Schulich

MEDICINE & DENTISTRY

Organisation de la traumatologie en Ontario

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Professor of Surgery and Critical Care Medicine, Western University
Chief of Surgery, Victoria Hospital, London Health Sciences Centre

14e Conférence Paul Chevalier

53e Congrès de l'Association Québécoise de Chirurgie
Gatineau, Québéc
20 Mai, 2023

London Health Sciences Centre
Trauma Program

The Division Of General Surgery

ASSOCIATION QUÉBÉCOISE DE CHIRURGIE

CANUCS
Canadian Collaborative on Urgent Care Surgery

Schulich MEDICINE & DENTISTRY

Western

Conflit d’intérêts

- Conseiller médical pour Frontline Medical Technologies Inc.

Fardeau des blessures en Ontario

Injury Deaths	Hospitalized Treatment	Non-Hospitalized Treatment	Permanent Partial Disability	Permanent total Disability	Total Cost
4,643	71, 727	1,196,505	22,030	1,741	$6.8 Billion

Economic Burden of Injury in Canada, 2009

Injury-related deaths in the Ontario provincial trauma system: a retrospective population-based cohort analysis

Christopher C.D. Evans MD MSc, Wenbin Li MSc, Dallas Seitz MD PhD

Abstract

Background: Although Ontario has an established trauma system, it experiences a substantial burden of morbidity and mortality from injury. Our objective was to describe patterns of fatal injury in Ontario, with a focus on location of death (out of hospital, trauma or non–trauma centre) and receipt of surgical intervention before death.

Methods: We conducted a retrospective population-based cohort study using linked administrative data on fatal injuries in children and adults (no age restrictions) in Ontario between 2000 and 2016. We identified injury-related deaths in the Ontario Registrar General Death database. We developed descriptive statistics for injury characteristics and causes of death. We calculated the fatal injury incidence rate for each year of the study. The primary outcome was cause of death; the secondary outcome was receipt of surgical intervention.

Results: The analysis included 19 408 people. The mean annual incidence of fatal injury averaged 8.7 (95% confidence interval 7.7–9.6) per 100 000. The most common mechanisms of injury were motor vehicle collisions (12 065, 62.2%), followed by gunshot wounds (3134, 16.1%) and falls (2387, 12.3%). Deaths frequently occurred out of hospital (72.6%), rather than at a trauma centre (14.2%) or non–trauma centre (13.2%). Patients treated at trauma centres were significantly more likely to receive a surgical intervention (standardized difference 0.6) than those treated at non–trauma centres.

Interpretation: Most injury deaths in Ontario occur in the out-of-hospital setting or are managed at non–trauma centres; many patients receive no surgical intervention before death. There are likely opportunities to improve access to specialized injury care in Ontario's trauma system.

<u>Mechanisms de mortalité:</u>

#1 Collision automobile – 62,2%

#2 Blessures par balle – 16,1%

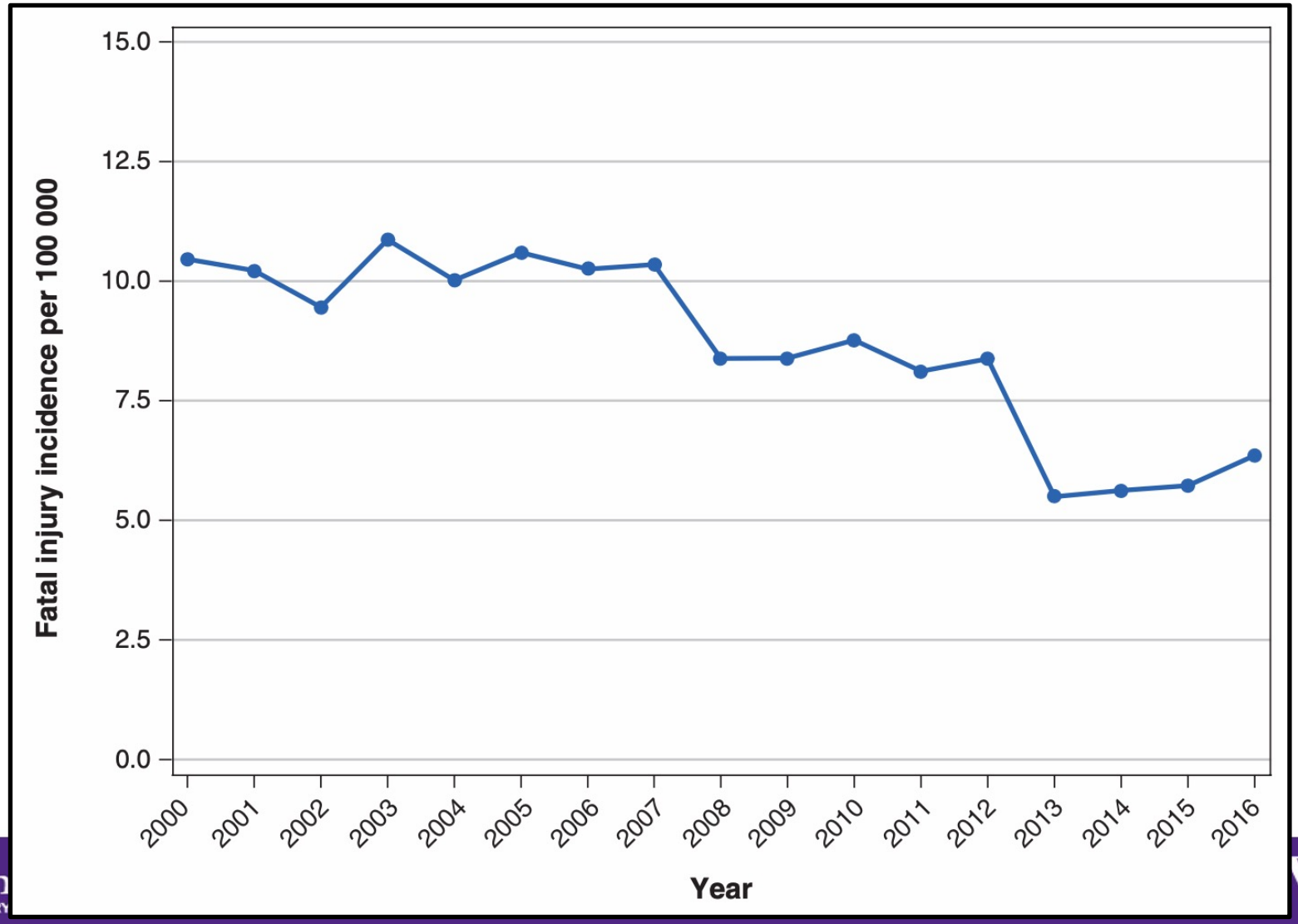
#3 Chutes – 12,3%

<u>Mortalité</u>

Hors de l'hôpital – 72,6%
CT – 14,2%
Hôpital – 13,2%

CMAJ Open 2021

Mortalité par traumatisme



CMAJ OPEN

Research

Temporal trends and differences in mortality at trauma centres across Ontario from 2005 to 2011: a retrospective cohort study

David Gomez MD PhD, Aziz S. Alali MD PhD, Barbara Haas MD PhD, Wei Xiong MSc, Homer Tien MD MSc, Avery B. Nathens MD PhD

De 2005 à 2009, les risques de décès ont diminué de près de 3 % par an

Table 3: Differences in trauma centre–specific adjusted mortality rates, overall and across patient subgroups in Ontario, 2005–2011*

Trauma centre	Overall, adjusted† mortality rate (95% CI)	Patient subgroup, adjusted† mortality rate (95% CI)				
		Shock	Penetrating truncal injury	Blunt multisystem injury	Older (≥ 65 yr)	Isolated severe TBI
1	0.72 (0.60–0.87)	0.81 (0.60–1.09)	1.25 (0.83–1.89)	0.74 (0.56–0.98)	0.72 (0.54–0.96)	0.46 (0.33–0.64)
2	0.87 (0.69–1.12)	0.91 (0.63–1.30)	1.00 (0.58–1.73)	0.74 (0.47–1.16)	0.58 (0.39–0.85)	0.73 (0.49–1.10)
3	0.87 (0.70–1.08)	0.99 (0.70–1.41)	0.84 (0.49–1.44)	1.20 (0.83–1.75)	0.95 (0.69–1.29)	1.05 (0.74–1.50)
4	0.87 (0.69–1.01)	1.09 (0.76–1.55)	0.98 (0.57–1.68)	0.81 (0.54–1.21)	0.84 (0.60–1.18)	0.82 (0.56–1.19)
5	0.89 (0.73–1.07)	1.05 (0.77–1.43)	0.90 (0.58–1.39)	0.79 (0.58–1.07)	0.84 (0.63–1.12)	0.79 (0.58–1.09)
6	1.18 (0.98–1.43)	1.14 (0.82–1.57)	1.16 (0.70–1.93)	1.18 (0.87–1.60)	1.19 (0.90–1.56)	1.43 (1.05–1.94)
7	1.17 (0.97–1.41)	1.08 (0.79–1.48)	1.14 (0.69–1.88)	1.40 (1.04–1.87)	1.30 (0.98–1.72)	1.39 (1.01–1.90)
8	1.23 (0.99–1.53)	1.05 (0.75–1.48)	0.95 (0.55–1.62)	0.82 (0.57–1.19)	1.51 (1.11–2.08)	1.46 (1.02–2.09)
9	1.38 (1.14–1.68)	0.93 (0.67–1.28)	0.86 (0.51–1.43)	1.75 (1.29–2.38)	1.52 (1.14–2.03)	1.55 (1.11–2.16)
Median odds ratio	1.25	1.21	1.32	1.39	1.40	1.47

