting and fast tracking these older patients to other means of disposal instead of acute medical admission.

PROGRAM "WE CARE"

GERIATRIC CONSULTATION SERVICE IN EMERGENCY MEDICINE WARD AHNH

2009

- Others
  - Community nursing
  - Allied health

Performance Monitoring Mechanism

- Indicators that reflect the unique roles that EM wards play
- For monitoring by individual departments so that they can see if their goals are met

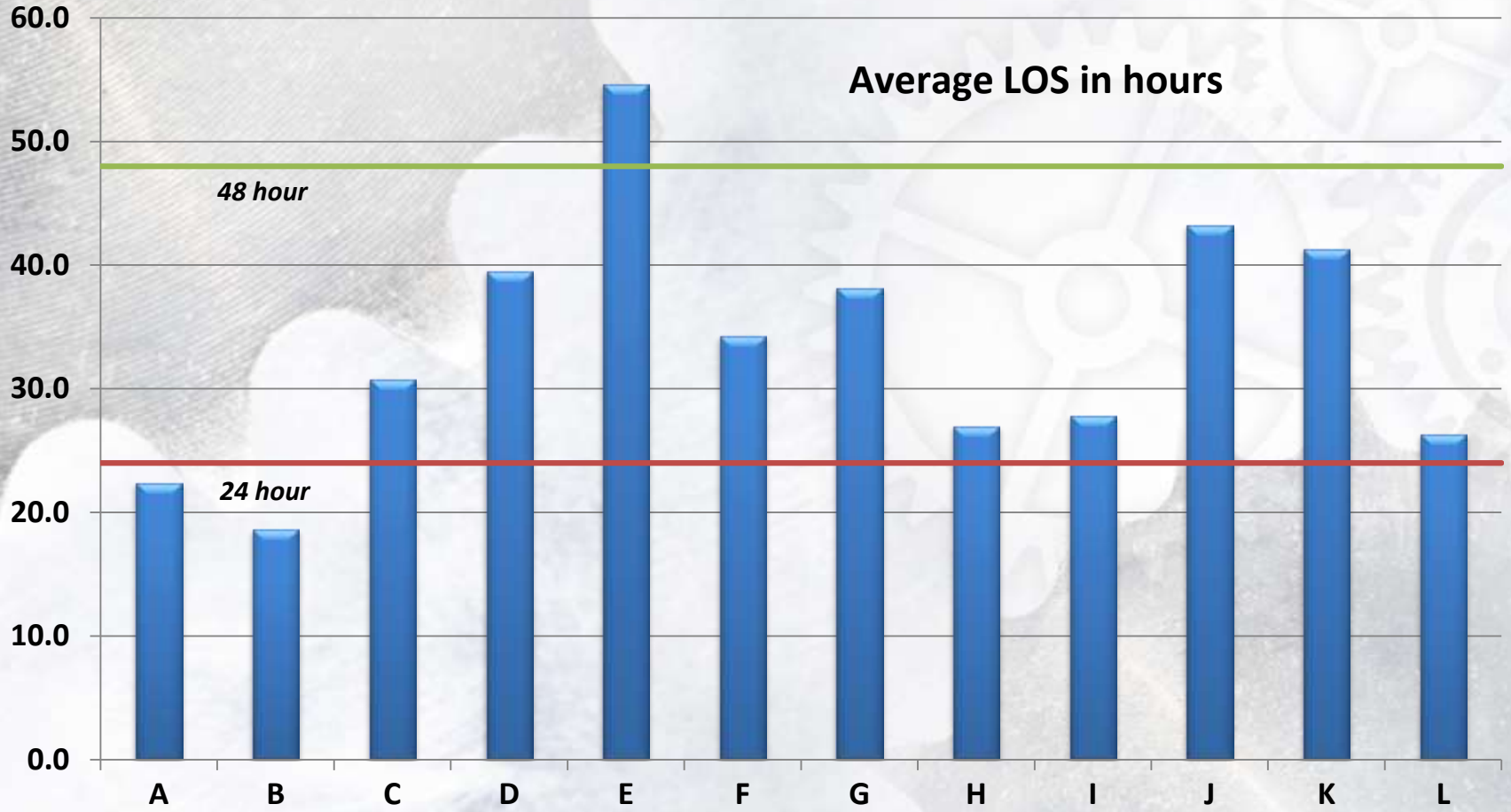
Performance Monitoring Mechanism

- Every department has its own monitoring mechanism
  - Indicators
    - LOS
    - Transfer out rate
  - Audit activities

