Chapter 30
Saskatoon Regional Health Authority—Triaging Emergency Department Patients

1.0 Main Points

As part of its mandate, Saskatoon Regional Health Authority (Saskatoon RHA) provides emergency healthcare services to residents of Saskatoon RHA through its emergency departments. Emergency departments must prioritize (triage) patients quickly and appropriately in order to provide immediate care to patients experiencing life-threatening medical conditions and timely care to other patients. Lack of effective processes to provide services in emergency departments could undermine public confidence in the healthcare system.

This audit examined the effectiveness of Saskatoon RHA's processes to triage patients in its three City of Saskatoon hospital emergency departments. We examined processes to treat patients from their arrival in emergency to when they are first seen by an emergency department physician for the 12-month period ending August 31, 2013.

In Saskatoon RHA, effective triaging of emergency patients is impacted by factors outside the control of the emergency department. These factors include patients with less-urgent or non-urgent conditions seeking services, the use of emergency departments for specialist consultations, and acute care bed availability.

To address these factors, Saskatoon RHA needs to establish a process to achieve its goal of reducing less-urgent and non-urgent patient visits to its emergency departments, provide consultant care for less-urgent or non-urgent patients outside of its emergency departments, and establish an integrated process to manage beds for emergency departments, acute care and long-term care.

Saskatoon RHA did not have effective processes to triage patients from the time they arrive at the emergency department to when they see a physician for the first time in its three city hospital emergency departments. It needs to give better directions to emergency patients, follow established processes when triaging those patients, and periodically review its triage process.

We make eight recommendations to help Saskatoon RHA achieve its five-year outcome goals that no patient will wait for emergency care, and patients seeking non-emergency care in the emergency department will have access to more appropriate care settings.

We encourage other regional health authorities to use the criteria in this chapter to assess the effectiveness of their own processes to triage patients in their hospital emergency departments.

2.0 Introduction

Under *The Regional Health Services Act*, regional health authorities are responsible for the delivery and operation of healthcare services in Saskatchewan. As such, they are responsible for emergency healthcare services provided in hospitals in their regions.

Saskatoon RHA is the largest health region in the province, with a population of over 323,000 residents.[1] As shown in **Figure 1**, it has 10 hospitals. The three hospitals in the City of Saskatoon all have full-service emergency departments.[2] Royal University Hospital and St. Paul's Hospital operate their emergency departments 24 hours a day, seven days a week. City Hospital operates its emergency department 12 hours a day, seven days a week.

This chapter sets out the results of our audit of the processes to triage emergency patients in the three hospital emergency departments in the City of Saskatoon. The processes we examined were from patient arrival in emergency to when they are first seen by an emergency department physician.

Figure 1—Hospital Facilities in Saskatoon RHA

Facility	Community
Royal University Hospital	**Saskatoon**
Saskatoon City Hospital	**Saskatoon**
St. Paul's Hospital	**Saskatoon**
Lanigan Hospital	Lanigan
Rosthern Hospital	Rosthern
Humboldt District Hospital	Humboldt
Wadena Hospital	Wadena
Watrous Hospital	Watrous
Wynyard Hospital	Wynyard
Wakaw Hospital	Wakaw

Source: Saskatoon Health Region Facilities/Hospitals; www.saskatoonhealthregion.ca

3.0 Background

Emergency departments are critical components of the healthcare system that affect patient safety and public confidence in the healthcare system. Hospital emergency departments are highly visible access points into the healthcare system. Delays and overcrowding in emergency departments are frequent subjects of media reports. Lack of effective processes in emergency departments could undermine public confidence in the healthcare system.

[1] Saskatchewan Ministry of Health, *Covered Population 2012,* (2012).
[2] *The Facility Designation Regulations* require all hospitals in the region to provide emergency stabilization services. The three hospitals in the City of Saskatoon also provide emergency and trauma services.

Emergency departments often handle large volumes of patients each day. They must prioritize patients quickly and appropriately in order to provide immediate care to those patients experiencing life-threatening medical incidents and timely care to other patients – this is called triaging.[3] Lack of timely and appropriate medical care could result in complications adversely affecting the health of a patient and possibly resulting in an additional financial burden on the healthcare system.

Widely-accepted best practices exist for quickly prioritizing patients based on urgency. The Canadian Association of Emergency Physicians, National Emergency Nurses Affiliation of Canada, and L'association des medicins d'urgence du Quebec have endorsed a tool for prioritizing emergency patients – the Canadian Triage and Acuity Scale (CTAS).[4] Saskatoon RHA uses these standards.