Objectifs

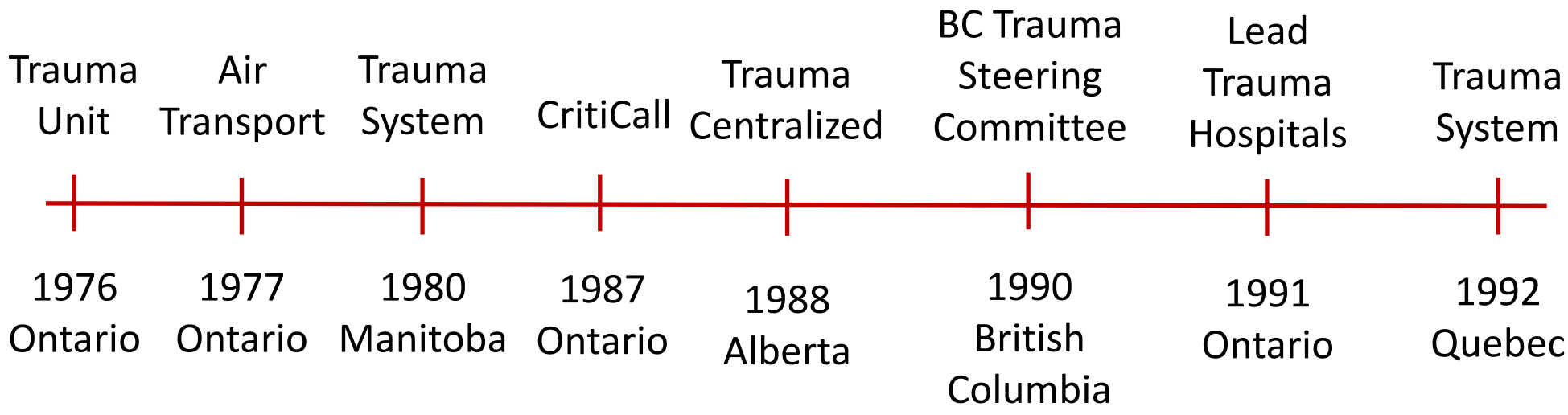
- Histoire des systèmes de traumatologie au Canada
- Illustrer l'organization du système de la traumatologie en Ontario
- Commenter les avantages et inconvénients des systems ontarien et québécois

National Academy of Science - 1966

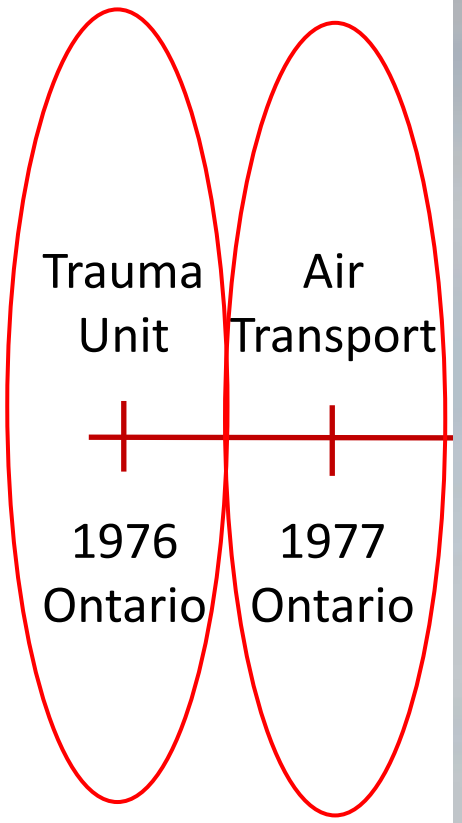
" L'apathie du public face au nombre croissant de décès et d'invalidités dus aux accidents doit être transformée en un programme d'action sous une direction forte."

American College of Surgeons – Committee on Trauma

Etapes importantes des soins de traumatologie au Canada

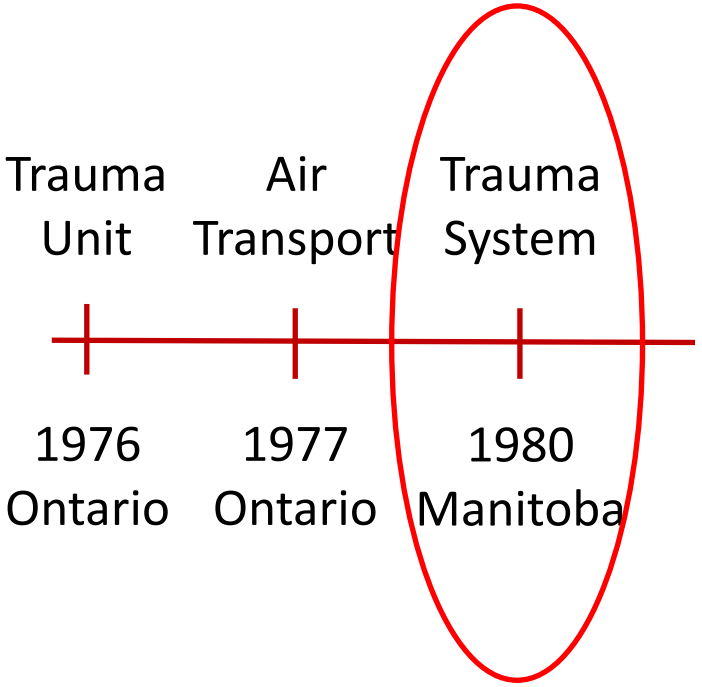


Ontario – premiers jours



CMAJ Vol 141 1989

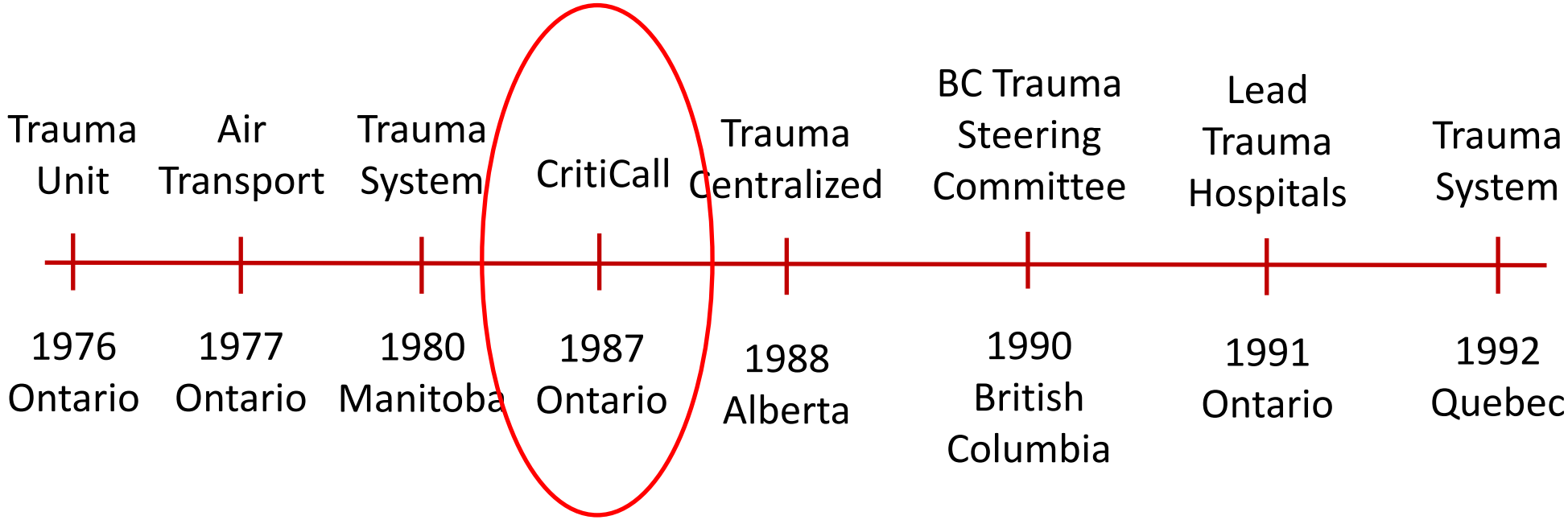
Traumatologie en Canada



Dr. Charles M. Burns

- Établis le premier centre régionalisé de soins de traumatologie au Canada au Manitoba
- Registre de traumatismes
- Membre fondateur et premier président de l'Association Canadienne de Traumatologie