Performance Monitoring

- LOS (hours)
- Turnover rate (per bed day)
- Transfer-out rate
- Re-attendance to A&E (all hospitals) and re-admission (all specialties) (28 days post-discharge)

Average LOS (Oct – Dec 2014)

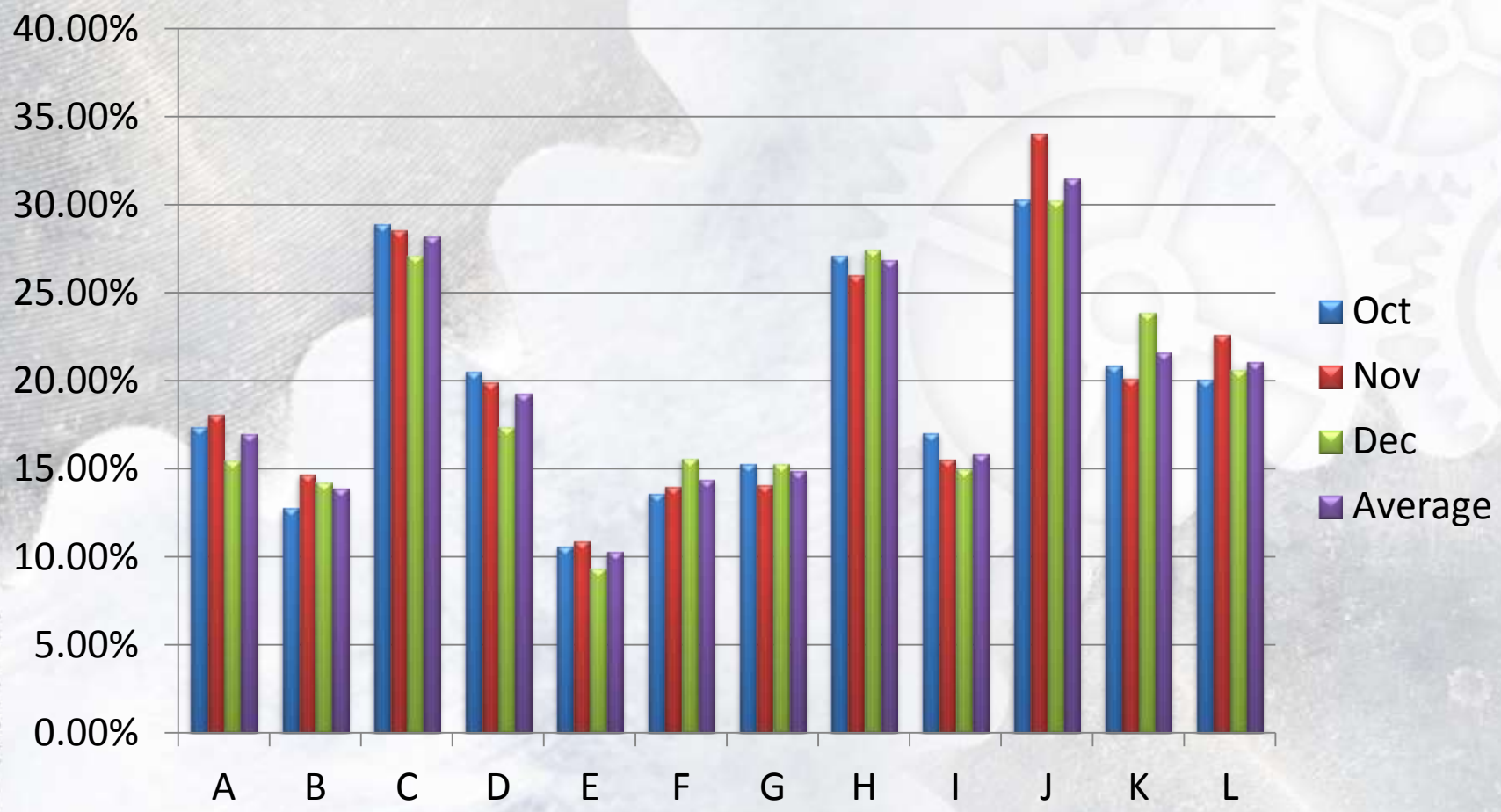


LOS

- LOS
  - ? Less than 48 hours
  - Disease specific

- Longer LOS
  - Locality
  - Enhanced care
  - Access block
  - Prevalence of elderly patients

