

Kilner suggests the educational intervention and triage sieve questionnaire are suitable for training non-medical emergency services. **Conclusion:** This pilot study supports the hypothesis that the provision of training and an aide-memoir to volunteer nonmedical fire service personnel in South Australia will enable them to perform a triage sieve as effectively as volunteer emergency ambulance service personnel. While it has identified methodological changes to the parent study, it also suggests that this approach has the clear potential to improve casualty outcomes at a MCI.

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Knowledge of the START Triage Method by Physicians and Nurses in a Tertiary Care Teaching Hospital

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Study/Objective: To evaluate knowledge of the START triage method by physicians and nurses in a tertiary care teaching hospital.

Background: The Centre Hospitalier de l'Université de Montréal is a large tertiary care teaching environment without the designation of “trauma center.” A recent online survey (PHARE project) conducted among the CHUM community, revealed that physicians are insufficiently trained in both basic and specific emergency measures.

Methods: In order to evaluate hospital disaster readiness, an online study was conducted among the entire CHUM community. Within this survey, we evaluated knowledge of the Simple Triage and Rapid Treatment (START) method, (11 questions) among physicians (ER and ICU) and nurses (ER) at our institution. The online survey was conducted on a volunteer basis between September 13 and October 2, 2016. Completed questionnaires were included in the analysis.

Results: Overall, 65% of ER physicians, 80% of ICU physicians and 29% of ER nurses participated in the study. The START method of triage was known by 30% of physicians and 47% of ER nurses; among them 50% of physicians compared to 89% of nurses received training to use this triage method. Among participants, 32% of ER physicians, 44% of ICU physicians and 46% of ER nurses received specific training in massive patient arrival (code orange), while 16% of ER physicians, 38% of ICU physicians and 14% of ER nurses had participated in a disaster simulation exercise. Overall, the level of knowledge (68% of correct answers on average) of the START triage method was not aligned with perception of knowledge among physicians and nurses.

Conclusion: The PHARE project revealed that ER physicians, ICU physicians and ER nurses at the CHUM are insufficiently trained to adequately use the START triage method in disaster situations. Efforts in the future will be directed toward developing disaster triage exercises for key personnel at our institution.

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Comparison of the Application Value of Three Evaluation Systems for Triage in Burned Patients

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Study/Objective: To investigate the application value of Simple Triage and Rapid Treatment (START), Modified Baux Score (MBS) and Ryan model for triage in patients with burn injuries.

Background: Burn injury is common around the world. Simple and accurate triage methods or scores are certainly important for victims after a disaster, which also can be utilized to predict the mortality of patients with burn injuries.

Methods: Case notes of all patients with burn injuries admitted to emergency department of West China Hospital from March 2012 to July 2014 were retrospectively reviewed. START, MBS and Ryan models were computed for classification of the severity degree with related indexes (gender, age, length of stay, GCS score, blood pressure, heart rate, respiratory frequency, hemoglobin concentration, potassium concentration, burn surface area and inhalational injury, etc). The Receiver Operating Curves (ROC) were made for each evaluation system and analyzed for correlation with mortality, and Z-Test was utilized to distinct the area under curve (AUC) made respectively with START, MBS and Ryan model.

Results: There were 352 patients (median age 22.07 years, 66.19% males, 33.81% females) was included. There were 14 patients who died in hospital while 338 survived to discharge. The AUC of START, MBS and Ryan model were 0.557, 0.923 and 0.856 respectively. AUCs of MBS and Ryan model have significant differences with that of START ($P < 0.05$), while there was no significant differences between MBS and Ryan model ($P = 0.152$).

Conclusion: MBS and Ryan model performed better than START on burn injury triage. However, MBS might be used more widely because of its simpleness.

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Identifying Vulnerable Persons in the Community using Standard Clinical Assessment Data

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Study/Objective: Development of decision support algorithms to identify highly vulnerable home care clients during emergencies and disasters by using the Resident Assessment Instrument for Home Care (RAI-HC).

Background: Several studies have shown the increased vulnerability and disproportionate mortality rate among frail, community-dwelling, older adults as a result of disasters. Parallel to an escalating number of disasters, Canada is faced with an aging demographic and a policy shift emphasizing aging at home. This results in a greater vulnerability of this group of high-needs, community-dwelling individuals to the effects of events that lead to interruption of home health care services and/or displacement.

Despite the growing vulnerability, it has proven to be difficult to identify the most vulnerable persons.