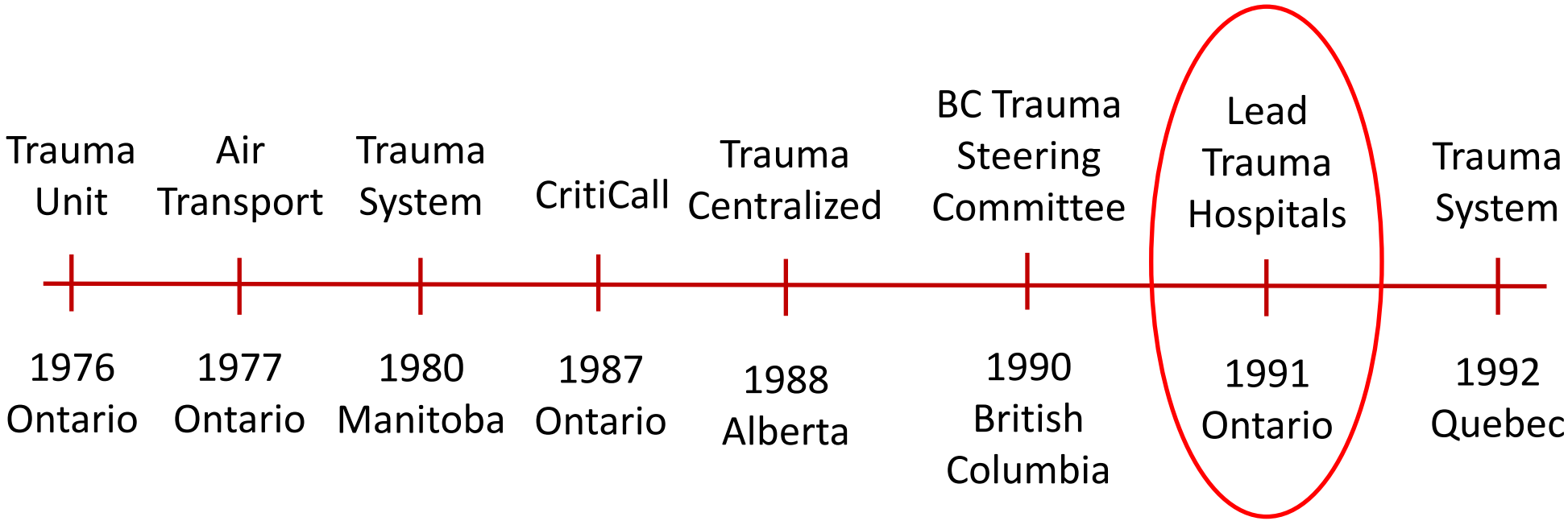
Ontario – premiers jours



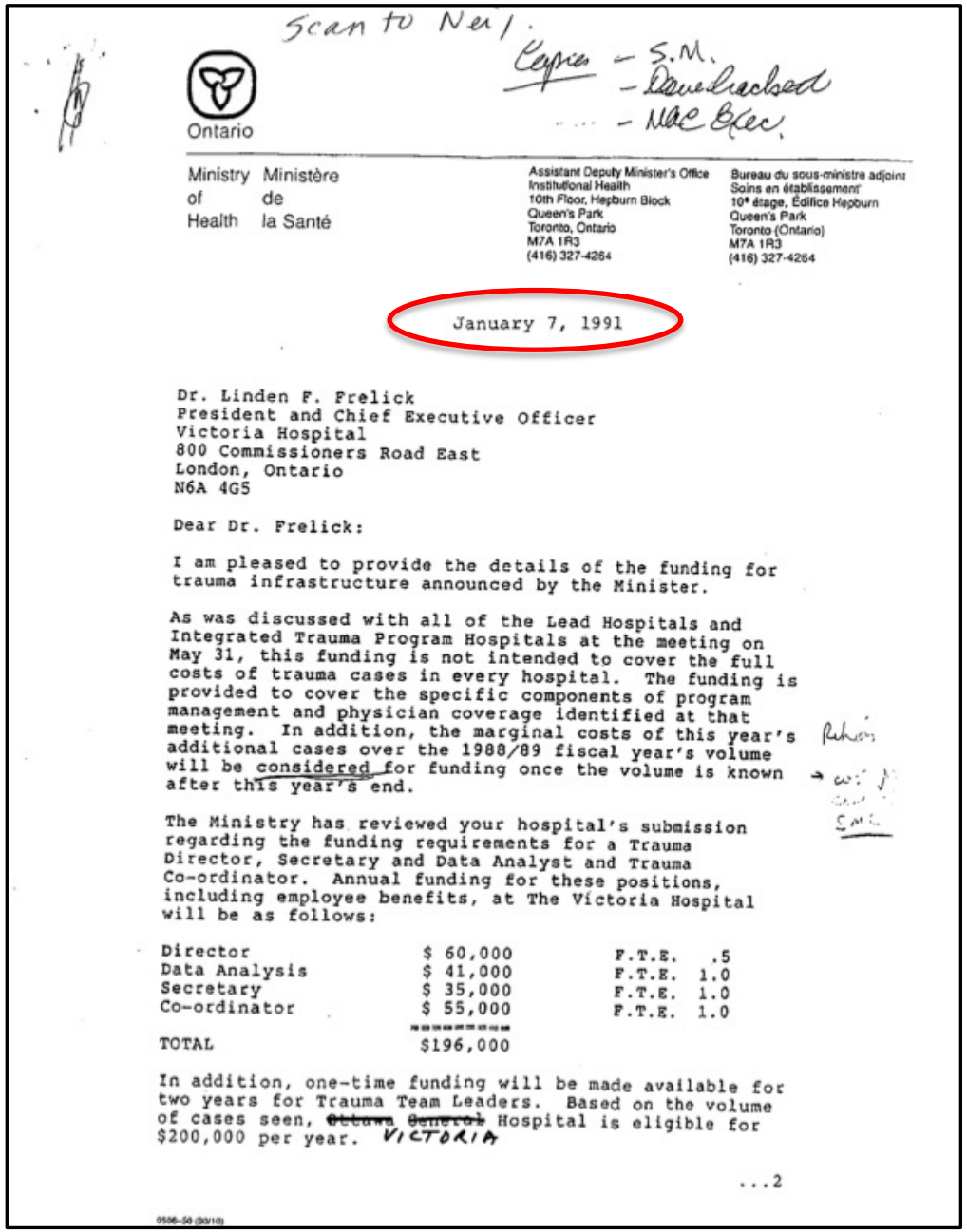
Accès centralisé

- Service de référence d'urgence 24 heures sur 24 pour les médecins de tout l'Ontario
- Facilite la consultation et/ou le transport aux hôpitaux de traumatologie

Ontario


Trauma Unit
1976 Ontario
Air Transport
1977 Ontario
Trauma System
1980 Manitoba
CritiCall
1987 Ontario
Trauma Centralized
1988 Alberta
BC Trauma Steering Committee
1990 British Columbia
Lead Trauma Hospitals
1991 Ontario
Trauma System
1992 Quebec

PTN – Provincial Trauma Network



Scan to Neil.
Copies – S.M.
– Dave Hackett
– NAC Exec

Ontario

Ministry of Health / Ministère de la Santé

Assistant Deputy Minister's Office
Institutional Health
10th Floor, Hepburn Block
Queen's Park
Toronto, Ontario
M7A 1R3
(416) 327-4264

Bureau du sous-ministre adjoint
Soins en établissement
10e étage, Édifice Hepburn
Queen's Park
Toronto (Ontario)
M7A 1R3
(416) 327-4264

January 7, 1991

Dr. Linden F. Frelick
President and Chief Executive Officer
Victoria Hospital
800 Commissioners Road East
London, Ontario
N6A 4G5

Dear Dr. Frelick:

I am pleased to provide the details of the funding for trauma infrastructure announced by the Minister.

As was discussed with all of the Lead Hospitals and Integrated Trauma Program Hospitals at the meeting on May 31, this funding is not intended to cover the full costs of trauma cases in every hospital. The funding is provided to cover the specific components of program management and physician coverage identified at that meeting. In addition, the marginal costs of this year's additional cases over the 1988/89 fiscal year's volume will be considered for funding once the volume is known after this year's end.

The Ministry has reviewed your hospital's submission regarding the funding requirements for a Trauma Director, Secretary and Data Analyst and Trauma Co-ordinator. Annual funding for these positions, including employee benefits, at The Victoria Hospital will be as follows:

Director	$ 60,000	F.T.E. .5
Data Analysis	$ 41,000	F.T.E. 1.0
Secretary	$ 35,000	F.T.E. 1.0
Co-ordinator	$ 55,000	F.T.E. 1.0
TOTAL	$196,000	

In addition, one-time funding will be made available for two years for Trauma Team Leaders. Based on the volume of cases seen, ~~Ottawa General~~ VICTORIA Hospital is eligible for $200,000 per year.

...2

- 9 Adult Lead Trauma Hospitals
- 4 Pediatric Lead Trauma Hospitals
- 24-hour Trauma Team Leaders (TTL)

9 Adult Trauma Centres (Lead Trauma Hospitals)

- 5 Level 1
- 4 Level 2

4 Pediatric Trauma Centres

- 2 Level 1
- 2 Level 2

Ontario - système exclusif

- Institutionnellement basé au Level 1 & 2

Avantages :