Transfer out rate

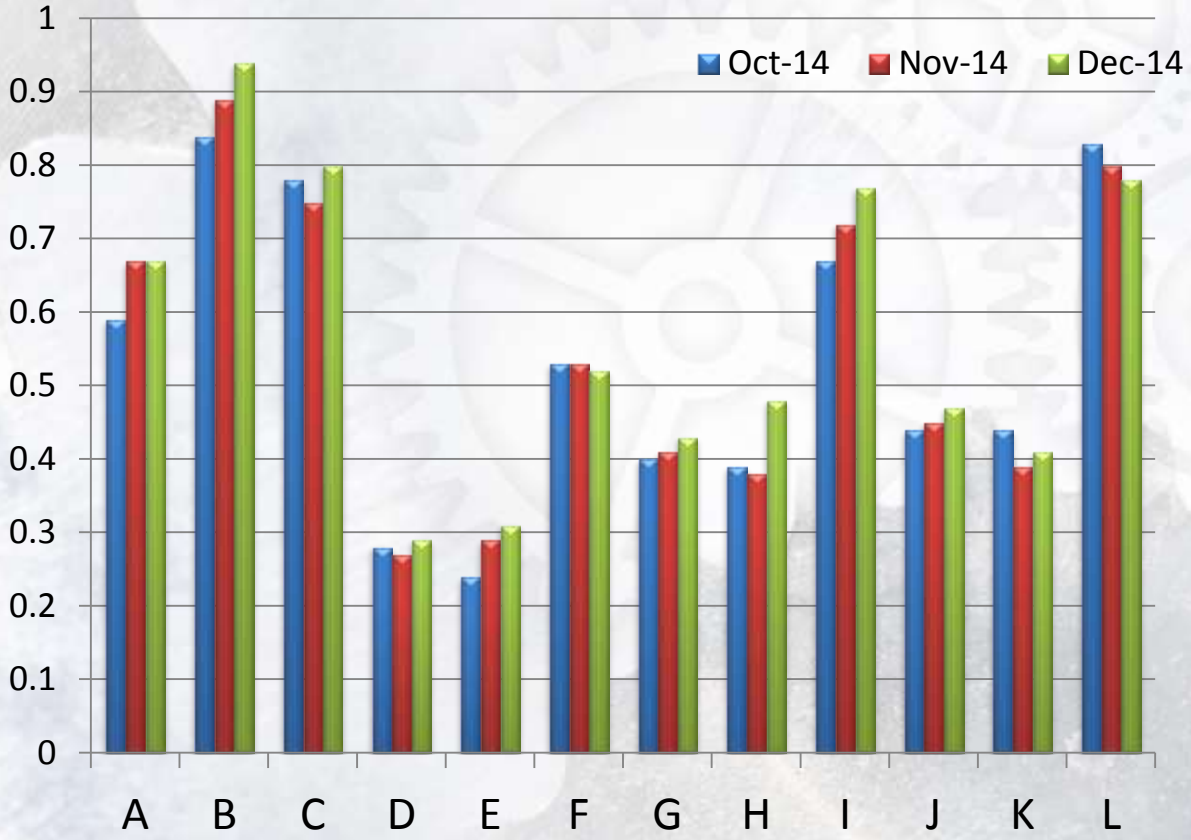


Transfer out rate

- Factors affecting
  - Hospital at night
  - Access block
  - No. of patients with mental condition
- The data collected correlated well with these factors

Bed Turnover rate (per bed day)

