



# Pilot Study

## Retrospective Study of Discharges Within 24 and 48 Hours of Patients Admitted from Department of Emergency Medicine

ANG SY<sup>1</sup>, TIN AS<sup>1</sup>, LIM SH<sup>2</sup>, ONG MEH<sup>2</sup>

<sup>1</sup>Centre for Health Services Research, Singapore Health Services Pte Ltd

<sup>2</sup>Department of Emergency Medicine, Singapore General Hospital

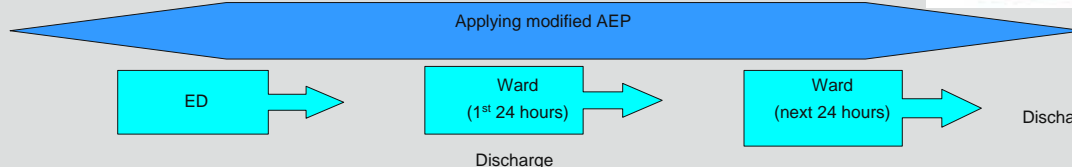
### Introduction

In Singapore, the number of discharges within 24 hours after admission is a quality indicator, used as a reflection of inappropriate admission. However, prompt discharges may also be a result of efficient and effective care in the department of emergency medicine and in the inpatient wards. Hence, it is important to examine the care received by patients who were discharged within 24 or 48 hours, in order to describe the profile of these patients and inform the relevance and reliability of the quality indicator. This is a retrospective study that involves the review of medical records of a random sample of patients who were admitted through the emergency department of a large teaching hospital in Singapore.

The pilot study was conducted in order to evaluate the appropriateness of the data collection tool and for the principal investigators to get familiarize with the research process.

### Methodology

The pilot study involved the retrospective review of medical records of 42 patients, 22 and 20 of which were discharged within 24 and 48 hours respectively. The data collection tool (Figure 1 & 2) (Termed as "Modified AEP") used was informed by the Appropriateness Evaluation Protocol (first established by Gertman PM & Restuccia JD in 1981) and expert opinions of two DEM physicians.



AEP criteria for appropriate admission
1. Sudden onset of unconsciousness (coma/unresponsiveness)
2. Pulse rate < 50 or >140 per min, doc twice, 5 min apart.
3. Systolic BP <90 or >200, diastolic < 60 or >120 mmHg
4. Acute loss of ability to move major body part
5. Active bleeding, unknown cause, Cas treatment unsuccessful.
6. Severe electrolyte/blood gas abnormality, change
7. Electrocardiogram abnormality, ? Acute M.I
8. Wound dehiscence or evisceration.
9. Parenteral medications and/or fluid replacement
10. Procedure in 24/48 hours, general/regional anaesthesia
11. Procedure in 24 hours requiring use of hospital facilities
12. Vital sign monitoring at least every 2 hours
13. Intermittent or continuous respirator use <8 hours.
Other Criteria suggested by ED physicians
1. Patient required further investigations
2. Patient required treatments that were inaccessible in the community
3. Medical problems/Signs and Symptoms not resolved (High Likelihood of return to DEM)
3. Patient required further observations
4. Patient did not have adequate home care arrangements
5. Patient needed treatment before appointment at outpatient clinic

Figure 1

AEP Criteria for appropriate inpatient stay
1. Procedure in operating room that day.
2. Pre-operative consult/eval for OR procedure the next day.
3. Cardiac catheterisation that day
4. Angiography that day
5. Biopsy of internal organ that day
6. Invasive CNS diagnostic procedure that day
7. On diet, for test needing strict dietary control, min 8 hours
8. New/experimental treatment, dosage under MO supervision
9. Close MO monitoring at least 3 times per day.
10. Post-operative day (after OR procedure 1 or 3-7 above)
11. Respirator use and/or inhalation therapy 3+ per day.
12. Parenteral therapy, at least 8 hrly.
13. Vital sign monitoring < every 30 mins for at least 4 hours.
14. Intake and output measurement ordered by MO
15. Major surgical wound drainage care, >2/day, ordered by MO.
16. Close nurse monitoring under MO's orders, =>5 times/day.
17. Inability to void in last 24 hours
18. Transfusion due to acute blood loss, in last 48 hours
19. Ventri fibril or ECG showing acute ischemia, last 28 hours.
20. Fever 37.8 degree orally, last 48 hours.
21. Coma, unresponsiveness for at least 1 hour, last 48 hours.
22. Acute confusion, not alcohol intoxication, in last 48 hours.
23. Acute haematologic disorder, with signs/symptoms, 48 hours.
24. Progressive acute neurological difficulties, last 48 hours.

Figure 2

### Results

Majority of the 42 patients were admitted due to electrolyte imbalances or the need for parenteral medications and further investigations. For most of the patients, the first 24 hours of care involved close monitoring by nurses, intake and output monitoring and parenteral therapy. Based on the Modified AEP, 95% of the 42 patients satisfied the criteria for admission. However, only 35% of patients who were discharged within 48 hours met both criteria for appropriate admission and stay in the 24-48 hours period.

### Conclusion

- The Modified AEP is suitable as a data collection tool for the main study.
- Results of the pilot study indicated that most patients who were admitted and subsequently discharged within 24 hours fulfilled the criteria for acute hospital admission.
- Some patients who were discharged within 48 hours, could have been discharged sooner.
- The research team is currently conducting the main study which involves review of 640 patients' records.

### References

- Cheng SST and Chung CH (2002) A retrospective study of patients discharged within 24 hours after emergency admission in a public general hospital. Hong Kong Journal of Emergency Medicine, 9, pg 139-144.
- Houghton A et al (1996) Appropriateness of admission and the last 24 hours of hospital care in medical wards in an East London Teaching Group Hospital. International Journal for Quality in Health Care, 8(6), pg 543-553.