- Augmentation des volumes = meilleur résultat

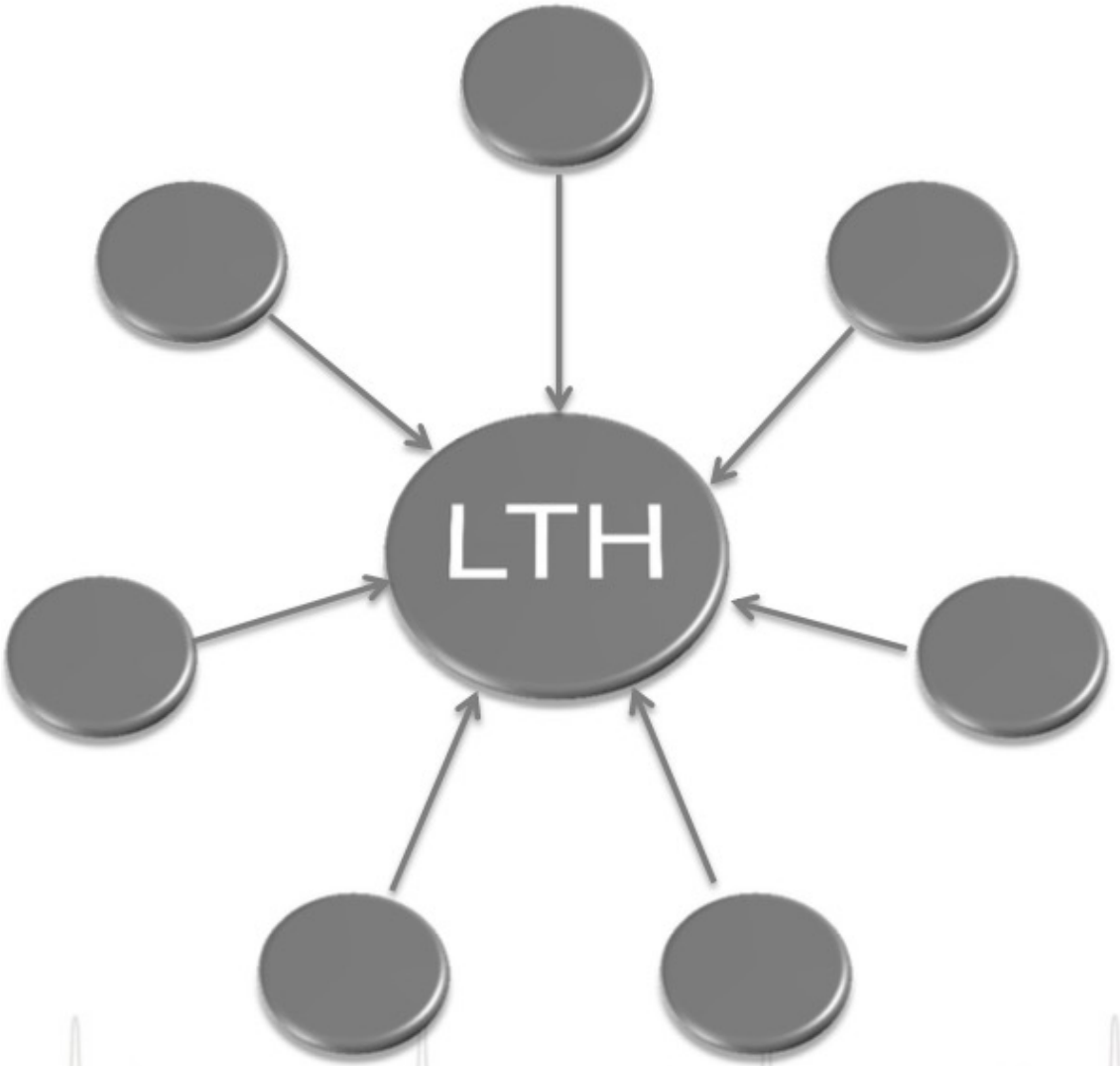
Désavantages:

- Triage excessif, surpeuplement, soins retardés
- Pas vraiment un système

Système exclusif

- Flux unidirectionnel de patients
- Pas de feedback
- Pas d'éducation
- Pas de renforcement des capacités
- Pas d'alignement besoins/ressources
- Capacité limitée de prendre soin des patients près de chez eux
- Très peu d'amélioration de la qualité dans le système

- UN SYSTEME STATIQUE



Avery Nathens

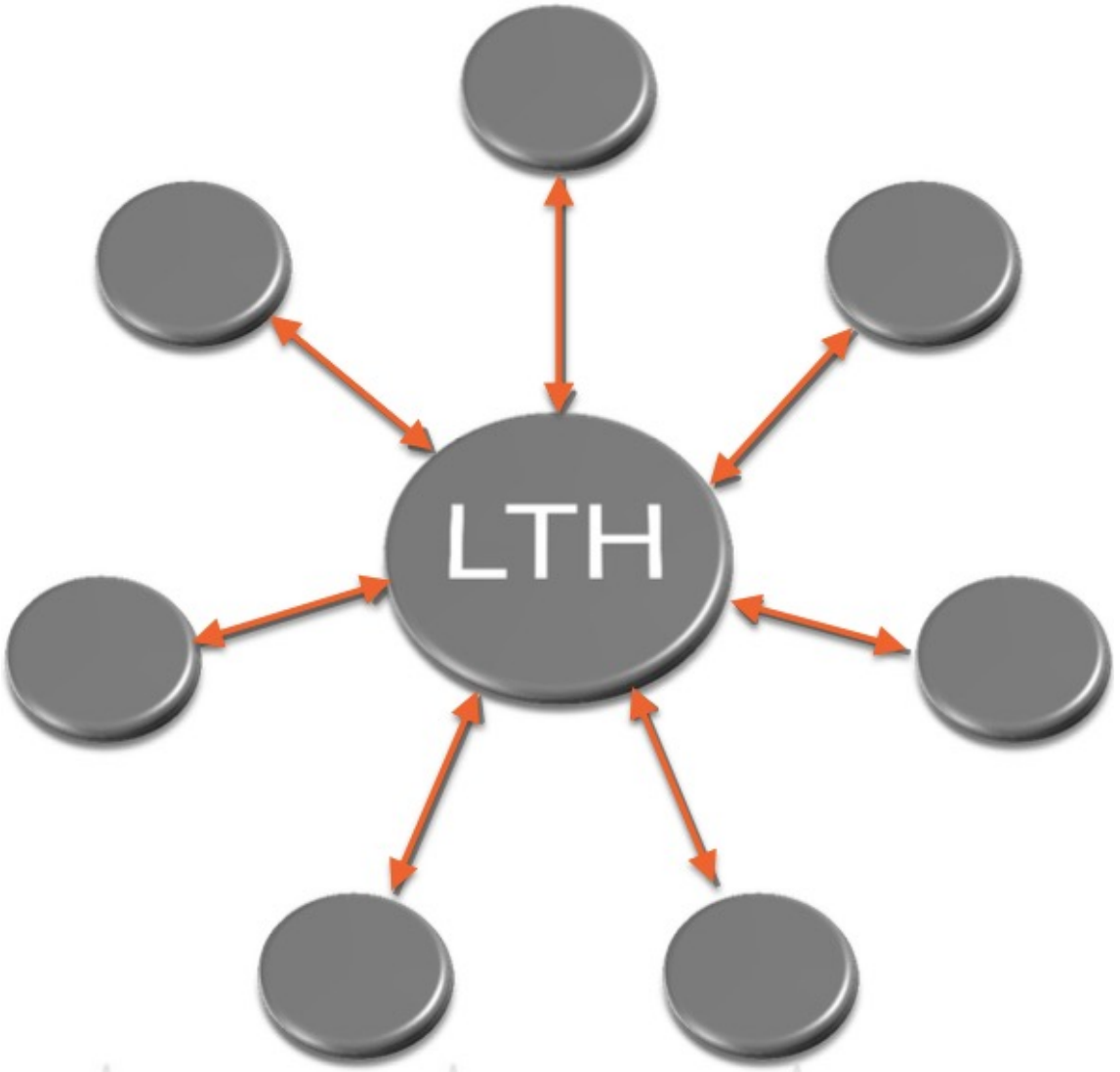
Ontario – système inclusif

- Régionalisation des soins de traumatologie
- Intégrer les petits hôpitaux – Level 3 à 5
- Utiliser les ressources de toutes les installations engagées
- Des soins plus équitables, en particulier pour la population rurale

Système inclusif

- Flux bidirectionnel de patients
- Rétroaction continue
- Éducation sur mesure/protocole/élaboration de processus
- Renforcement des capacités
- Alignement des besoins/ressources des patients
- Capacité à soigner en toute sécurité les patients près de chez eux

