

## Ruralizing the Canadian Triage and Acuity Scale

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**SOMMAIRE :** L'échelle canadienne de triage et de gravité (ÉTG) a été introduite dans les années 90 et est rapidement en voie de devenir la norme canadienne de triage. Mais depuis 1997, moment où l'Institut canadien d'information sur la santé a commencé à promouvoir l'ÉTG, certains médecins de campagne ont manifesté leurs préoccupations, signalant l'existence de d'autres systèmes de triage et mettant en doute l'efficacité de l'ÉTG dans les milieux ruraux.

Les médecins des milieux ruraux soulèvent divers points : une perception de la complexité de l'ÉTG, un délai de réponse apparemment court pour l'évaluation par le médecin (et les ramifications médico-légales de la définition de ces délais), et une validation inadéquate de l'ÉTG dans les milieux ruraux. Le présent article explore l'historique de cette controverse et ébauche des solutions possibles. Les auteurs concluent que l'ÉTG est un outil malléable qui peut être « adapté » aux milieux ruraux et qu'il permettra par la suite d'améliorer les soins aux patients et les conditions de travail des infirmières et des médecins de ces milieux.

### Introduction

The Canadian Triage and Acuity Scale (CTAS) was introduced during the late 1990s.<sup>1,2</sup> It evolved from work done primarily in urban Australia, where it is called the National Triage System (NTS), and in urban Canada by specialist emergency medicine nurses and physicians.<sup>3,4</sup>

The CTAS is now being implemented as a national triage standard for Canada's emergency health care system. Prior to its formulation, hundreds of rural and urban Canadian emergency departments (EDs) had developed home-grown triage systems to sort patients by urgency. There was,

and still is, huge variation in rural ED triage across the country.<sup>4</sup> Some rural EDs use informal systems (e.g., they page their physician using different phone numbers for minor vs. urgent problems). Other EDs use formal systems involving 2 to 6 tiers and a variety of triage criteria. Some EDs use ascending numbers, while others use descending numbers, to denote increased severity. Few systems have been validated, but unpublished local audits suggest that they work safely to some extent.

Clearly, Canada needs a unifying ED triage system.<sup>5,6</sup> Provincial health care databases contain little, if any, information about patient acuity in

Canadian EDs. Funding and resource allocation decisions are currently based on politics and "best guess," rather than on valid case mix data. There is no common language for communicating urgency between facilities and ambulance services — even within regions — and nurses and physicians must learn different triage systems when they work in different hospitals or health units. Nursing and medical schools could not teach ED triage because there was no common system.

But, in 1997, when the Canadian Institute for Health Information began promoting CTAS as a national standard, many rural physicians protested,

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feeling that CTAS was not designed for rural settings and that the CTAS implementation guidelines<sup>7</sup> provided little guidance on how to “ruralize” it. This paper explores the history behind the controversy and outlines a solution to the problem.

## Sundre Triage System

In the late 1980s, physicians and nurses in Sundre, Alta. (population 2,000) developed a truly rural ED triage system.<sup>4</sup> The “Sundre Triage System” (STS) is an ascending, 5-tier system where “code 5” indicates the highest acuity. Nurses are encouraged to use objective assessments (including mental status, vital signs, and history and physical examination) to decide how quickly the patient needs to see a physician. STS physician response times (Table 1) are much longer than those specified in the CTAS, reflecting the realities of rural practice. STS inservicing programs emphasize the use of red flags to identify high acuity patients, and use patient case examples with typical diagnoses for the various triage tiers.<sup>8</sup>

The STS spread throughout rural Canada during the 1990s, and a 1999 survey showed that most rural Alberta hospitals were using it (Jill Konkin, family physician, Jasper, Alta., personal communication, 2000). The system was popular because of its simplicity, which obviated the need for

complex orientation programs and facilitated clear communication between ED nurses and on-call physicians. Moreover, its longer time frames made sense to rural health providers, who often cover the ED from outside the hospital.

## Rural concerns about CTAS

### Response times

Rural and urban perspectives diverge when it comes to physician response times, and to rural practitioners, the CTAS fractile response times for physician assessment seem unrealistically short. Urban emergency physicians are physically in the ED during their shifts, but in most rural EDs the on-call physician is at home, in the clinic, or on nursing home rounds for much of the day.

On the surface, the profound differences between STS and CTAS physician response times (Table 1) appear irreconcilable, but for several reasons, they're not. First, the argument that all Canadians deserve timely emergency service, regardless of context, is humane and hardly debatable.<sup>1,2</sup> What *is* debatable is how long different patients can wait. In addition, we have yet to establish appropriate definitions for the words “timely” and “service” when adapting the CTAS to rural EDs. Second, CTAS response times are administrative guidelines, not standards. The important performance

measure is fractile response. An ED's fractile response is the proportion of patients seen within CTAS time frames, and this may be an important indicator of the hospital's ability to deliver service. To make the CTAS work we need to find a way to match patient service with the realities of staffing rural EDs.