The CTAS and its accompanying implementation guidelines[5] provide health professionals in Canadian emergency departments with guidance to triage patients into five levels. These levels range from the least serious conditions (CTAS V), which include, for example, sore throats and mild abdominal pain to the most serious (CTAS I), which include such conditions as unconsciousness or cardiac arrest.[6]

In addition to these levels, the CTAS guidelines provide:

- Time goals (i.e., the length of time patients at each level wait to see a physician once they have entered the emergency department). As shown in **Figure 2,** CTAS time goals vary by level (e.g., immediate care for CTAS I to about two hours for CTAS V)
- Documentation requirements
- Standards for reassessment of waiting patients (i.e., how often patients waiting to be assessed by a physician should be reassessed by a triage nurse)
- Guidelines for triage audits (i.e., mechanisms for reviewing assessments to ensure levels are assigned appropriately)

Figure 2—CTAS Levels and Time Goals

CTAS Level	Severity of Condition	Goal to be seen by physician
CTAS I	Resuscitation	Immediate
CTAS II	Emergent	15 minutes
CTAS IIII	Urgent	30 minutes
CTAS IV	Less-Urgent	60 minutes
CTAS V	Non-Urgent	120 minutes

Source: CTAS Implementation Guidelines

Saskatoon RHA has set five-year outcome goals which state that by March 31, 2017:

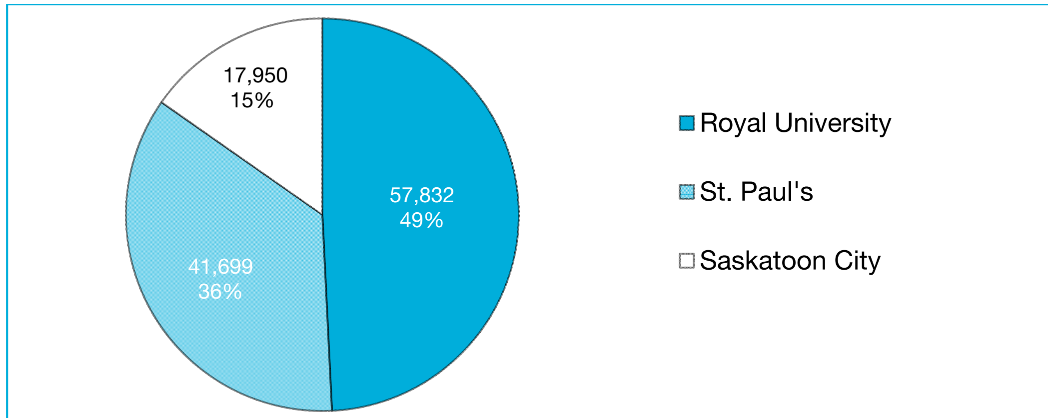
- No patient will wait for emergency department care

[3] Triage is a system where by patients are evaluated and categorized according to the seriousness of their injuries or illnesses with a view to prioritizing treatment and other resources. www.oxfordreference.com (10 October 2013).
[4] www.caep.ca/resources/ctas (28 August 2013).
[5] www.caep.ca/resources/ctas/implementation-guidelines (28 August 2013).
[6] Ibid.

- Patients seeking non-emergency care in the emergency department will have access to more appropriate care settings[7]

For the year ended March 31, 2013, the three hospital emergency departments in Saskatoon had 117,481 patient visits. **Figure 3** shows the volume and percentage of the 2012-13 patient visits handled by each of the three emergency departments.

Figure 3—Volume and Percentage of Patient Visits in each Saskatoon Hospital Emergency Department for the year ended March 31, 2013



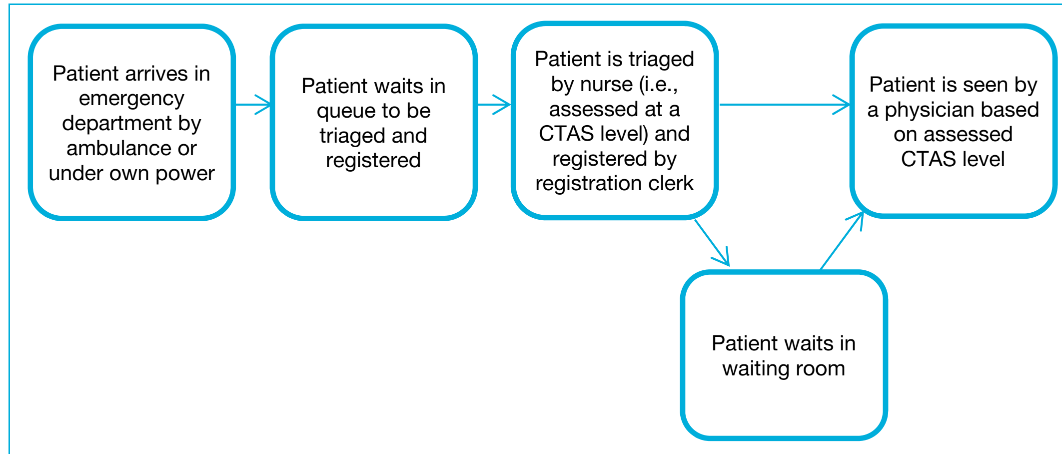
Source: Saskatoon Regional Health Authority Strategic Health Information and Performance Supports (SHIPS)

Figure 4 shows the basic process for patients from the time they arrive at an emergency department to when they see a physician for the first time. In Saskatoon, patients arriving by ambulance may or may not go through the normal triage process, depending on the severity of their condition. When ambulatory patients[8] enter an emergency department, they are usually asked to wait in a queue for their turn to be triaged by a triage nurse and registered by a hospital registration clerk.