- UN SYSTÈME DE SANTÉ DYNAMIQUE ET APPRENANT SAUVE DES VIES



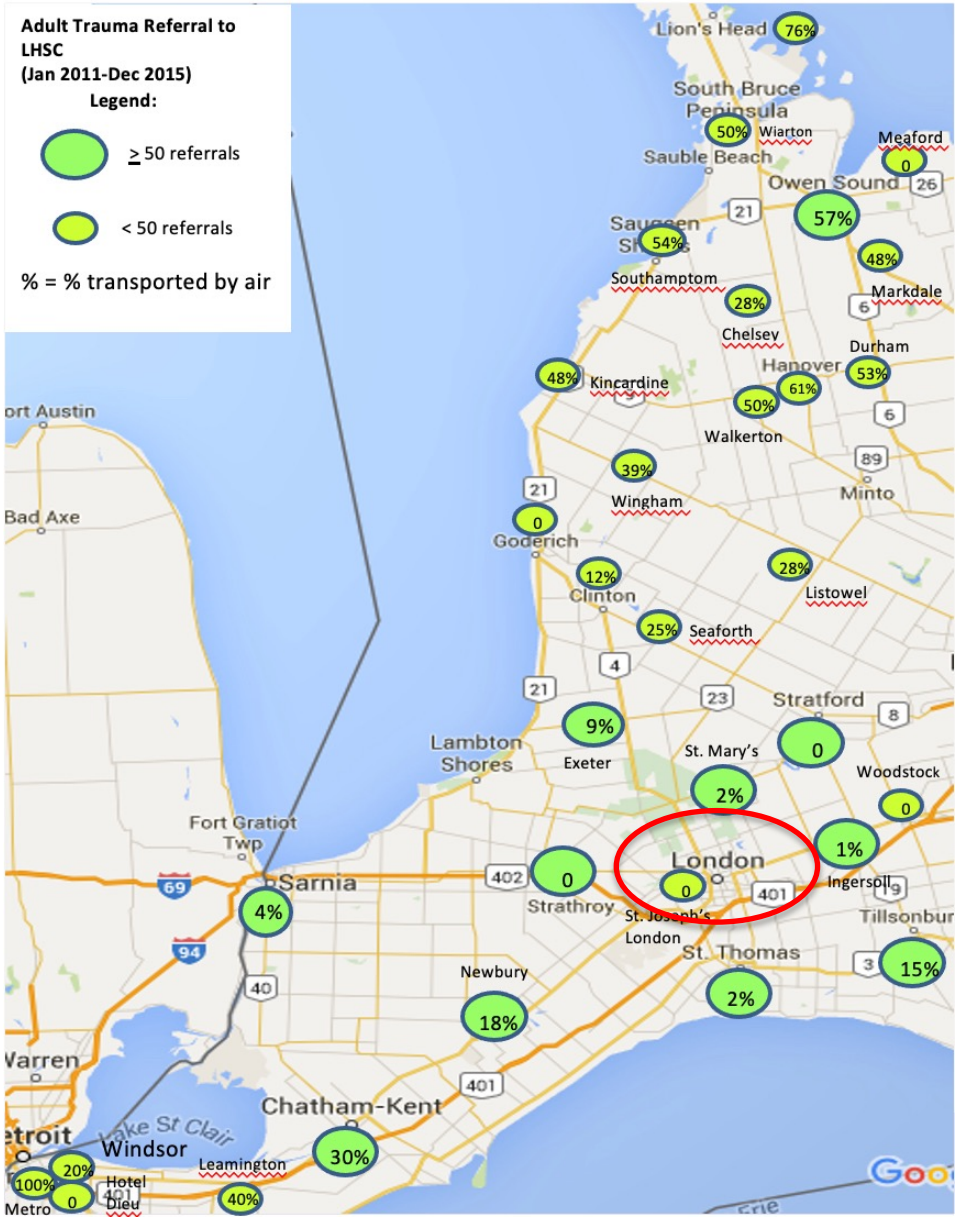
Avery Nathens

Traumatologie en Ontario

CCSO Critical Care Services Ontario → Ontario Trauma Advisory Committee

OTAC

- Rapport au ministère de la Santé
- Divers sous-comités
  - directeurs médicaux de traumatologie
  - analystes de données
  - prévention des blessures
- Réseau régional de traumatologie (RTN)



RTN inaugural, novembre 2016

Discussion avec chaque hôpital de soins aigus référant des patients traumatisés au LHSC

- Administrateurs
- L'infirmière dirige
- Médecins

Traumatologie en Ontario - RTN

ATLS | Grand Rounds

Education

rttdc™
RURAL TRAUMA TEAM DEVELOPMENT COURSE

Injury Prevention

Repatriation

COMMUNICATION

Communication

London Health Sciences Centre
Trauma Program

Referring Hospital Report
Adult Trauma Patients (Age > 18 years)
Quarter 1 (Apr 1 - June 30, 2016)

Referring Hospital: XXXX
Number of Patients Sent: 12
Median Transport Time to LHSC (min): 70
Referring Arrival to LHSC Arrival Median(min): 214
Number repatriated: 2
Average time to repatriated: 3 days

				Procedures done at LHSC									
Case ID	*Trauma Date*	*Transport Time to LHSC (min)*	*Time from Primary Arrival to LHSC Arrival (min)*	*Intubation*	*Chest Tube*	*Reduction of Fracture*	*Transfusion in ED*	*Mode of Transport*	*Injury Severity Score*	*D/C Status*	*D/C To*	*LOS*	*Repatriation Days*
700734	4/14/2016	66	169	-	-	-	-	Land Ambulance	17	Alive	Home	8	n/a
700752	4/25/2016	37	213	-	-	-	-	Helicopter Ambulance	29	Alive	Nursing Home	14	n/a
700756	4/28/2016	73	379	-	-	-	-	Land Ambulance	10	Alive	Home	6	n/a
701008	4/30/2016	45	89	-	-	-	-	Helicopter Ambulance	17	Alive	Home	4	n/a
700802	5/21/2016	141	160	-	-	-	-	Helicopter Ambulance	26	Alive	Referring Hospital	17	4
700804	5/22/2016	75	358	-	-	-	-	Land Ambulance	14	Alive	Home	2	n/a
700812	5/26/2016	34	150	-	YES	-	YES	Helicopter Ambulance	38	Alive	Referring Hospital	4	2
700814	5/26/2016	68	318	-	-	-	-	Land Ambulance	11	Alive	Home	2	n/a
700826	5/28/2016	149	299	-	YES	-	-	Land Ambulance	20	Alive	Home with Support Services	4	n/a
701091	6/ 9/2016	72	215	-	-	YES	-	Land Ambulance	9	Alive	Home	not admitted	n/a
700856	6/15/2016	68	307	-	-	-	-	Helicopter Ambulance	17	Alive	Home	4	n/a
700873	6/19/2016	78	167	-	-	-	-	Land Ambulance	43	Dead	Died	1	n/a

Données sur les traumatismes de l'Ontario

- Données de Lead Trauma Hospitals de envoyées au Registre ontarien des traumatismes (OTR)
- Projet d'amélioration de la qualité des traumatismes COT-ACS (TQIP)
- Registre national des traumatismes

  - Fermé depuis 2014…

Performance en traumatologie

CCSO Critical Care Services Ontario

Ontario Trauma Advisory Committee (OTAC)

LONDON HEALTH SCIENCES CENTRE - REPORTING PERIOD Q3 2021-2022									
Domain	Objective	Performance Measure	Baseline	Last Reporting Period	Current Performance	Change from Last Reporting Period	Target	Status¶	Data Source
QUALITY	Deliver Safe and Effective Care	I. Rate of Unplanned Returns to the Operating Room (OR)	0.0%	1.3%	4.4%	↑	0%	●	Hospital
		II a. Screening for Alcohol Abuse/Dependency	***	77.5%	80.4%	↑	TBD	-	Hospital
		II b. Preventative Intervention for Positive Blood Alcohol Screening	***	100.0%	100.0%	→	TBD	-	Hospital
		III. Risk Adjusted Mortality Rate-Trauma** (FY2020/21)	11.9%	10.2%	9.8%	↓	TBD	-	OTR, DAD, NACRS & RPDB
ACCESS	Provide Timely Care	IV. Patient Arrival to TTL Response Time to Bedside (<20 minutes)	54.0%	81.7%	64.1%	↓	90%	●	Hospital
		V. Median TTL Response Time to Phone (in minutes)	10.1	3.6	3.6	→	4 minutes	●	CritiCall
		VI. Referring Hospital Time to Transport	57.0%	43.8%	43.6%	↓	90%	●	Hospital
SYSTEM INTEGRATION	Optimize Patient Flow	VII. Acceptance Rate – R1	99.5%	100.0%	100.0%	→	100%	●	CritiCall
		VIII. Acceptance Rate – R2 and Other	50.0%	100.0%*	100.0%	→	TBD	-	CritiCall

ACS tqip® | TRAUMA QUALITY IMPROVEMENT PROGRAM

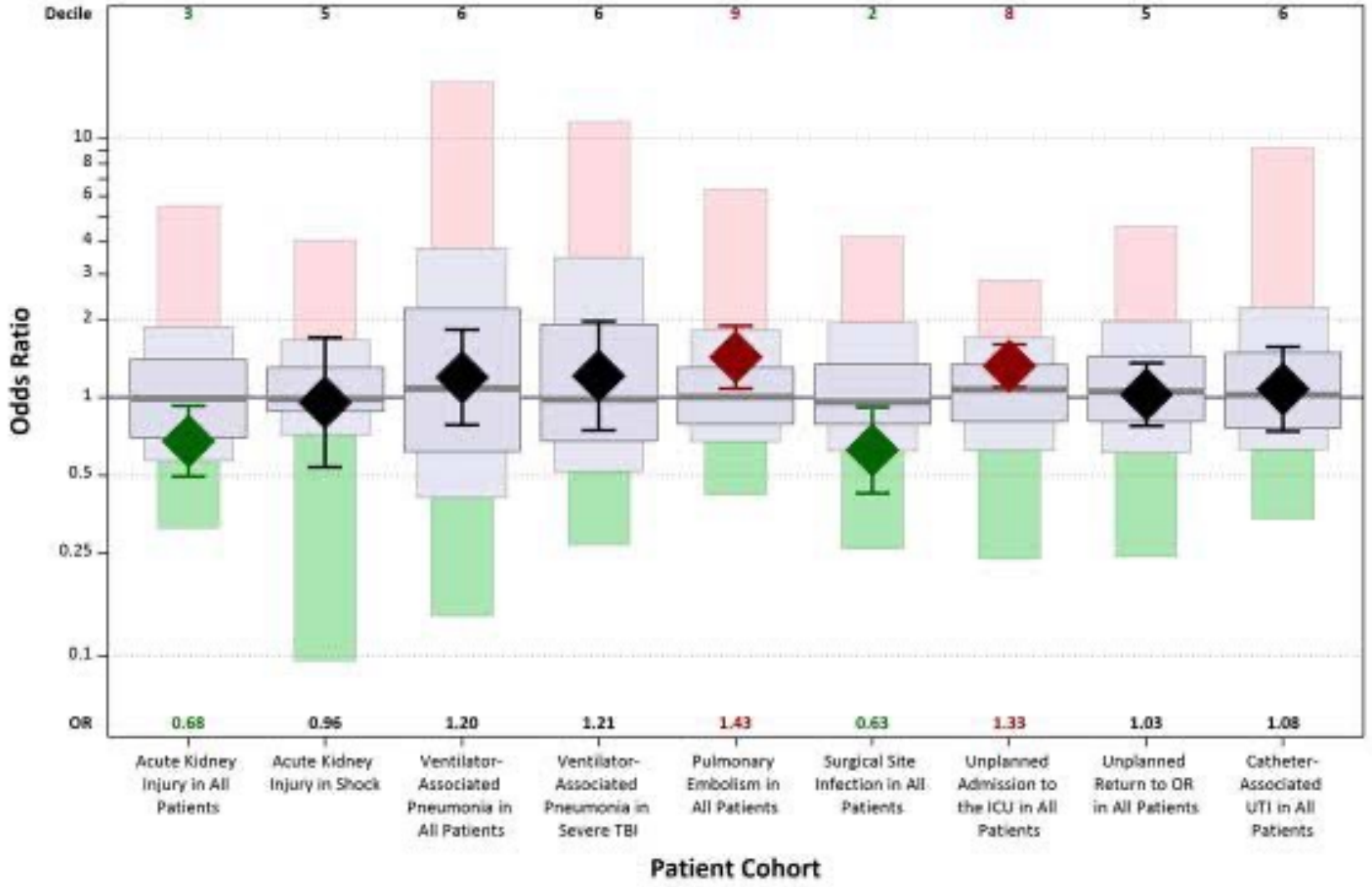
- Améliorer les soins grâce aux données – analyse comparative ajustée au risque
- Lignes directrices sur les meilleures pratiques
- TQIP pédiatrique
- Collaboration canadienne TQIP