For rural situations where on-call physicians are off site, the CTAS implementation guidelines<sup>7</sup> recommend enabling protocols and care plans to modify the appropriate time of physician assessment. Prompt physician attendance will often be necessary for high acuity patients, but in many cases nurses can be delegated specific functions and may begin providing patient care before the physician arrives, thereby fulfilling the spirit of the short CTAS time frames. Also, in some circumstances, rural physicians can direct patient care by telephone from outside the hospital. These kinds of activities have already evolved to varying degrees in many rural hospitals.

### CTAS complexity

Nurses who staff rural EDs often cover the entire hospital, including the inpatient wards and case room. They may have less emergency-specific experience; therefore, ED triage systems must be easy to remember. There is a rural perception that the CTAS is complex; but, in reality, the STS and CTAS are very similar. Both have 5 urgency levels and use similar categories for presenting complaints. CTAS implementation could, however, be simplified by providing rural nurses with a short list of sentinel diagnoses exemplifying the 5 urgency tiers, as is done with the STS. In future, ED triage will be part of the standard nursing curriculum and new graduates will be familiar with the CTAS when they arrive for work in rural hospitals.

**Table 1. Acuity-based response times for the Sundre Triage System vs. the Canadian Triage and Acuity Scale (CTAS)**

Acuity	Sundre Triage System		CTAS		
	Triage level	Physician assessment	Triage level	Physician assessment	Nurse assessment*
Critical	5	Stat	1	Stat	Stat
Emergent	4	<1 h	2	<15 min	<15 min
Urgent	3	1–3 h	3	<30 min	<30 min
Semi-urgent	2	3–12 h	4	<1 h	<1 h
Non-urgent	1	>12 h	5	<2 h	<2 h

\*Nurse assessment times not specified within the Sundre Triage System.

### ***Inertia***

Most rural hospitals already have triage systems that serve them well. Nurses and physicians cannot afford to be overloaded with unnecessarily specialized administrative procedures; consequently there is little impetus for change, and changing work processes and traditions is costly in terms of time and effort.

### ***Medicolegal concerns***

Many rural health providers fear that failure to meet newly established triage time guidelines will increase medicolegal exposure if a bad outcome occurs. Urban EDs also went through this stage of medicolegal anxiety when formal triage systems evolved during the 1960s to 1980s. In fact, ED staff are at greater risk when no triage system is in place, and experience shows that triage data is helpful when managers are forced to deal with patient complaints about waiting time. We are unaware of any cases where the use of a triage system led to medicolegal consequences.

### ***Urban focus***

The Society of Rural Physicians of Canada (SRPC) is participating in the CTAS National Working Group but, for several reasons, has not officially endorsed CTAS. Concerns include the fact that Australian and Canadian triage studies incorporated minimal rural data, and that the CTAS has not been validated in rural EDs. To illustrate, in a triage reliability study involving 115 nurses using the Australian NTS, which is essentially the same as the CTAS, there were only 14 "country hospital" nurses (and the authors did not define "country hospital").<sup>9</sup> Similarly, the only published Canadian study of CTAS inter-rater reliability involved 10 physicians and 10 nurses from a tertiary urban ED.<sup>10</sup> However, while it is

true that much of the groundwork for the CTAS is urban-based, the advantages of a common national triage system far outweigh these historical wrongs. The CTAS is a very workable tool for rural Canada, and the opportunity exists to make it fit the rural context. The process of validating the CTAS in rural communities will lead to a better understanding of rural ED care and, in turn, will modify how the CTAS is implemented.

### **The way forward**

After several years of rural and urban ED practice, and a decade of research into rural hospital ED triage, we believe that the CTAS *can* be adapted to the rural context, but not without considerable work. The process has already begun in communities across the country. In one rural Alberta hospital where the STS was already in use, the nurses have been given a table of CTAS sentinel diagnoses to guide triage, but have retained STS time frames for physician response. Audits are being done there to see which presenting problems are categorized to the 5 urgency levels. In another rural Ontario hospital, protocols are being written to allow the nurses to manage some low-acuity patients without waking the on-call physician.

The CTAS is not a rigid, static tool, and it is no longer a product of any one individual or interest group. The CTAS National Working Group (NWG), a multidisciplinary committee including representation from the SRPC, is overseeing implementation of the CTAS across Canada. The CTAS NWG acts as a clearinghouse for Canadian efforts to implement the CTAS in rural communities.

More research is necessary to define how rural hospitals can best use the CTAS but, in time, the CTAS will evolve to fit all types of facilities. In

our opinion, the outcome will be better patient care, better service to the Canadian public, and better working conditions for rural Canadian nurses and physicians.

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