MCH Trauma Injury Prevention Program

Part 1: Past, Present and Future
Part 2: Road Safety Outcome Studies

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Trauma Coordinators
Injury Prevention Program
Trauma Research Program
MTBI Program
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MCH Trauma Injury Prevention Program

Part 1: Past, Present and Future
MCH Trauma

MCH Trauma consists of the following programs:

- Trauma Program
- Neurotrauma Program
- Burn Trauma
- MTBI Program & Concussion Clinic
- Trauma Research
- CHIRPP
- Injury Prevention
Injury Prevention Program

History

1989: 1st Paediatric Neurotrauma Program in Quebec and Canada
1993: MSSS designation as a Paediatric and Adolescent Trauma Centre
1997: Developed comprehensive approach to concussion management
2000: Re-organized and expanded MCH Trauma mandate to include all types and severities of trauma under 1 interprofessional program
2002: Expanded burn trauma program
       1st trauma centre in Canada to report rise in Hockey injuries
2006: Expanded Injury Prevention Mandate with formalized program status
2007: Certified as a WHO health promoting hospital
       Developed MTBI and Return to Sports program;
       Launched the concussion kit
2008: Developed the concussion clinic
2009: Developed many community outreach projects & Partnerships;
       Developed and launched MCH Trauma Website
2011: CHIRPP integrated into MCH Trauma System
Injury Prevention Objectives

• To monitor trends & advise the public in a proactive and responsible manner
• To provide widely accepted recommendations that encourage year-round fun while identifying risks
• To educate the public following a tragic event
• To be available as a community resource sharing expertise
• To join forces with partners to support bans and lobby for legislation
• To participate in research projects
• To develop partnerships at a local, regional, provincial, Canada wide and international level
• To develop and evaluate injury prevention programs
• To share our expertise with colleagues, conferences, trauma rounds, grand rounds presentations, publications, posters etc,
• To develop and maintain a trauma and injury prevention website
Emerging Problems

- Falls from windows
- Backyard Trampolines
- Car Surfing
- Drowning
- Button Batteries
Media
Radio - TV - Newspaper - Letter’s to the editor
Op-Eds - PSAs

Special Report: Skull and Crosschecks

On Your Side: Avoiding falls:
A look at making windows safe for toddlers

Quebec health officials urge pool gates after spate of toddler drownings

A missed opportunity to save lives on the road!

Swallowing a button battery is very serious
and medical attention should be sought immediately

Another Child Nearly Loses Eye During Paintball Party
Examples of Topics Covered

- Baby walkers
- Back to School Safety
- Backpacks
- Bunk Beds
- Button Batteries
- Blind cord strangulation
- Burn trauma
- Car safety
- Falls from Windows
- Diving boards
- Drowning
- Holiday Safety
- Icy Schoolyards
- Minor Hockey

- Paintball
- Pool Safety
- Playgrounds
- Road Safety
- Safety Helmets
- Shaken baby syndrome
- Soccer nets
- Sports safety
- Summer sports and activities
- Toy safety
- Trampolines
- Wheeled sports
- Winter sports and activities
- Etc…
Advocacy

- Baby walkers
- Trampoline
- Park equipment
- Soccer nets
- Brault and Martineau
- Concussions
- Bicycle helmets
- Ski helmets
Examples of Partnerships

- American Pediatric Society
- Association des stations de Ski du Québec
- Batshaw Youth and Family Centre
- CAA
- CPS
- Canadian Toy Testing Council
- CETAM
- CHIRPP
- City of Westmount Sports, Recreation and Community Events
- Coroner’s Office
- CSSS
- Chagnon Foundation – Naitre et Grandir
- CSL EMS
- Direction de santé publique
- Enfants Québec
- Entraide Grands Brulée
- GMAA
- Health Canada
- Hockey Quebec
- Quebec Federation of Home and School Association
- Jacques Moreau Sports
- Jeux de Québec
- Kiwanis Club
- Lifesaving Society
- MADD
- MRC des Jardins de Napierville – Division Prévention Incendie
- Marie Robert Neurotrauma Foundation
- Maternity wards and prenatal programs
- McGill University Faculty of Medicine
- McGill RUIS centres
- The Ontario Sporting Association
- The Montréal Canadiens
- Montreal Mayor’s Office
- NACHRI
- Police Departments
- Provincial Trauma Network
- Reebok
- Régie du bâtiment
- Regroupement de personnes traumatisées cranio-cérébrales du Québec
- SAAQ
- Safekids Canada
- Schools and School Boards
- Sport and Recreation Associations
- SPVM
- St. John Ambulance
- Summer Camps
- Sun youth
- Survivors of injuries and their families
- The Canadian Armed Forces
- ThinkFirst Quebec
- Toma Foundation for burned children
- Trauma Association of Canada
- Urgences Santé
- Etc…
Outreach events

