Research in FOCUS on Research

Centre for Rural and Northern Health Research

Does Hospital Size Make a Difference?
Emergency Triage in Ontario's Small Hospitals

Hospital emergency departments (EDs) treat people with injuries and unexpected illness as well as those with chronic conditions. They provide care for patients that ranges from advice for self-care to complex medical and surgical interventions. As EDs tend to be very busy, health professionals must determine, through a process known as triage, which patients require immediate care and how long others can safely wait for care.

Triage is complex. It needs an appropriate physical environment with adequate staffing. The triage nurse needs special training and considerable experience in order to be able to make timely decisions about the patient's needs. To assess, maintain and improve the quality of care, triage activities require equipment, supporting documentation, quality assurance and the identification of best practices.

The Canadian Triage and Acuity Scale (CTAS) was introduced in 1997 to provide health professionals with a five-level triage scale (level 1 – resuscitation; level 2 – emergent; level 3 – urgent; level 4 – less urgent; and level 5 – non-urgent) that specifies presenting complaints and gives detailed descriptions of conditions at each level. In 1999, the Ontario Ministry of Health and Long-Term Care mandated the CTAS for EDs across Ontario.

The Ontario Hospital Association's Triage Project aims to ensure that all of Ontario's emergency patients are consistently and accurately assessed using CTAS. This study was commissioned by the Triage Project in order to learn more about the various factors that influence how triage is performed and supported within Ontario's hospitals. This is one of the first studies to examine both the triage environment and process in hospitals of different sizes and missions. The study included a survey of hospital ED administrators and an analysis of relevant secondary data (specifically, data from the National Ambulatory Care Reporting System).

In many aspects of ED triage, differences emerge between small hospitals and their larger counterparts. A small hospital has a referral population of fewer than 20,000 people and is the only hospital in its community. Of the 169 hospitals surveyed, 47 are considered small; 28 of these are in northern Ontario and 8 in eastern Ontario. The other three groups of hospitals to which small hospitals are compared in this study are: 70 community hospitals that, like small hospitals, have non-fee-for-service payment arrangements for physicians working in EDs; 32 community hospitals where ED physicians bill for fee-for-service payments; and 20 teaching hospitals.

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Emergency Department Visits

Small hospitals account for 28% of all hospitals in the province and for about 10% of the total visits to EDs (529,972 out of a total of 5,039,257 visits).

Proportionately, small hospital EDs have about three times more visits for non-urgent care than do community and teaching hospitals. However, small hospitals have a smaller percentage of visits requiring resuscitation or emergent care.

Compared to those in community or teaching hospitals, visitors to small hospitals are less apt to leave without service. The likelihood of their being sent home or admitted is about the same for all but those requiring resuscitation, who are more likely to be transferred to another hospital or to die.

The Triage Process

Triage in small hospitals has advantages and disadvantages when compared to triage in other types of hospitals. Their EDs are less likely to have a separate area with more privacy for triage, and rarely have more than one triage station. CTAS resource binders and paediatric CTAS resource tools are less available. As well, ambulance patients arriving in small hospitals are less likely to be triaged by a triage nurse or a charge nurse, and the paramedic code is more often transcribed as the triage code, which can create confusion. The triage nurse is slightly less able to observe changes in patients' conditions. It appears that small hospitals less commonly have formal processes for documenting reassessments of patients.