After being triaged and registered, patients are either directed immediately to the emergency department's assessment and treatment area where they are monitored by nurses and ultimately seen by a physician, or to the waiting room to wait until a space in the assessment and treatment area becomes available.

[7] Saskatoon Regional Health Authority, *2012-13 Annual Report*, (2013).
[8] Ambulatory patients are capable of walking.

Figure 4—Emergency Department Process



Source: Adapted from material provided by Saskatoon Regional Health Authority Kaizen Operational Team

Based on the examination, the physician determines the treatment plan for the patient (e.g., orders and reviews the results of diagnostic tests such as x-rays), prescribes specific treatments (e.g., prescription medication), and either admits the patient into the hospital's acute care[9] wards for continued monitoring and treatment or discharges the patient.

3.1 Bottlenecks to Effective Triage

In Saskatoon RHA, effective triage of patients in an emergency department setting is seriously impacted by other factors. Many of these factors are outside the control of the emergency department; however, those factors need to be described to better understand the issues impacting the delivery of services.

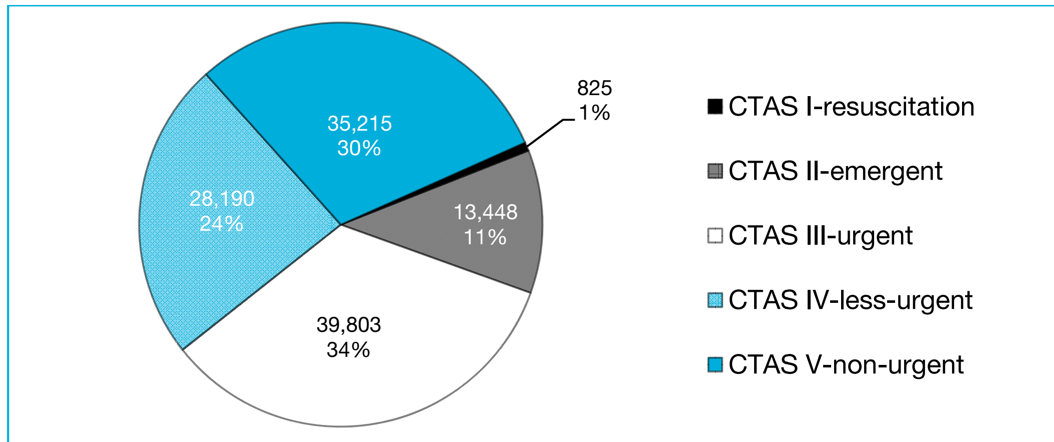
3.1.1 Lack of Alternate Care

Demand on emergency departments can be challenging when patients with less-urgent or non-urgent conditions seek health services from emergency instead of medical clinics, or seek health service from emergency during evenings and weekends when medical clinics are closed or not readily available. Management also indicated that people with chronic conditions or serious but less-urgent health problems frequently come to the emergency department because they cannot obtain community support, long-term care, palliative care or access to specialists on a timely basis. Some of these patients could be treated more cost effectively elsewhere if such services were more readily available.

As shown in **Figure 5**, 30% of the patients that visit a Saskatoon emergency department are triaged as a Level V (i.e., non-urgent).

[9] Acute care is where a patient receives necessary treatment for a disease or severe episode of illness for a short period of time. www.cihi.ca (10 October 2013).

Figure 5—Volume and Percentage of Patient Visits by CTAS Level for the year ended March 31, 2013



Source: Saskatoon Regional Health Authority Strategic Health Information and Performance Supports (SHIPS)

Approximately 40% of the visits to Saskatoon emergency departments occur between 4:00 p.m. and 12:00 a.m., with most visits at Royal University and St. Paul's hospitals because of their longer hours of operation (see **Section 2.0** for details on hours of operation).

Saskatoon RHA has set a goal to reduce the less-urgent and non-urgent patient visits to emergency departments by 25% for 2013-14.[10] However, it has not yet identified action plans or established processes to achieve this goal.

