



**INES**   
LE SAVOIR PREND FORME

# TRAUMA CARE

## Continuum

**CST**

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Québec 



## Trauma care continuum WHAT IS IT?

The Trauma Services Continuum (TSC) is Québec's organizational model for trauma services. The TSC is a cross-sectoral system involving governmental and paragonmental institutions, universities and community-based agencies. Its main objective is to ensure the accessibility, continuity, efficiency and quality of the trauma services provided to people who have been injured. The TSC is built on three levels of prevention (primary, secondary and tertiary) and is divided into 14 coordinated components ranging from accident prevention to community reintegration. It is recognized that primary and secondary prevention, the first two components of the TSC have helped reduce road traffic deaths rate by 55%. In addition, the mortality rate of trauma victims who benefited from the TSC fell from 51.8% in 1992 to 8.6% in 2002, and to 4.6% in 2010.

The TSC is a model based on the concept of continuous quality improvement. Currently, the trauma services continuum team at the Institut national d'excellence en santé et en services sociaux (INESSS) is mandated to monitor and support improvements in the quality of care and services offered to trauma victims in Québec.

## Component

# 1

## PRIMARY PREVENTION

*Before the accident*



### ACCIDENT PREVENTION

#### Definition

A set of measures designed to prevent all types of accidents (falls, road accidents, work accidents, etc.)

#### Users

General public

#### Objective

To reduce the risks of accidents

#### IN QUÉBEC

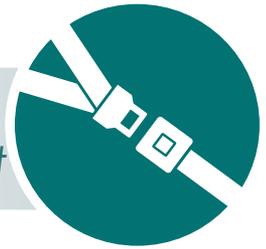
- The Société de l'assurance automobile du Québec (SAAQ) helps reduce the risks of accidents by promoting safety awareness, managing road access and controlling road transportation.
- The Ministère des Transports improves road safety by building and improving the road system.
- The Commission de la santé et de la sécurité au travail (CSST) is mandated to eliminate the sources of danger that threaten workers' health, security and physical well-being.
- The Direction générale de la santé publique (MSSS) develops prevention programs (e.g., the dynamic integrated balance program "Stand Up!" (PIED) designed to prevent falls in the elderly).

## Component

# 2

## SECONDARY PREVENTION

*At the time of the accident*



### INJURY PREVENTION

#### Definition

A set of active and passive protective measures deployed at the time of an accident

#### Users

Victims of accidents

#### Objective

To reduce the number and severity of accident-related injuries

#### IN QUÉBEC

- The regulations governing the use of seat belts and infant car seats help reduce the risks of injury at the time of impact.
- The automotive industry contributes to the development of new tools such as airbags and antiskid devices.
- Different bodies under the MSSS, especially the Direction générale de la santé publique, contribute by promoting the use of helmets in sliding sports, the prevention of falls in older people, and the prevention of shaken baby syndrome
- The Canadian organization Parachute leads a number of safety awareness and accident prevention campaigns aimed at making Canada injury-free.

## Component

# 3

## TERTIARY PREVENTION

*After the accident*



### Pre-hospital services

#### FIRST RESPONDERS, EMERGENCY CALLS AND 911 CENTRES

##### Definition

911 centres act as a single portal for alerting emergency services. People who witness emergency situations alert the 911 centres and assist the victims.

##### Users

Victimes of accidents

##### Objectives

To swiftly alert the emergency service network of ongoing emergency situations, to encourage the general public to offer first aid, and to provide a standardized rapid response to emergency calls

##### IN QUÉBEC

- The mission of 911 centres is to provide standardized emergency call management across Québec. These centres also ensure a seamless link to emergency services using new technologies (VoIP, video conferencing, etc.).
- The 911 centres provide a standardized rapid response to all emergency calls requiring assistance from the police, fire-fighters and emergency paramedics.

## Component

# 4

## TERTIARY PREVENTION

*After the accident*



### HEALTH COMMUNICATION CENTRES

#### Definition

Agencies that receive calls from 911 centres requesting pre-hospital emergency health care. Health communication centres prioritize calls, dispatch the necessary personnel and resources, provide support services, and direct victims to the appropriate healthcare facilities.