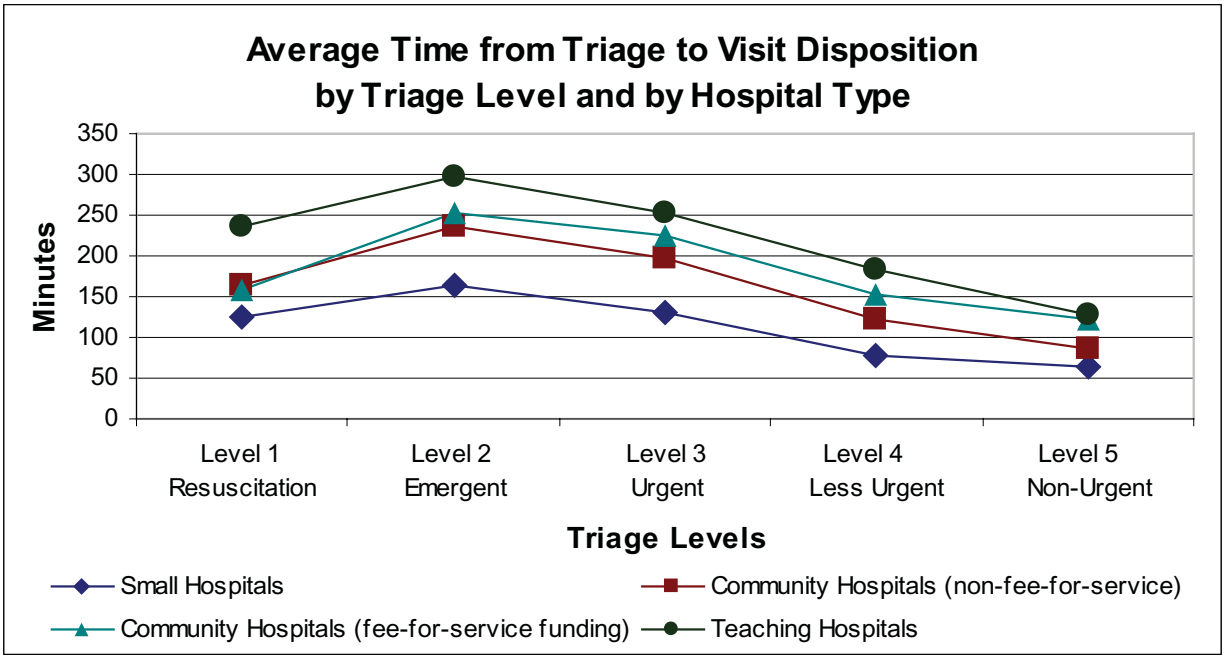
On the positive side, however, the triage nurse in small hospitals is more likely to be able to observe all arriving ambulance patients. The time of arrival at the ED is more likely to be recorded and the waiting time tracked. Small hospital EDs have shorter times from triage to disposition (i.e. being sent home, admission to hospital, or transfer) for all CTAS levels (see figure below). Administrators report that the physician sees the patient sooner, almost always meeting the CTAS guidelines for waiting times. They also report that the triage nurse in a small hospital is more likely to do periodic and timely reassessments of patients waiting longer than the CTAS guideline times.

Nursing Resources for Triage

With smaller EDs than those in other hospitals, small hospitals employ fewer registered nurses (RNs) to work there.

Most small hospitals, however, are among those with the highest percentages of RNs trained in triage. Because in these hospitals, RNs are more often cross-trained to work in both ED and in-patient care, small hospitals have the highest proportions of their ED RNs regularly practising triage.

Triage nurses in small hospitals report spending, on average, half their shift doing triage, but the range is from 0% to 100% of their shift. In at least half of the teaching hospitals, by comparison, triage nurses performed triage for their whole shift. All hospital groups have similar median percentages of ED nursing hours spent doing triage (from 14% to 19%).



The fact that the triage role is more commonly a blended nursing position in a small hospital can be seen in either a positive or negative light. One administrator wished for a dedicated triage nurse because a "dedicated triage nurse who does not have the additional role of charge nurse would improve quality and consistency in triage." Another administrator commented that "to put in dedicated triage staff is expensive and not always necessary; they could sit with nothing to do for [long] periods of time."

Triage Training for Nurses

According to the National Emergency Nurses Affiliation (NENA), initial assessment, ongoing observation in the waiting room, and reassessment are ideally performed by a triage nurse, an RN with at least two years of ED experience as well as training in CTAS.

Experience working in an ED with all levels of illness leads to an understanding of what a "sick" patient looks like, and what the hospital's services and processes are. Compared to other hospitals, a higher percentage of triage RNs in small hospitals have less than two years of experience in an ED. The most frequently mentioned minimum requirements for an RN to work in an ED in a small hospital were triage training and acute cardiac life support. A number of small hospitals reported they provide on-the-job training, including orientation and mentoring.

RNs can develop specialized emergency nursing skills by taking courses or a certificate in emergency nursing. Small hospital EDs have some of the highest proportions of RNs with training in adult CTAS and acute cardiac life support, but also report some of the lowest proportions of RNs with training in paediatric CTAS and the emergency nursing paediatric course. In training in paediatric advanced life support, they have rates similar to other hospital groups.

Half of the small hospitals reported that 58% to 100% of their nurses had taken the trauma nursing core course. About a third of small hospitals reported that some of their nurses had taken other types of ED or triage training, such as emergency trauma life support, critical care nursing, neonatal resuscitation, or how to deal with sexual assault/domestic violence. About half of the small hospitals reported that initial training in triage was needed for 13% or less of their ED nurses, which is lower than the teaching and larger community hospitals.