1. **We recommend that Saskatoon Regional Health Authority establish a process to achieve its goal of reducing less-urgent and non-urgent patient visits to its emergency departments.**

3.1.2 Use of Emergency Departments for Specialist Consultations

Saskatoon RHA allows specialist physicians (consultants) to ask patients to meet them at emergency departments for consultations. These consultations represent about 17% of all of Saskatoon's emergency department visits. The use of emergency rooms for specialist consultations negatively affects triage and emergency patient wait times in two ways:

- First, given that all patients who visit emergency must be triaged and registered before seeing a physician, triage nurses spend time with patients who arrive at emergency with the sole purpose of meeting with a consultant. This extends the wait time for other patients who may need more urgent care.
- Second, the consultations taking place in emergency departments use assessment and treatment areas that could be used to assess and treat patients who have visited emergency for immediate care of more urgent conditions.

[10] Saskatoon Regional Health Authority, *2013-14 Future State Value Stream Map and Kaizen Plan – Acute Medicine and Complex Care – Emergency – In Patient,* (2013).

Management acknowledges that the use of emergency rooms for consultants causes a significant bottleneck within emergency departments. Saskatoon RHA has set a goal to reduce patients seen by consultants in emergency departments by 25% for 2013-14.[11] However, it has not yet identified action plans or established processes to achieve this goal.

2. We recommend that Saskatoon Regional Health Authority provide consultant care for less-urgent or non-urgent patients outside of its emergency departments.

3.1.3 Acute Care Bed Availability

When an emergency department physician decides that a patient must be admitted to an acute care bed and there is no such bed available, the patient can wait a significant time in an emergency department assessment and treatment bed before moving to an acute care bed. The number of emergency patients waiting for acute care beds in emergency beds means that those beds cannot be used for assessment and treatment of other emergency patients, adding to wait times.

For the year ended March 31, 2013, 63% of the patients who visited a Saskatoon emergency department stayed longer than six hours. At the Royal University Hospital, the average length of stay in emergency for a patient waiting to be admitted was approximately 12 hours. In April, May, and June 2013, 10% of Saskatoon emergency patients waited more than 18 hours for an acute care bed after the physician decided to admit them. During our period of observation, one hospital had more than 40% of its emergency room beds occupied by patients waiting for an acute care bed.

In August 2013, management indicated that over 90 patients were waiting in acute care settings in the region for long-term care beds to become available. This impacted the availability of acute care beds needed for emergency patients and other patients.

Also, Saskatoon emergency departments may experience delays in becoming aware of the availability of acute beds as the Sunrise Clinical Manager system (emergency department system, see **Section 5.2.1**) does not interface with Saskatoon RHA's bed management system. As such, when an acute care bed becomes available in a medical wing, the emergency department is not automatically notified. Staff indicated this was a limitation of the software.

Saskatoon RHA has set a goal to reduce the time that patients are waiting for an acute care bed in emergency departments by 25% for 2013-14.[12] However, it has not yet identified action plans or established processes to achieve this goal.

[11] Ibid.
[12] Ibid.

> 3. **We recommend that Saskatoon Regional Health Authority establish an integrated process to manage beds for emergency departments, acute care and long-term care.**

3.1.4 Physical Design

As described later in **Section 5.2.2,** the physical layout of the Royal University Hospital emergency department poses significant barriers to the effective delivery of emergency services. The department was designed to handle considerably smaller volumes of patients than current volumes. Patients on ambulance stretchers and ambulatory patients arrive through the same doors. Nursing staff cannot observe patients in the waiting room from the triage desks. The triage line is in a corridor and is not well identified.

A new Royal University Hospital emergency department is scheduled for completion by 2017.

4.0 Audit Objective, Scope, Criteria, and Conclusion

The objective of this audit was to assess the effectiveness of Saskatoon RHA's processes to triage patients in its three City of Saskatoon hospital emergency departments. We examined processes to treat patients from their arrival in emergency to when they are first seen by an emergency physician for the 12-month period ending August 31, 2013.

We examined Saskatoon RHA's policies and procedures that relate to triage of emergency patients. We interviewed management and staff, reviewed data provided by Saskatoon RHA, and tested a sample of triage documents.

To conduct this audit, we followed the standards for assurance engagements published in the *CPA Canada Handbook - Assurance*. To evaluate Saskatoon RHA's processes, we used criteria based in part on the CTAS and guidelines. Management of Saskatoon RHA agreed with the criteria (see **Figure 6**).