Analyse comparative ajustée au risque

Surgery for Hemorrhage Control for Hemorrhagic Shock Patients

	Patients	Surgery for Hemorrhage Control	Time to Surgery for Hemorrhage Control	Unknown Time to Surgery Hemorrhage Control
Group	**N**	**N (%)**	**Median (IQR)**	**N (%)**
All Hospitals	9,003	4,745 (52.8)	0.93 (0.55-1.93)	35 (0.7)
Your Hospital	33	18 (54.5)	0.6 (0.48-1)	1 (5.6)

Risk-Adjusted Specific Complications by Cohort - Fall 2019
TQIP Report ID: Pennsylvania

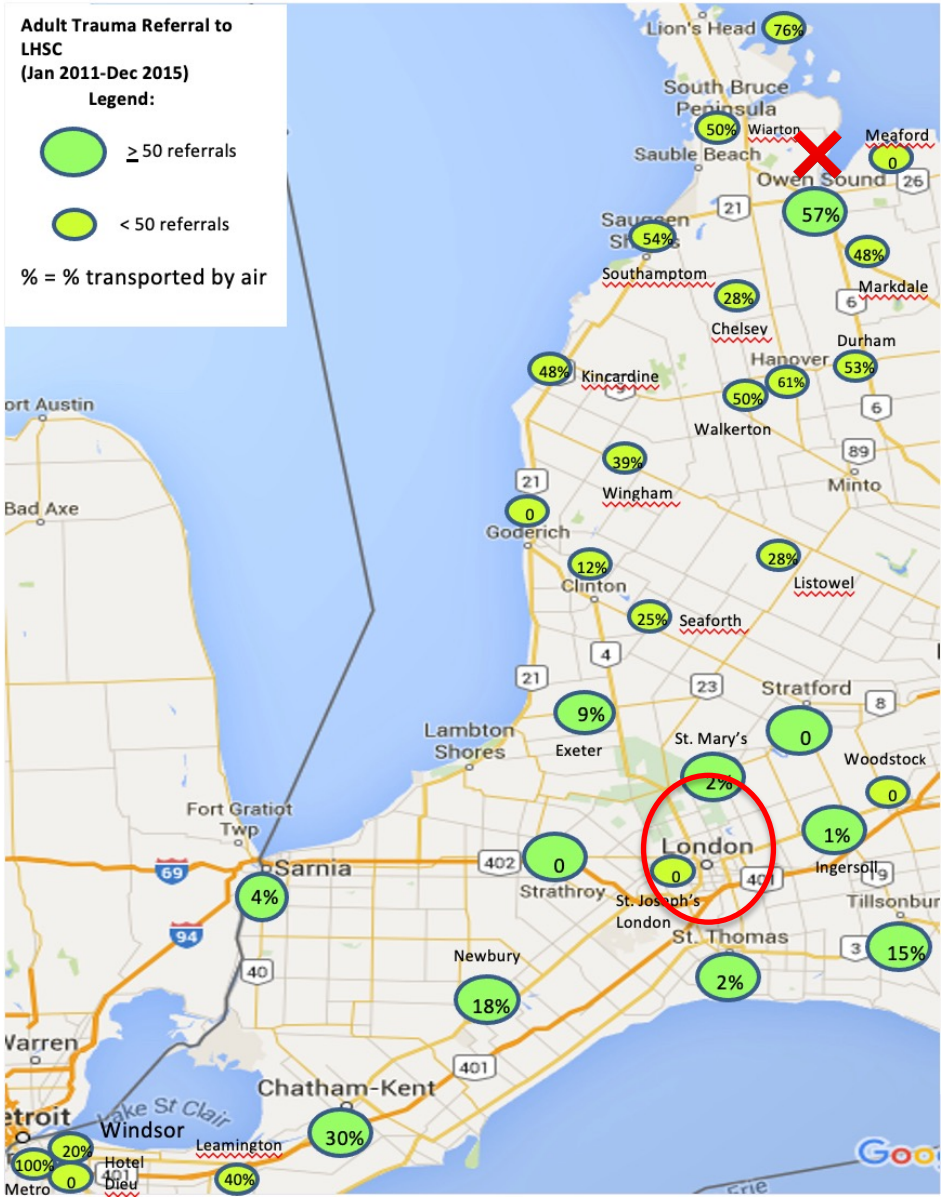


Collaboration canadienne TQIP

Table 5: Risk Adjusted Specific Hospital Events by Event/Cohort

		1			2			3			4			5			6			7			8		
		OR and 95% CI			OR and 95% CI			OR and 95% CI			OR and 95% CI			OR and 95% CI			OR and 95% CI			OR and 95% CI			OR and 95% CI		
Complication	Cohort	(%) Odds Ratio	Outlier	Decile	(%) Odds Ratio	Outlier	Decile	(%) Odds Ratio	Outlier	Decile	(%) Odds Ratio	Outlier	Decile	(%) Odds Ratio	Outlier	Decile	(%) Odds Ratio	Outlier	Decile	(%) Odds Ratio	Outlier	Decile	(%) Odds Ratio	Outlier	Decile
AKI	All Patients	1.21	Ave	7	1.13	Ave	7	0.98	Ave	5	1.51	Ave	9	0.96	Ave	5	**2.05**	**HIGH**	**10**	0.52	Ave	1	0.73	Ave	2
AKI	Shock	1.11	Ave	8	1.09	Ave	8	0.92	Ave	3	1.03	Ave	7	1.00	Ave	7	1.05	Ave	7	0.78	Ave	1	0.93	Ave	3
VAP	All Patients	1.76	Ave	8	1.60	Ave	7	**3.18**	**HIGH**	**9**	**2.29**	**HIGH**	**8**	**2.24**	**HIGH**	**8**	1.04	Ave	6	**0.18**	**LOW**	**1**	0.82	Ave	5
VAP	Severe TBI	2.13	Ave	9	0.79	Ave	5	2.47	Ave	9	1.97	Ave	8	2.53	Ave	9	1.14	Ave	6	0.30	Ave	1	1.21	Ave	7
PE	All Patients	1.54	Ave	9	0.81	Ave	3	0.90	Ave	4	1.33	Ave	9	1.37	Ave	9	0.94	Ave	5	1.40	Ave	9	1.64	Ave	10
SSI	All Patients	1.21	Ave	7	1.31	Ave	8	1.36	Ave	8	1.13	Ave	7	0.70	Ave	2	1.59	Ave	9	1.48	Ave	8	1.18	Ave	7
Unplanned ICU Admission	All Patients	1.22	Ave	8	0.85	Ave	3	0.87	Ave	4	1.25	Ave	8	0.93	Ave	4	1.11	Ave	7	0.60	Ave	1	0.76	Ave	2
Unplanned Return to OR	All Patients	1.09	Ave	6	1.25	Ave	6	**2.70**	**HIGH**	**10**	**1.71**	**HIGH**	**8**	**2.28**	**HIGH**	**9**	1.29	Ave	7	**0.33**	**LOW**	**1**	1.00	Ave	5
CAUTI	All Patients	1.59	Ave	8	1.64	Ave	8	**2.86**	**HIGH**	**10**	2.08	Ave	9	1.83	Ave	9	0.48	Ave	1	0.37	Ave	1	1.55	Ave	8

Parcours d'un patient blessé en Ontario…



Field Trauma Triage Standard

STEP ONE
Physiological

Measure vital signs and level of consciousness

Glasgow Coma Scale	<14 with evidence of trauma or a traumatic mechanism
Systolic blood pressure	<90 mmHg
Respiratory rate	<10 or ≥30 breaths per minute or need for ventilatory support (<20 in infant aged <1 year)

YES → Take directly to a LTH if it is <30 minutes land ambulance transport time[1]. Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to a LTH[2].

NO → Assess anatomy of injury.

STEP TWO
Anatomical

- All penetrating injuries[3] to head, neck, torso and extremities proximal to elbow or knee
- Chest wall instability or deformity (e.g. flail chest)
- Two or more proximal long-bone fractures
- Crushed, de-gloved, mangled or pulseless extremity
- Amputation proximal to wrist or ankle
- Pelvic fractures
- Open or depressed skull fracture
- Paralysis

YES → Take directly to a LTH if it is <30 minutes land ambulance transport time. Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to a LTH[4].

NO → Assess mechanism of injury and evidence of high energy impact.

See page 2

1. Transport time is defined as time from depart scene to time arrive at destination.
2. If a paramedic is unable to successfully manage the airway or the patient is unlikely to survive transport to the LTH, the patient must be transported to the closest Emergency Department.
3. Patients with penetrating trauma to the torso or head/neck are to be transported to a LTH with the 30 minute transport rule independent of lack of vital signs.
4. The paramedic will consider using the Trauma Termination of Resuscitation (TOR) contained in the *Trauma Cardiac Arrest Medical Directive* when appropriate.