Methods: Data used for the analysis comes from the RAI-HC database in Ontario (n = 275,854). Data links were made between the RAI-HC data and the 2013 hydro outage data (n = 10,748). The results were compared to non-exposed client data (n = 12,072). Methods used included frequency tabulation, bivariate and multivariate logistic regression, as well as Kaplan-Meier survival plotting and Cox proportional hazards ratios.

Results: The study led to the development of the Vulnerable Persons at Risk (VPR) and VPR Plus algorithms. These algorithms were highly predictive of mortality, LTC admission, and hospitalization. To test the ability and identify those most vulnerable, home care clients during disasters, the algorithms were applied to home care clients exposed and not exposed to the 2013 hydro outage. This analysis showed that exposed high-risk clients, identified by the VPR and VPR Plus, were more likely to die and to be admitted to LTC than non-exposed high-risk clients.

Conclusion: The analysis has shown the usefulness of information collected, as routine clinical practice, using inter-RAI assessment instruments during emergencies and disasters. The analysis further showed that the VPR/VPR Plus are valid and reliable algorithms.

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Analyzing the Emergency Triage Logbook Components of Road Traffic Accident Victims at AaBET Hospital in Addis Ababa, Ethiopia

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Study/Objective: To analyze demographic, clinical, and referral characteristics of patients presenting after Road Traffic Accidents (RTA) to Addis Ababa Burn, Emergency and Trauma (AaBET) Hospital (Addis Ababa, Ethiopia) over a seven month period.

Background: Within Africa, Ethiopia has among the highest burden of RTA. The country loses around 3,000 people from RTA annually. Nevertheless, there remains limited data on RTA victims presenting to urban Emergency Departments (EDs) in Ethiopia.

Methods: We conducted a retrospective chart review of all patients presenting after RTA at AaBET Hospital, from August 18, 2015 to March 9, 2016. Selected patient variables from ED triage logbooks were entered into Microsoft Excel and analyzed using SPSS version 21.

Results: During the study period, AaBET Hospital saw 662 RTA victims, comprising 32.1% of all trauma-related patients. Median age was 27 years. Using South African Triage Scale triage color categories, most patients were assigned lower triage acuity, with 289 (43.7%) patients assigned as Green and 273

(41.2%) patients assigned as Yellow. Of Green (lower acuity) victims (n = 289), the majority (54.3%) were referred from health institutions. Among those referred from health institutions (n = 408), 164 (40.2%) were referred without communication to the receiving facility. RTA patients coming from the scene were significantly less likely to arrive by ambulance [Adjusted OR = 0.3 (95%CI: 0.21-0.43)] as compared to those who were referred from health institutions.

Conclusion: In Addis Ababa, many patients being referred to a specialized trauma hospital after RTA have low triage acuity. Nevertheless, these referrals place highest demand on limited ambulance services, and often occur without clear communication between facilities. Strengthening primary health institutions to manage low-acuity RTA victims without referral may decrease strain on pre-hospital transport and trauma center resources, which may instead be directed toward RTA patients from the scene, and those suffering from more critical injuries.

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Controlled Undertriage - Hazard or Benefit at Overcrowded Emergency Departments (EDs)?

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Study/Objective: To verify if modification of the Emergency Severity Index (ESI) allows safe triage, when an increased patient influx, overflows available resources.

Background: Extrapolating (after: Fullam C), the ED of the University Hospital in Cracow, nurse staffing needs is covered at 90% without administration. Staff reports that the influx is a threat to those who are in serious condition, paying particular attention to patients appearing despite, not requiring an emergency service.

Methods: For routine triage the ESI was modified by the council of emergency medicine specialists. Wait time for acuity levels was recommended. Modifications in acuity levels were: pain and inaccurate danger zone vitals – level 3, many resources needed but accurate danger zone vitals – level 4, chronic disease (no exacerbation) or old injury (excluding head and chest) – level 5. Analyzing patients flow between January 12, 2015-March 31, 2016, caring participant observation authors measured: patients' number, assigned acuity level (1-5), deaths, final decision on further hospitalization and real wait time.

Results: A total number of patients was 15,077. Detailed results are shown in table 1.

Conclusion: Level 3 patients are the most vulnerable. Their wait time may exceed recommendations, while it should decrease. Since 1, 2 and 3 acuity level patients represent only 21% from the studied population, it is possible to shorten the 1.5 hour wait time. It shall be implemented, even by delaying level 4 – those who are not at risk of death. It is necessary to increase staffing, also to implement system solutions.