Figure 6—Audit Criteria

To have effective processes to triage patients in its three city hospital emergency departments, Saskatoon Regional Health Authority should:

1. **Plan for the effective triage of emergency department patients**
   - 1.1 Set standards for triage of emergency department patients
   - 1.2 Set procedures for following standards
   - 1.3 Assign appropriate staff to emergency departments
   - 1.4 Set performance measures and targets for assessing emergency department patients
   - 1.5 Communicate standards and procedures
2. **Triage emergency department patients in an appropriate and timely manner**
   - 2.1 Conduct and document triage assessments on patients
   - 2.2 Reassess patients based on standards and document reassessments
   - 2.3 Have patients examined by a physician within set time standards

3. Monitor performance
- 3.1 Regularly audit triage documentation to determine if triage is being properly conducted
- 3.2 Collect information on performance
- 3.3 Analyze collected information
- 3.4 Track and address complaints and critical incidents
- 3.5 Report on performance to senior management and the public

We concluded that for the period of September 1, 2012 to August 31, 2013, Saskatoon RHA did not have effective processes to triage patients in its three city hospital emergency departments. It needs to:

- **Give better directions to emergency patients**
- **Follow established standards and processes when triaging emergency patients**
- **Periodically review the triage process for emergency patients**

We make five recommendations to help improve Saskatoon RHA's processes to triage emergency department patients. These recommendations, along with the three recommendations in **Section 3.1** that address bottlenecks to effective triage, would help Saskatoon RHA achieve its five-year outcome goals that no patient will wait for emergency department care and patients seeking non-emergency care in the emergency department will have access to more appropriate care settings.

5.0 KEY FINDINGS AND RECOMMENDATIONS

In this section, we set out our key findings by criterion along with the related recommendations.

5.1 Standards and Procedures in Place

5.1.1 Standards in Place

Saskatoon RHA has adopted the CTAS and guidelines, as described in **Section 3.0**, as its standard for delivery of services in its emergency departments. Also, it makes available to its staff the extensive literature of the Canadian Association of Emergency Physicians and the National Emergency Nurses Affiliation of Canada. The use of this literature helps staff understand and follow national best practice standards.

Also, Saskatoon RHA maintains regional policies and procedures for the delivery of health services including the provision of services in emergency departments. These emergency department policies include the role of triage nurses, medical directives,[13] and criteria to determine when patients already assigned a CTAS level should be further classified as trauma patients and to determine the severity of the trauma.[14]

[13] Medical directives give nurses the authority to perform basic medical interventions on patients who present with specific symptoms and who are waiting to see a physician.
[14] Saskatoon Regional Health Authority categorizes emergency patients with trauma as Level 1 - requiring the surgeon on call to be the lead physician, or Level 2 - an emergency physician is to be the lead physician.

5.1.2 Guidance in Place

Saskatoon RHA provides staff with guidance on meeting the standards set out in its policies. For example, guidance includes how to register patients at their bedside when they have been sent directly to the assessment and treatment area of the emergency department, and procedures for re-contacting patients who were triaged but left without seeing an emergency physician.

Triaging standards and procedures are readily available to staff - they are kept in binders at triage stations within each emergency department and on the region's intranet. Triage nurses can also access the professional guidelines of the National Emergency Nurses Affiliation on Saskatoon RHA's intranet.

Additionally, Saskatoon RHA is currently participating in the provincial healthcare system's LEAN quality improvement process (LEAN).[15] During the audit period, it identified 13 areas for improvement and has initiated and/or completed work on eight areas in its emergency departments.

For each of its LEAN initiatives, Saskatoon RHA develops and implements a series of procedures, or "work standards" for staff providing very detailed instructions (e.g., how many seconds it should take to perform a specific task). For example, in 2012 Saskatoon RHA implemented a parallel registration and triage process, whereby patients are simultaneously triaged by a nurse and registered in the hospital by a registration clerk. It has set out specific guidance for both the nurse and the registration clerk, such as how long (measured in seconds and minutes) it should take to greet patients and ask them specific questions. This new process reduced the triage/registration time significantly.

These work standards are also readily available to staff in a designated place within each emergency department and on the region's intranet. Emergency department managers ensure all staff members receive training on new work standards implemented so that work is done consistently and that recently implemented procedures are followed by all staff.

5.1.3 Appropriate Staff Assigned

Most physicians working in Saskatoon's emergency departments have the CCFP-EM designation (a "two plus one" certification meaning that they practice family medicine for two years and then train as an emergency specialist for one year), or the FRCP-EM designation (certification requiring a five-year residency in an emergency department setting).

Also, emergency departments in Saskatoon are staffed by nurses who have additional training specific to the skills needed to work in an emergency environment. Saskatoon RHA uses a "staged" training process for emergency nurses. This training process includes various formal training courses and on-the-job training. Before experienced emergency nurses can triage patients, they must receive further training. Formal classroom teaching educates new triage nurses to assign CTAS levels, carry out procedures for triaging and registering patients, and conduct customer service. On-the-

[15] LEAN is a quality improvement methodology currently being used by the Ministry of Health, RHAs, and the Saskatchewan Cancer Agency to identify and reduce inefficiencies in service delivery.

job training includes "buddy shifts" with experienced triage nurses to supplement formal education.

Triage nursing stations in emergency departments are staffed according to patient volume. During peak volume times (typically between 12:00 p.m. and 12:00 a.m.), two triage nurses work; during other periods of the day, which typically have lower patient volume, one triage nurse works.