Since the use of CTAS is mandatory for Ontario emergency departments, ED administrators were asked how much financial support they provide for CTAS training. Small hospitals pay for about 80% of CTAS training time (compared to about 90% for the other hospitals), while all responding hospitals cover some portion of the CTAS course tuition and materials.

Small hospitals are less likely than other hospitals to offer classroom CTAS instruction (62%, compared to an overall average of 80%). All hospital groups also use self-directed training, online/CD-ROM training, teleconferencing and videoconferencing. All hospital groups prefer classroom instruction over other methods. Teleconferencing is the least preferred, especially for small hospitals. Small hospitals show a stronger preference than larger hospitals for videoconferencing.

Physician Resources for Emergency Departments

The CTAS-recommended times from triage to assessment by a physician can vary from immediate to two hours. The availability of physicians 24 hours a day and seven days a week affects how well time-to-care requirements can be met.

As expected, EDs in smaller hospitals have the lowest numbers of physicians: a median of six, compared with a median of 23 in teaching hospitals. Fewer small hospitals (54%) have 24-hour-a-day, on-site ED physician coverage. Seventy-eight percent of all hospitals have all-day, on-site ED physician coverage. Those small hospitals without 24-hour physician coverage average nine hours of coverage on weekdays and eight hours daily on weekends, less than in the other hospital groups. None of the reporting teaching hospitals lack a physician on site the full 24 hours a day.

It is important that physicians understand the triage system and trust decisions made by the triage nurse. While a few hospitals reported some or all of their physicians were trained in adult CTAS (14%) or paediatric triage (9%), the remainder reported that none of their physicians had triage training. About 11% of small hospitals reported 100% of their ED physicians had adult triage training, and another 3% had some physicians with adult triage training. About 5% of small hospitals had all ED physicians with paediatric triage training. Several respondents noted, however, that their physicians are self-directed in their training. Some also reported that in-house triage education for both physicians and RNs has overcome the mistrust of CTAS that some physicians had.

Triage Data Recording

Small hospitals are keeping in step with other hospitals with respect to ED triage documentation. They exceed the average (93% of responding hospitals) in recording the triage score on the ED record, and are just below the average (53%) for having the medical records department track the percentage of records without a CTAS score. They are also just below the average (73%) for having a process for following up on missing CTAS scores.

In most other hospitals, the triage record is different from the ED record. This is the case in only 13% of small hospitals. It is thought that having one record for triage and the ED visit increases the likelihood that the triage score will appear in the final record.

Fully 54% of the records in small hospitals are completed by the health records personnel within one week of the ED visit, which is a higher rate than in the other hospital groups. None of the small hospitals reported that their health records personnel are located in the ED, compared with a few in each of the other groups.

Quality Assurance

Fifty-four percent of small hospitals have a quality assurance (QA) mechanism for CTAS, that is, a way to set goals, facilitate improvements, evaluate performance, and share best practices. The likelihood of having a QA mechanism increases as the hospital size increases, with 81% of teaching hospitals having such a mechanism; but small hospitals are still close to the average. Two-thirds of small hospitals without a QA mechanism plan to develop one.

At 53%, small hospitals are close to the average of all hospitals having a person designated to conduct triage quality assurance. Most often this is an individual or a hospital team. Some hospitals also use external reviewers. Medical records and charts are reviewed for triage code, time to triage, physician assessment, reassessment, completion of triage documentation, and disposition. Ontario EDs, including those in small hospitals, are clearly making efforts to assess and improve the triage process, from documentation and decision making to waiting periods.

Conclusion

Small hospitals face special challenges in operating triage programs. As one administrator stated: “It is much more difficult for a small hospital to initiate this type of program due to limited staff and lack of training money.” Difficulties may also be associated with space limitations and the number of patients seen annually. Yet, while maintaining quality assurance procedures that match those of larger hospitals, small hospitals are generally able to triage and treat patients more quickly.

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For further information, please contact:
Centre for Rural and Northern Health Research
Laurentian University
Ramsey Lake Road
Sudbury, Ontario, Canada P3E 2C6

phone: 705-675-1151 ext. 4357
fax: 705-675-4855
e-mail: cranhr@laurentian.ca
URL: www.cranhr.ca