#### Users

Trauma victims requiring initial care and transport to a healthcare facility

#### Objectives

To efficiently handle and prioritize emergency calls and to dispatch the most appropriate resources to care for victims

#### IN QUÉBEC

- Ten health communication centres receive and manage emergency health calls from the 911 centres.
- Operating in accordance with the uniform provincial standards established by the MSSS, these centres aim to offer a standardized, uniform rapid response to citizens or institutions requiring their services.

## Component

# 5 TERTIARY PREVENTION

*After the accident*



### FIRST RESPONDERS, POLICE SERVICES AND EXTRICATION UNITS

#### Definition

Municipal bodies mandated to provide primary care until the arrival of ambulance services

#### Users

Trauma victims with potential survival or health-related risks

#### Objective

To ensure a rapid response in order to secure an accident scene and provide care to trauma victims until the arrival of emergency paramedics

#### IN QUÉBEC

- First responders are trained individuals who are alerted by the health communication centres to intervene early in certain emergency situations. Most first responders are firefighters who work for municipal fire departments.
- Extrication units are also made up mostly of firefighters and are alerted when people are trapped in their vehicles.
- When necessary, police officers coordinate the intervention and investigate accidents on site.

## Component

# 6

## TERTIARY PREVENTION

*After the accident*



### AMBULANCE SERVICES

#### Definition

Healthcare professionals trained to provide the best initial care for trauma victims and to quickly transport them to designated health-care facilities

#### Users

Trauma victims requiring ambulance transport

#### Objective

To quickly take charge of trauma victims at the scene of the accident, following established protocols, and to transport them to designated hospital facilities

#### IN QUÉBEC

- In 2013, nearly 700,000 ambulance transports were provided.
- Paramedical ambulance technicians provide people with the necessary care according to the clinical protocols established by the MSSS, and transport them to the most appropriate hospital facility.

## Component

# 7

## TERTIARY PREVENTION

*After the accident*



## Hospital Services

### MEDICAL STABILIZATION SERVICES

#### **Definition**

Facilities ensure that accident victims are medically stabilized within 30 minutes and also that a medical escort is provided for trauma victims requiring transfer to a tertiary trauma centre (the equivalent of level 1 trauma center in the United States).

#### **Users**

Trauma victims deemed at risk according to pre-hospital triage scales by paramedical ambulance technicians

#### **Objective**

To take charge of at-risk trauma victims and to transport them to a higher level trauma center

## Component

# 8

## TERTIARY PREVENTION

*After the accident*



### PRIMARY TRAUMA CARE CENTRES

#### Definition

Facilities located more than 45 minutes away from a secondary or tertiary trauma care centre and offering general surgery and anesthesia services

#### Users

Trauma victims who do not present systemic complications but require surgical stabilization before being transferred to a more specialized centre

#### Objective

To provide critical and acute primary care to trauma victims who do not have life-threatening conditions and to transfer stabilized patients requiring the services of a secondary or tertiary trauma care centre

#### IN QUÉBEC

- 28 primary trauma care centres serve the needs of more than 2500 victims each year.

## Component

# 9 TERTIARY PREVENTION

*After the accident*



### SECONDARY TRAUMA CARE CENTRES

#### Definition

Facilities offering general surgery, orthopedic care, critical care and early rehabilitation services. As part of an consortium of institutions, some centres are responsible for providing highly specialized neuro-trauma services for the regions they serve.

#### Users

Victims of severe trauma or multiple trauma who do not require tertiary trauma care or expert care

#### Objectives

To provide immediate and on-site critical and acute care to victims of severe trauma who do not require tertiary trauma care; to provide any necessary early rehabilitation services; and to quickly transfer trauma victims requiring tertiary care or expert care

#### IN QUÉBEC

- 22 secondary trauma care centres serve the needs of more than 12,500 victims each year.
- 4 regional secondary trauma care centres serve the needs of more than 3500 victims each year.