5.1.4 Measures and Targets Set

Saskatoon RHA has set five-year outcome goals as described in **Section 3.0**. These outcome goals are consistent with those set by the Ministry of Health as part of its provincial Health System Plan.[16] As part of these outcome goals, Saskatoon RHA has identified the following improvement targets:

- By March 2014, improve patient flow and efficiencies to achieve a 50% reduction in the number of patients waiting in the emergency department for an acute care bed
- By March 2015, reduce wait times for emergency department care by 50%
- By March 2015, achieve a 100% reduction in the number of patients waiting in the emergency department for an acute care bed[17]

Saskatoon RHA uses various measures to assess the performance of its emergency departments and its progress toward meeting its improvement targets and five-year outcome goals. Each of its performance measures has an associated target. For example, daily performance measures include:

- The number of patients who are triaged as CTAS II who see a physician within the CTAS-recommended timeframe of 15 minutes
- The number of patients who leave the emergency waiting room before seeing an emergency department physician
- The number of patients in the emergency department waiting for an acute care bed to become available in the hospital
- Incidents of harm to patients or staff
- The average time emergency patients wait to be admitted into the hospital

Saskatoon RHA has also identified a number of LEAN-specific performance measures (as further described in **Section 5.3.2**). For each of its LEAN initiatives, the LEAN project team identifies a number of performance measures, and management selects two for ongoing monitoring. Saskatoon RHA measures its progress at 30-, 60-, 90- and 180-day intervals. When it meets and sustains a LEAN initiative's target at one of its facilities, it introduces and implements those new processes at its other facilities.

[16] Saskatchewan Ministry of Health, *2013-14 Health System Plan*, (2013), p. 10.
[17] Saskatoon Regional Health Authority, *2012-13 Annual Report*, (2013).

5.1.5 Standards and Procedures Communicated to Staff and Patients

Saskatoon RHA trains its nursing staff on its policies and procedures during their initial orientation and training. Emergency department orientation includes procedures for following policies, medical directives, and the standards associated with CTAS scoring.

Each morning, nurse managers address their emergency department staff. In these team "huddles", nurse managers communicate statistics and performance measures from the previous day and any issues arising. For example, we observed a nurse manager pointing out to staff that a documentation policy was not being regularly followed and reminded them to follow procedures.

Since August 2013, Saskatoon RHA has made available to patients a guidance pamphlet of basic emergency department information. It developed this pamphlet in conjunction with the Emergency Department Patient and Advisory Council. We also observed signs within the emergency departments advising patients that they will be seen based on the urgency of their condition (i.e., those with more serious medical issues are seen first).

5.2 Need to Triage Emergency Department Patients in a Timely Manner

5.2.1 Processes to Assign Triage Levels are Adequate

In 2011, Saskatoon RHA adopted and implemented the Sunrise Clinical Manager (SCM) system. Use of SCM reduces the subjectivity of staff in determining a patient's CTAS level during the triage process. SCM is a software program that coordinates patient flow and tracks information in emergency departments from triage to treatment to admission or discharge. It includes an automated triage mechanism that requires triage nurses to enter specific patient information in the system to automatically generate a CTAS level based on the primary complaint (e.g., abdominal pain, head injury, vertigo) and objective patient information (e.g., vital signs such as blood pressure).

Nurses can increase but not reduce this CTAS level when they assess that the patient's needs are more severe than SCM has determined. For example, SCM may prioritize a patient presenting with abdominal pain as a CTAS IV or V, whereas an experienced triage nurse may observe that the patient is in significant discomfort or recognize something in the patient's history that indicates that SCM's level is too low. We found that in 47% of files we examined, the triage nurses had overridden the SCM-generated CTAS level and increased the level.

Not allowing triage nurses to lower a SCM-generated CTAS level (i.e., a patient who has been prioritized as a CTAS II cannot be lowered to a CTAS III) reduces the risk that patients may be "under-triaged."

Patients with very serious conditions (e.g., CTAS I, which includes unconscious patients or those experiencing a heart attack) are taken immediately to the assessment and treatment areas. Staff register and triage them at bedside once they have been

stabilized. These patients typically arrive in an ambulance. Only about 1% of all patient visits to emergency departments in Saskatoon are CTAS I.

5.2.2 Direction for Patients Needs Improvement

We noted that patients found the physical layout of Saskatoon's emergency departments confusing, resulting in frustration and some patients leaving the department before seeing a triage nurse and being registered, or leaving after being triaged and registered but before seeing a physician. In Saskatoon's emergency departments, the triage waiting lines are configured with a series of chairs in which patients sit in order of arrival, moving down the line when the next patient in the queue is able to be triaged and registered. These triage lines are not well identified. We observed that it would be possible for a patient to miss the triage line and wait in the waiting room without being assessed by a triage nurse.

