

## Poster Presentations—Triage

### (K107) Process Review using Lean Methodology at the Department of Emergency Medicine: Triage before Registration

Gopalan Pokkan

Singapore General Hospital, Singapore, Singapore

**Introduction:** A multi-disciplinary team was formed to review the Department of Emergency Medicine process in Singapore.

**Methods:** The team set the current Department of Emergency Medicine performance as the baseline, and after analysis, met with management and agreed to work toward three main objectives: (1) reducing patient waiting time; (2) improving the staffing and workload; and (3) improving key patient concerns by reducing the number of steps in the process and increasing communication. A patient and information flow analysis chart was mapped to scrutinize the entire process and to identify opportunities for improvement. Triage before registration was identified as one of the key initiatives. This eliminates the need to register and wait before the first point of clinical contact (triage). Visits were made to other hospitals to gain fresh insights and current literature was studied to learn more about worldwide trends and improvements. Weekly meetings were held to craft the implementation plan. Presentations were made to the Department of Emergency Medicine staff and management to get feedback and buy-in.

**Results:** Triage before registration would reduce the waiting time by approximately seven minutes for each patient (with potential for further savings with the streamlining of the triage process). Resuscitation and critical care patients who require more expeditious treatment also will be identified earlier, leading to a better clinical outcome. Triage before registration also results in patients that are seen earlier by a staff nurse who can order tests and treatment as the patient waits for consultation. The empowerment of nurses to initiate more tests and treatment before consultation will improve patient experience and reduce downstream delays. The Patient Care Assistant at the test/treatment station will reduce the workload of the triage nurse conducting additional tests and speed up the triage process. Patient flow is streamlined and congestion at the waiting area is reduced.

**Conclusions:** Triage before registration significantly reduces overall waiting time and improves patient experience.

**Keywords:** department of emergency medicine; emergency health; patient flow; triage

*Prehosp Disast Med* 2009;24(2):s141

### (K108) Survey of Education and Experience in Triage Nursing

Amir Mirbaghi;<sup>1</sup> Hamed Sarani;<sup>1</sup> Asghar Golafshani;<sup>2</sup> Hassan Sharifi;<sup>3</sup> Maryam Nesari;<sup>1</sup> Masood Roudbari<sup>4</sup>

1. Zahedan University of Medical Sciences, Iranshahr, Iran
2. Amir-alam Hospitals, Tehran University of Medical Sciences, Tehran, Iran
3. Mashad University of Medical Sciences, Mashad, Iran
4. Zahedan University of Medical Sciences, Zahedan, Iran

**Background:** The role of education and experience among triage nurses has been studied. The extent to which nurses must be educated or how much experience is needed to perform safe and secure triage is uncertain.

**Objective:** The objective of this study was to describe any relationships between nurses' triage decisions and the type of education and amount of experience received.

**Methods:** Ten paper-based patient scenarios were distributed to triage nurses in a multi-center survey. The reliability of the questionnaire was 0.87 using Cronbach's alpha. Content validity was based on the CTAS.

**Results:** A total of 47 nurses from four emergency departments participated. Two centers scored significantly higher than the other two centers. Overall agreement for all nurses was almost perfect  $r = 0.85$ , and for each nurse alone was slight  $r = 0.11$ . Nurses with  $\geq 2$  years of experience scored significantly higher compared with nurses with  $< 2$  years of experience. Nurses became familiar with triage via different methods, such as: (1) workshops (48.9%); (2) through colleagues (19.1%); (3) in publications (6.4%); or (4) courses taken for credit (4.3%). A total of 8.5% of the nurses had no formal education. No educational method was significantly more effective than other methods.

**Conclusions:** At least two years of experience working in an emergency department is recommended for nurses to be eligible to perform triage consistently. Formal training is recommended to enhance triage category allocation.

**Keywords:** competency; education; experience; nursing; training; triage

*Prehosp Disast Med* 2009;24(2):s141

### (K109) Assessment of Knowledge of Hospital Triage among Nurses in the Emergency Department of Zahedan University Hospitals

Amir Mirbaghi;<sup>1</sup> Hassan Sharifi;<sup>2</sup> Masood Roudbari;<sup>3</sup> Mitra Kakhki;<sup>3</sup> Fatemeh Elahidoost;<sup>3</sup> Fatemeh Sancholi;<sup>3</sup> Maryam Kamrani;<sup>3</sup> Samaneh Basavand<sup>3</sup>

1. Zahedan University of Medical Sciences, Iranshahr, Iran
2. Mashad University of Medical Sciences, Mashad, Iran
3. Zahedan University of Medical Sciences, Zahedan, Iran

**Background:** Triage in emergency departments is performed by nurses. In recent years, hospital triage has developed in Iran, and few studies have addressed nurses' competency in triage.

**Objective:** The objective of this study was to assess the knowledge of nurses about triage in hospitals of Sistan-vabalouchestan state in Iran.

**Methods:** A survey was conducted among nurses in emergency departments ( $n = 10$ ). The questionnaire was com-