Field Trauma Triage Standard

STEP THREE
Mechanism[5]

1) Falls
   a) Adults ≥6 metres (one story is equal to 3 metres)
   b) Children (age<15) ≥3 metres or two or three times the height of the child
2) High Risk Auto Crash
   a) Intrusion ≥0.3 metres occupant site; ≥0.5 metres any site, including the roof
   b) Ejection (partial or complete) from automobile
   c) Death in same passenger compartment
   d) Vehicle telemetry data consistent with high risk injury (if available)
3) Auto vs. pedestrian/bicyclist thrown, run over, or with significant (≥30 Km/h) impact
4) Motorcycle crash ≥30 Km/h

YES → Transport to a LTH. Patching with the base hospital physician is an option.

NO → Assess special patient or system considerations.

STEP FOUR
Special Consideration[5]

1) Age
   - Older Adults
     a) Risk of injury/death increases after age 55
     b) SBP <110 may represent shock after age 65
   - Children
     a) Should be triaged preferentially to pediatric-capable trauma centre
2) Anticoagulation and bleeding disorders
3) Burns
   a) With trauma mechanism: triage to LTH
4) Pregnancy ≥20 weeks

YES → Transport to a LTH. Paramedic judgement and local Patient Priority Systems Bypass agreements[6] can be used to help determine transport destination. Patching with the base hospital physician is an option.

NO → Transport to the closest most appropriate ED.

5. The criteria used for bypass to a LTH in Steps 3 and 4 are not absolute; rather are indicators of the potential for significant injury or indicate the patient may require other support services at the LTH. Not all patients in these two categories require transport to a LTH and the paramedic must use their judgement coupled with these criteria to determine the need for transport to a LTH.
6. Local variances in transport time may occur based upon appropriate Patient Priority Bypass Agreements.

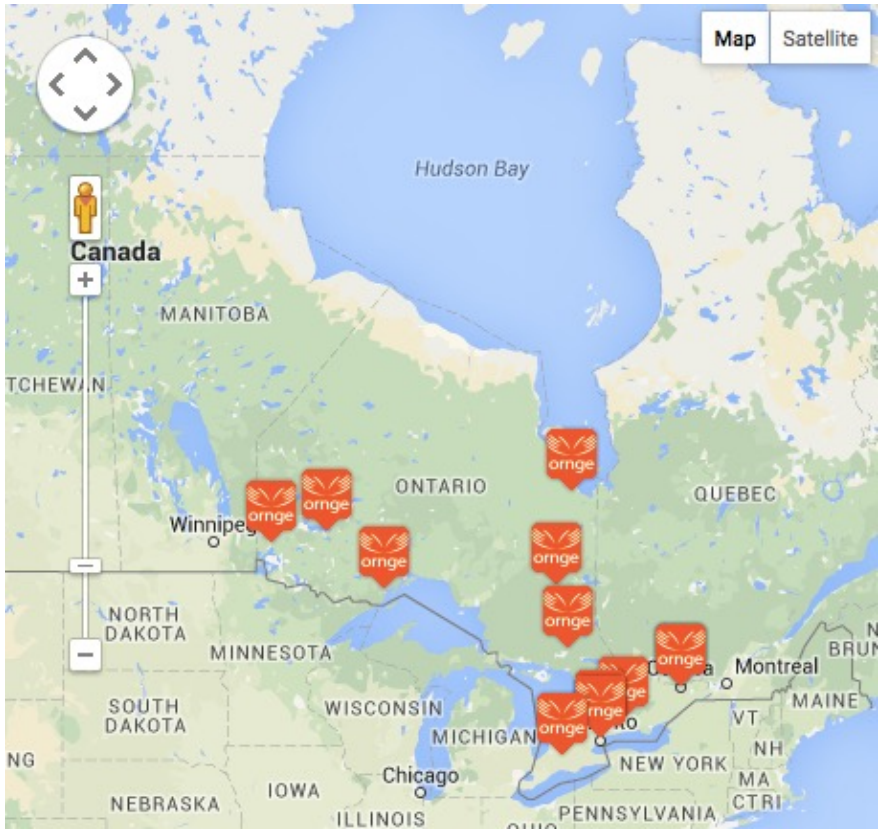
Transport

- Systèmes ambulanciers locaux et provinciaux

Scène – air ou sol directement depuis le site de l’accident

Scène modifiée - transport de l'équipage au sol vers l'hôpital le plus proche où l'équipage aerienne attend

Inter-facility – terrestre ou aérienne



Transport

- Mission - fournir aux patients des soins de haute qualité et en temps opportun tout en les transportant en toute sécurité vers les soins de santé dont ils ont besoin

Ornge

18 Crestline Ambulances

10 AW-139 Helicopters
2 Sikorsky76 Helicopters

10 Pilatus Next Generation
PC-12 Airplanes

TRAUMA CENTRE CONSULTATION GUIDELINES

These guidelines are meant to facilitate consultations and/or transfer with a trauma centre and should be applied using clinical judgement. Final decision to transfer remains at the discretion of the referring and receiving physicians.

The decision to transfer should be made within 1 hour.

All consultations with a TTL should be coordinated through CritiCall: 1-800-668-4357

ALL TRAUMA PATIENTS

For ALL paediatric and adult injuries, contact CritiCall for the appropriate Trauma Centre.

Systems Criteria

Any patient (with a major traumatic injury (severe multisystem; life-or-limb threatening single system)) requiring trauma consultation or who requires more care than can be provided at the referring centre based on the assessment of the ED physician. Not all patients with single system injuries will need to be transferred to a Lead Trauma Hospital and may be able to receive care where local expertise exists.

Anatomical Criteria (one or more of the following):

- Suspected spinal cord injury with paraplegia or quadriplegia
- Moderate-to-severe head trauma
- Severe (or suspected severe) penetrating injury to the head, neck, torso or groin (stab wound or GSW)
- A requirement for blood products to maintain vital signs
- Amputation above the wrist or ankle
- Pelvic fractures with hemodynamic instability or significant hematoma
- Major crush or vascular injury
- Trauma with burn or inhalation injury

Physiological Criteria

- GCS <10 due to traumatic injury
- Significant alteration of consciousness due to trauma
- Hypotension (due to trauma) that is unresponsive or only transiently responsive to fluids
- Hypothermia (Body Temp) < 32°C (with traumatic injuries)

SPECIAL CONSIDERATIONS

High risk considerations which may warrant transfer to Lead Trauma Center at a lower threshold. These considerations include:

- Age > 55;
- Anticoagulation;
- Immunosuppression;
- Pregnancy; or
- Other significant medical problems.
- A CT Scan may not always be required for the decision to transfer if it will delay definitive management.

For any considerations, consult with on-call trauma team leader through CritiCall.

CCSO Critical Care Services Ontario

CRITICALL ONTARIO

Refer to ABA (American Burn Association) Burn Centre Referral Criteria
Please refer to the Neurosurgery Cranial and Spinal Consultation Criteria for isolated Cranial and Spinal Neurosurgical cases found on site.

Accès centralisé

Lead Trauma Hospitals

Trauma Team Leaders – chirurgiens, médecine d'urgence/soins intensifs, anesthésie

London Health Sciences Centre

TRAUMA TEAM ACTIVATION CRITERIA

Call 55555 to activate the Trauma Team (TTL+ General Surgery + CCTC) for EVERY patient with a traumatic mechanism and any one of:

- Systolic Blood Pressure < 90 mmHg
- GCS ≤ 12 OR Declining
- Intubated
- Traumatic arrest
- Penetrating trauma to the torso, leg proximal to knee or arm proximal to elbow
- Pedestrian struck (high energy)
- Fall > 2 stories
- Burns > 20% BSA

- Arrival direct via ORNGE
- At the discretion of the ER Physician or Trauma Team Leader

Défis futurs

- Accréditation/vérification
- Registre des traumatismes – provincial et national
- Obstacles à l'accès aux soins de traumatologie
- Accès pour les peuples des Premières Nations
- Devenir plus un système inclusif

Accréditation/vérification

TAC | Trauma Association of Canada

ACCREDITATION CANADA

TRAUMA PROGRAMS

Verification, Review, and Consultation Program

ACS AMERICAN COLLEGE OF SURGEONS

For excellence in trauma centers

Registre des traumatismes

Registre provincial

Accueil

Continuum de services en traumatologie (CST)

- Historique
- Structure
- Partenaires et mandats
- Recherche
- Registre des traumatismes
- Évaluation du réseau