Also, in the Royal University Hospital emergency department, staff at the triage desk cannot directly see into the waiting room. Because, as noted in **Section 5.2.3**, patients are not being reassessed in waiting rooms, there is a risk that patients could sit in the waiting room without being seen for a significant length of time or their condition could deteriorate without being noticed.

4. **We recommend that Saskatoon Regional Health Authority implement a process to direct patients entering its emergency departments to the appropriate areas for assessment and reassessment.**

5.2.3 Patients Not being Reassessed in Waiting Room

Both CTAS best practice standards and Saskatoon RHA's policies expect patients to be "reassessed" by a triage nurse between being triaged and seeing a physician. The standards expect these reassessments to occur within the CTAS time goals for patients to see physicians (see **Figure 2**). For example, a waiting CTAS II patient should be reassessed by a triage nurse every 15 minutes until the physician assessment. Management indicated that nurses should be doing these reassessments, but did not expect nurses to document all the reassessments.

Reassessments ensure patients receive prompt medical attention if their condition worsens (i.e., a patient prioritized as a CTAS III may deteriorate to the point of being a CTAS II). When we observed waiting rooms, nurses did not leave their triage stations to reassess previously-triaged patients in waiting rooms. Management acknowledged that triage nurses seldom have time to leave the triage stations to do reassessments.

If triage nurses do not regularly reassess patients, it increases the risk that the patients' condition may deteriorate after being triaged without being detected, before they see a physician.

5. We recommend that Saskatoon Regional Health Authority staff routinely reassess patients in emergency department waiting rooms to determine that their conditions have not deteriorated.

On the positive side, we observed that patients had a very short wait time to see a physician once they were moved to the assessment and treatment beds.

5.2.4 Physicians Not Seeing Patients within Established Time Goals

Of the triage files we reviewed, 48% of patients (CTAS II-CTAS V) were not seen by a physician within the CTAS time goals. Management of Saskatoon RHA is aware of the difficulties meeting the CTAS time goals and has started or implemented some initiatives (see **Section 5.3.2**) to address these difficulties.

In its annual reports, Saskatoon RHA reported how often it meets its standard of CTAS II patients being seen by a physician within 15 minutes (e.g., 2012-13: 63% of the time). Although Saskatoon RHA indicates that it collects and reports its performance using the CTAS time goals, we found that it does not. The CTAS time goals measure the length of time patients at each CTAS level wait to see a physician once they have entered the emergency department. However, Saskatoon RHA's measurement of time does not include how long patients wait between arriving at emergency, and being triaged.

The length of time patients wait between arriving at an emergency department and triage can be significant. In one of its emergency departments, Saskatoon RHA estimates that patients wait on average at least 25 minutes to be triaged, and at peak emergency hours may wait over an hour. For example, the time goal for a CTAS II patient to see a physician is 15 minutes from when the patient arrives at an emergency department. However, a CTAS II patient that is reported as being seen by a physician within the time goal might have waited 25 minutes just to be triaged; therefore, the time goal has not actually been met. Exclusion of this wait time results in inaccurate reporting and patients not being seen by physicians within CTAS time goals.

To more accurately measure the length of time patients wait to see a physician in emergency departments, Saskatoon RHA must systematically collect data on how long it takes patients to be triaged and put processes in place to address long triage wait times. This would reduce the risk that patients are not being appropriately monitored or managed.

6. We recommend that Saskatoon Regional Health Authority accurately measure and report the total wait time, starting from the patients' arrival into its emergency departments until the time they see a physician.

7. We recommend that Saskatoon Regional Health Authority put processes in place to ensure emergency department patients see physicians within established time goals.

5.3 Performance Adequately Monitored but Accuracy Not Reviewed

5.3.1 Accuracy of Triage Level Not Regularly Assessed

Post-triage audits should be performed to assess the accuracy and adequacy of the triage process. An internal audit of triage could identify individual and systematic problems in the process. This could in turn be used to educate triage nursing staff and improve the process.

As described in **Section 5.2.1**, the process of triaging emergency patients is done using the SCM software that automatically assigns CTAS levels to patients based on their primary complaint and objective information such as vital signs. Additionally, triage nurses are unable to prioritize patients below the SCM-assigned level, but they can assign patients a higher level if they feel the patient presents signs of higher need. This system limits the risk that patients may be "under-triaged" and assigned CTAS levels lower than their conditions would require.

Management stated that for this reason, Saskatoon RHA does not conduct reviews of triage documentation to ensure that triage is being done accurately. Its current automated triaging system does reduce the risk that emergency patients are "under-triaged."

However, 47% of the SCM CTAS levels in the files we examined were being over-ridden by the triage nurse. Saskatoon RHA should ensure that its system is working effectively by routinely reviewing triage notes and charts to determine the accuracy of CTAS scoring in emergency departments, and reviewing the triage nurses' rationale for over-riding the system so frequently. Such an assessment could provide useful information for future improvement and further training.