# Component

# 10 TERTIARY PREVENTION

*After the accident*



## TERTIARY TRAUMA CARE CENTRES

### Definition

Facilities offering specialized and highly specialized trauma care, neurosurgery, specialized intensive care and multidisciplinary early rehabilitation services. These facilities carry out some of their work as part of a consortium of institutions or centers of expertise.

### Users

Victims of severe multiple trauma or neurotrauma

### Objective

To provide any necessary critical and acute care, as well as multidisciplinary early rehabilitation services

### IN QUÉBEC

- 3 tertiary trauma care centres serve the needs of more than 4500 victims each year.
- 2 pediatric tertiary trauma care centres provide services to more than 900 victims each year.

## Component

# 11

## TERTIARY PREVENTION *After the accident*



### CENTERS OF EXPERTISE FOR SPECIFIC TYPES OF TRAUMA

#### Definition

Consortiums of institutions (hospital and rehabilitation centres) offering tertiary acute care (hospitals), early rehabilitation services (hospitals) and specialized rehabilitation services (rehabilitation centres) specifically for victims of spinal cord injuries, severe burns or traumatic amputations needing emergency microsurgical revascularization.

#### Users

Victims of spinal cord injuries, severe burns or traumatic amputations requiring emergency microsurgical revascularization

#### Objective

To provide expert physical healthcare, including early rehabilitation and highly specialized rehabilitation services, to complex trauma victims. Facilities constituting the center of expertise share the responsibility for the optimal return of trauma victims to regional rehabilitation facilities.

#### IN QUÉBEC

- 2 centers of expertise for spinal cord injuries serve the needs of around 150 victims each year.
- 2 centers of expertise for major burns serve the needs of around 200 victims each year.
- One center of expertise for traumatic amputations requiring emergency microsurgical revascularization serves the needs of around 100 victims each year.

# Component

# 12 TERTIARY PREVENTION

*After the accident*



## Post-hospital services

### IN-PATIENT REHABILITATION FACILITIES

#### Definition

Regional or supraregional rehabilitation facilities providing specialized rehabilitation services, including community reintegration, to admitted patients. As part of a consortium of institutions for neuro-trauma patients, supraregional facilities are responsible for providing certain highly specialized services for all the regions they serve. These facilities also offer rehabilitation services to victims of severe orthopedic injuries.

#### Users

Trauma victims with significant persistent disabilities resulting from their injuries

#### Objectives

To develop residual capacities, to compensate for impairments, to promote the resumption of pre-injury activities and life habits, and to facilitate community reintegration

#### IN QUÉBEC

- 11 rehabilitation facilities offer in-patient services to different types of trauma victims.

# Component

# 13

## TERTIARY PREVENTION

*After the accident*



### OUT-PATIENT REHABILITATION FACILITIES

#### Definition

Regional facilities providing specialized out-patient rehabilitation services, including community reintegration. As part of a consortium of institutions, all these facilities offer rehabilitation services to victims of neurotrauma or severe orthopedic injuries.

#### Users

Trauma victims with significant persistent disabilities resulting from their injuries

#### Objectives

To develop residual capacities, to compensate for impairments, to promote the resumption pre-injury activities and life habits, and to, and to facilitate community integration

#### IN QUÉBEC

- 18 rehabilitation facilities offer out-patient services to different types of trauma victims (11 of which also offer in-patient services).

# Component

# 14 TERTIARY PREVENTION

## *After the accident*



### COMMUNITY SUPPORT SERVICES

#### Definition

Facilities and agencies offering home support services for trauma victims

#### Users

Trauma victims with permanent disabilities requiring support measures after community reintegration

#### Objective

To enable people to maintain the gains made in rehabilitation, participate in society as fully as possible and enjoy a satisfactory quality of life

#### IN QUÉBEC

- Different consumers associations support victims after their return to community.
- The local health and social service centres (CSSS) offer home support services for trauma victims.

Available online at [fecst.inesss.qc.ca](http://fecst.inesss.qc.ca) in the “Documentation” tab under the “Publications” heading



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