Documentation

- Publications diverses
- Outils

REGISTRE DES TRAUMATISMES

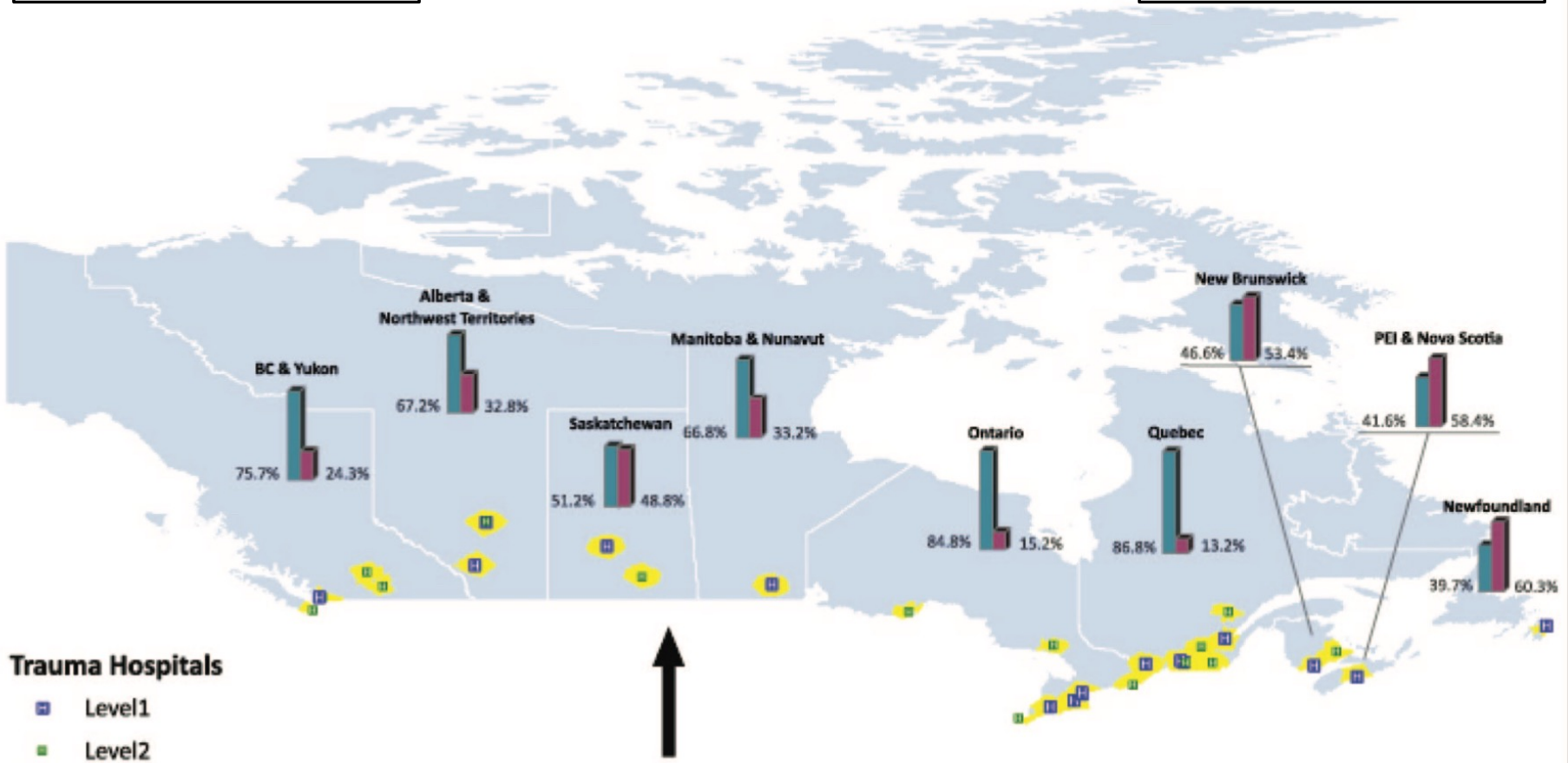
Le Registre des traumatismes du Québec ou Système d'information du Registre des traumatismes du Québec (SIRTQ) est issu d'une collaboration entre le MSSS, une équipe de recherche de l'Université de McGill et de la SAAQ. Depuis 1998, ce registre permet de dresser un portrait de toutes les victimes de traumatismes admises dans les installations désignées en traumatologie au Québec, soit environ 20 000 cas par année. Le SIRTQ sert principalement à évaluer la performance des installations du réseau et ainsi à soutenir l'amélioration continue de la qualité. Il sert également de source d'information centrale pour divers projets de recherche en traumatologie.

Toutes les installations désignées en traumatologie ont l'obligation de saisir certaines données du SIRTQ. Celles-ci sont ensuite disponibles pour usage local par les établissements, mais également transmises et stockées dans une base de données centrale, dont la Régie de l'assurance maladie du Québec (RAMQ) est responsable à la fois de l'exploitation et du stockage. Ces données sont de nature sociodémographique, médicale et paramédicale et concernent des diagnostics, des actes chirurgicaux, des évaluations radiologiques et neurologiques et les indices de gravité du traumatisme. Les données contenues au SIRTQ ne permettent pas de suivre la trajectoire de soins,

One Hour Trauma Catchments in Canada

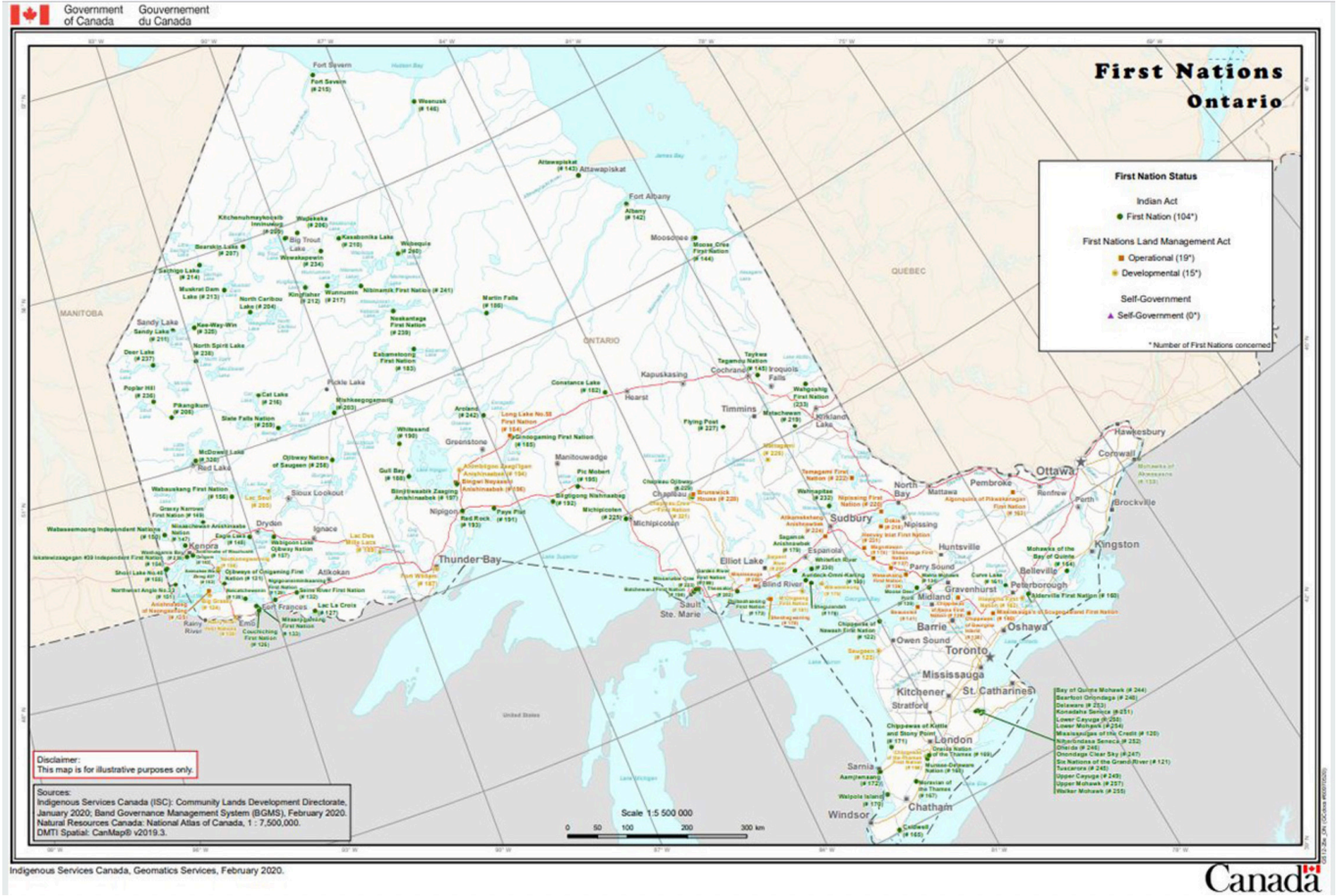
16 Level 1
Trauma Centres

16 Level 2
Trauma Centres



Total Population	Population outside 1 Hour Catchment	Population inside 1 Hour Catchment
31612897	7115050 (22.5%)	24497847 (77.5%)

(*J Trauma.* 2010;69: 1350–1361)



Plus de 130 communautés des Premières Nations –
375 000 personnes (3% de la population d'Ontario)

Obstacles à l'accès

Les patients du bas de l'échelle socio-économique avaient une **durée de séjour 25 % plus longue** que ceux du haut de l'échelle socio-économique

Moore et al. BMC Health Services Research (2015) 15:285

Table 1: Primary causes of severe traumatic injury among status Aboriginal Canadians and in the reference population, 1999–2002

Primary cause	No. of cases per 100 000 per year: Status Aboriginal Canadians	No. of cases per 100 000 per year: Reference population	Relative risk (95% CI)
Impact by object or animal	19 (52.6)	155 (6.3)	8.3 (4.9–13.4)
Stabbing or slashing	6 (16.6)	62 (2.5)	6.6 (2.3–15.1)
Motor vehicle crash	47 (130)	663 (27.0)	4.8 (3.5–6.5)
Hanging or asphyxiation	7 (19.4)	107 (4.4)	4.4 (1.7–9.5)
Fire, explosion or smoke inhalation	2 (5.5)	40 (1.6)	3.4 (0.4–13.1)
Fall or jump	12 (33.2)	537 (21.9)	1.5 (0.8–2.7)
Firearm related	0	46 (1.8)	–
Other	0	49 (2)	–
Environmental	0	27 (1.1)	–
All	93 (257.2)	1686 (68.8)	3.7 (3.0–4.6)

Karmali et al. CMAJ • APR. 12, 2005; 172 (8)

Conclusion

- Centres de traumatologie matures et robustes
- Devenir un système plus inclusif
- Objectif de devenir un véritable système provincial plutôt que des centres isolés
- Il reste encore beaucoup de travail...

MERCI

London Health Sciences Centre
Trauma Program

The Division Of General Surgery

CRITICAL CARE WESTERN

CANUCS
Canadian Collaborative on Urgent Care Surgery

Schulich MEDICINE & DENTISTRY

Western

Western

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MEDICINE

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