8. We recommend that Saskatoon Regional Health Authority periodically review the triage process to determine whether emergency department patients are appropriately categorized.

5.3.2 Information Collected and Analyzed

Saskatoon RHA uses SCM to collect a large volume of emergency department data. This data includes patient primary complaints and objective information, CTAS level, the time the patient is triaged, the time the patient sees the physician, how long the patient

waited to get an available acute care bed if required, and if the triaged patient left before seeing a physician.

Saskatoon RHA has a health information analyst who collates the data for performance measures, trend analysis, total or average volumes, etc., and provides this information as requested to management. Management advised that some measures are tracked continuously (e.g., percentage of CTAS II patients seen within the optimum time), while some are specific measures relating to LEAN initiatives and may only be tracked as needed.

Every morning, the management team of Saskatoon's emergency departments meet to discuss the previous day's performance. Daily performance measures, as described in **Section 5.1.4**, are discussed. If issues that negatively affect performance are identified, additional meetings take place to find ways to address the issues.

As described in **Sections 5.1.2** and **5.1.4**, Saskatoon RHA is using LEAN to focus on addressing identified areas negatively affecting its emergency departments' processes. When such areas have been identified, management and staff prioritize the areas and begin quality improvement initiatives[18] in one of its emergency departments.

Saskatoon RHA routinely tracks the progress towards its LEAN initiatives. If the performance measures meet the targets set and are sustained, Saskatoon RHA implements the new process in its other emergency departments. However, if the targets were not reached and sustained, issues and actions required are identified and tested.

5.3.3 Complaints and Incidents Tracked and Addressed

Legislation requires any incident which causes harm (or has the potential for harm) to patients to be reported to the Ministry of Health.[19] Saskatoon RHA uses software called the Adverse Events Management System (AEMS) to track critical incidents in all of its departments, including emergency.

Further, all serious complaints from emergency patients are tracked manually. Department managers retain documentation of individual complaints, investigate and document the event in question, and document the resolution to the complaint. For the complaint files we examined, resolutions to complaints often included apologies to patients, and may have resulted in internal follow-up with staff and management to reduce the risk of similar events occurring in the future.

5.3.4 Performance Reported to Senior Management and the Public

Saskatoon RHA has adopted a real-time reporting strategy where key information on performance is reported to senior management on a daily basis. After a daily conference call between emergency department management, the directors brief the vice-president

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[18] Known in LEAN methodology literature as a Rapid Process Improvement Workshop, or *Kaizen.* An initiative is when an organizational process is studied, inefficiencies identified, and solutions implemented.
[19] *The Critical Incident Regulations.*

in charge of emergency care on the previous day's performance measures, issues, and any actions taken to address such issues.

Saskatoon RHA annually reports publicly on key measures and has reduced emergency patient waits times since 2011-12. In its 2011-12 annual report, it reported that it was meeting its standard for CTAS II patients being seen by a physician within 15 minutes 52% of the time.[20] In 2012-13, it reported that it had improved and that 63% of CTAS II patients were being seen by a physician within that time period. However, as described in **Section 5.2.4**, how Saskatoon RHA measures its time goals does not accurately capture the length of time patients actually wait.

In 2012-13, Saskatoon RHA began to report publicly on the average time it takes for emergency patients to be transferred to an acute care bed (i.e.,15,996 patients had to wait an average of 6 hours and 43 minutes in emergency after the physician decided to admit the patient to acute care).[21] Trends in this measure will help the Saskatoon RHA, legislators, and the public to assess Saskatoon RHA's performance on whether it is making progress in addressing delays in moving emergency patients into acute care beds as needed.

6.0 Selected References

Adam, B.A. (April 13, 2012). *Mother wants apology after ER turns away sick son; Seven-month-old almost dies from dehydration*. Saskatoon: Saskatoon Star Phoenix.

Canadian Association of Emergency Physicians. (2012). *Canadian Triage and Acuity Scale Implementation Guidelines*. Ottawa: Author. www.caeo.ca/resources/ctas/implementation-guidelines (26 June 2013)

Cowan, P. (November 02, 2011). *Hallway medicine in congested ERs*. Regina: Regina Leader Post.

Ministry of Health, Saskatchewan. (2012). *Covered Population 2012*. www.population.health.gov.sk.ca/rhalist.htm (26 June 2013)

Ministry of Health, Saskatchewan. (2013). *2013-14 Health System Plan*. Regina: Author.

Saskatoon Regional Health Authority. (2012). *Annual Report 2011-12*. Saskatoon: Author.

Saskatoon Regional Health Authority. (2013). *Annual Report 2012-13*. Saskatoon: Author.

[20] Saskatoon Regional Health Authority, *2011-12 Annual Report,* (2012).
[21] Ibid.