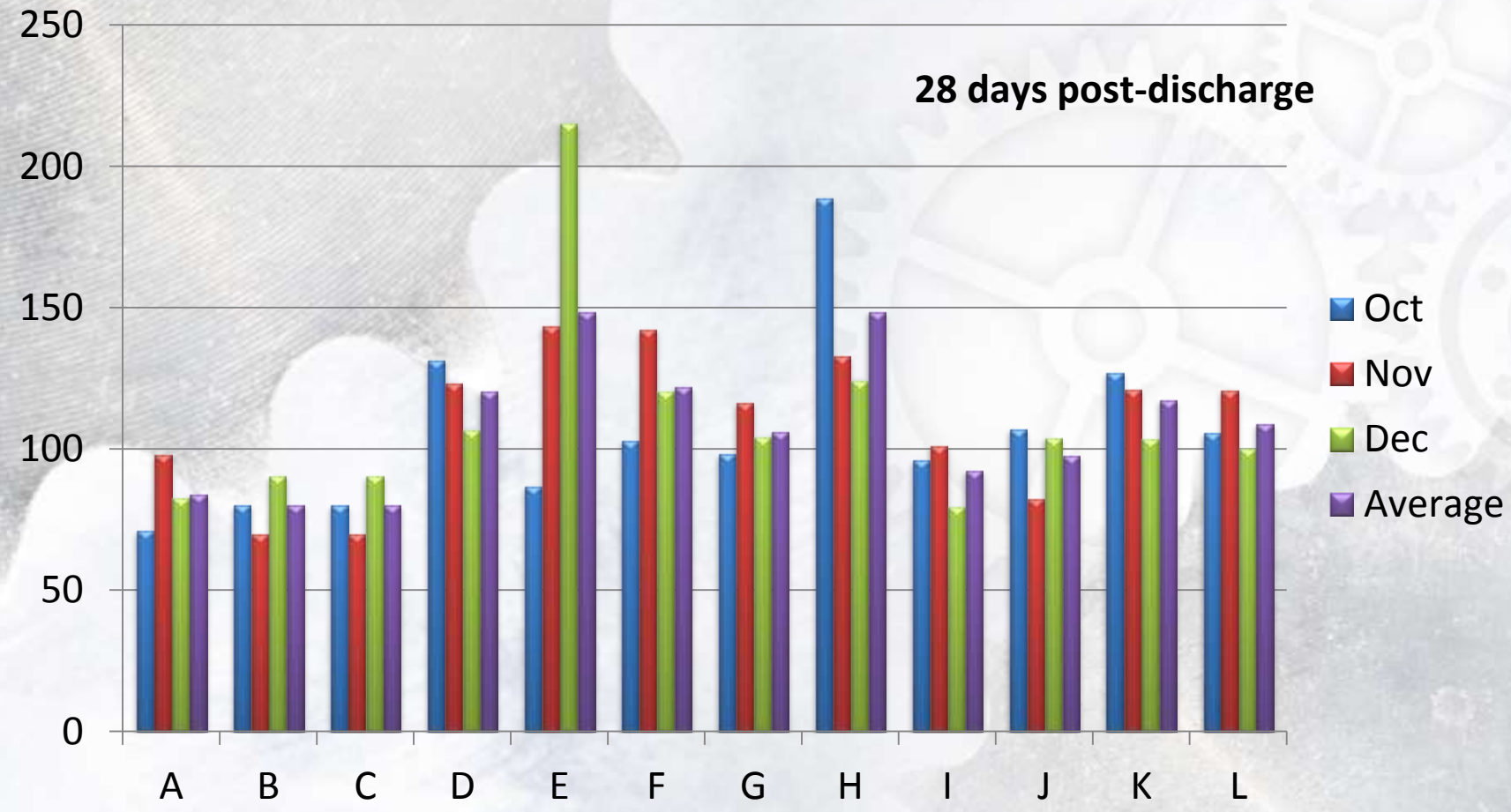
Hospital	Bed turnover rate / beds days		
	Oct	Nov	Dec
A	0.59	0.67	0.67
B	0.84	0.89	0.94
C	0.78	0.75	0.80
D	0.28	0.27	0.29
E	0.24	0.29	0.31
F	0.53	0.53	0.52
G	0.40	0.41	0.43
H	0.39	0.38	0.48
I	0.67	0.72	0.77
J	0.44	0.45	0.47
K	0.44	0.39	0.41
L	0.83	0.80	0.78



Bed Turnover rate (per bed day)

- Number of patient occupying the bed per day
- Relate to the LOS
- Explore reasons for lower bed turnover rate together with factors
  - case-mix and complexities
  - age

Reattendance & Readmission (per 1000 episodes)



Reattendance & Readmission (per 1000 episodes)

- Further exploration for reasons of reattendance and readmission
  - Chronic cases
  - Mental assessment patients
  - Disease specific

- Audit - clinical cases

Way forward

- EMW service to the next level
  - Quality and safety
  - Patient satisfaction
  - Efficient, cost effective service for the hospital

- **THANK YOU**

Questions??

Acknowledgements

Members of the EMW Working Group

HAHO Stat Team