- Ski days
- High school presentations
- In house prevention days
- Car seats clinics
- Community events
- Hockey tournaments
- Soccer tournaments
- Bike rodeos and Rallys
- Press conferences
- Conference presentations
- Presentations to Sporting association
- Northern Community projects
- Medical School Volunteer Program
- Salon Maternité-Paternité
- CEGEP Presentations
Upcoming projects

- Teenage risky behaviour project expansion
- Infant Toddler
- School concussion program
- Drowning
- Intentional trauma
- Info Santé review of protocols
- ER- interactive centre in Glen site
Why do injury prevention?
Injury ≠ Accident

• **accident: (noun)**
  – An unfortunate incident that happens *unexpectedly* and *unintentionally*, typically resulting in damage or injury.
  – An event that happens *by chance* or that is *without apparent or deliberate cause*.

• 90% of injuries are **predictable** and therefore preventable

• A preventable medical condition should NOT be tolerated!!
Injuries are very expensive!

In Canada injuries cost $10.7 BILLION per year!!

SmartRisk, 2009
Injury Prevention is cost effective!

1$ towards poison control centres saves $7

1$ towards preventative counseling by pediatricians saves $10

1$ spent on bicycle helmets saves $29

1$ spent on car seats saves $32
Scope of the Problem

- Injuries account for almost $\frac{1}{2}$ of all deaths
- More deaths than chronic and infectious diseases combined
What about Canada??

- 60 deaths per month  (PHAC, 2009)
- 80 hospitalizations per day  (PHAC, 2009)
- ~15 000 ER visits each year  (CHIRPP)
- This is just the tip of the iceberg!
Measles compared to Injuries

- 742 measles cases
- 200 injury deaths
- 7700 injury hospitalization

Where is the Outrage?
Reducing injuries is complex!

Policy
Community
Social Relationships
Individual Risk Factors
Mechanism

INJURY
E’s of Injury Prevention

• Education
  – Intended to increase awareness, knowledge and change attitudes

• Engineering/environmental modifications
  – Alter physical surroundings or modify safety of products

• Enforcement/Legislation
  – Laws and regulations require enforcement to ensure that they are carried out
### Haddon’s Matrix

<table>
<thead>
<tr>
<th></th>
<th>Human</th>
<th>Agent</th>
<th>Environment Physical/Social</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Injury</td>
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<tr>
<td>Injury</td>
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<tr>
<td>Post-Injury</td>
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</tbody>
</table>

- **Agent** = Energy (thermal, electrical, chemical)

#### Pre-Injury: primary prevention
- Separate human from agent
- Eliminate agent
- Protect human

#### Injury: reduce the severity of the injury
- Minimize amount of agent present
- Control interaction between agent and human

#### Post Injury - Management
- Rapid access to treatment
- Rehabilitation
<table>
<thead>
<tr>
<th>Pedestrian Injury (adapted from Barnett et al, 2005 and INSPQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Host (victim)</strong></td>
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<tr>
<td><strong>Pre-Event</strong></td>
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<td><strong>Event</strong></td>
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<td><strong>Post-Event</strong></td>
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<td>Post-Event</td>
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</tbody>
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Research

• Ankle Sprains
• Mild Traumatic Brain Injury
• Car Seat Safety
• Teenage Driving
Part 2: MCH Trauma Injury Prevention Program Road Safety Outcome Studies
Car seat safety
Magnitude of the problem – Canada

- MVC is the leading cause of injury related deaths in Canadians aged 1-24


Automobile restraints for children: a review for clinicians

Andrew W. Howard

Abstract

MORE CANADIAN CHILDREN DIE OF ROAD TRAFFIC INJURIES THAN OF ANY OTHER CAUSE. NONUSE AND MISUSE OF CHILD RESTRAINTS IS COMMON AND LEADS TO PREVENTABLE SEVERE INJURIES OR DEATHS. THIS ARTICLE, INTENDED FOR CLINICIANS INTERESTED IN INJURY PREVENTION COUNSELLING, ADVOCACY, RESEARCH, AND TREATMENT OF CHILD OCCUPANTS IN CAR CRASHES, REVIEWS CURRENT KNOWLEDGE ABOUT CHILD SAFETY SEATS AND DISCUSSES CONTOVERSIES RELATED TO THEIR USE. CHILDREN SHOULD SIT IN THE BACK SEAT OF A VEHICLE AND SHOULD BE PROPERLY RESTRAINED IN A CURRENT AGE- AND SIZE-APPROPRIATE DEVICE (REAR-FACING INFANT SEAT, CHILD SAFETY SEAT, BOOSTER SEAT, OR LAP AND SHOULDER SEAT BELT) THAT IS PROPERLY ADJUSTED. THE CENTRE REAR SEAT IS SAFER THAN SIDE POSITIONS, BUT A LAP BELT ALONE SHOULD BE AVOIDED. THE AGE AT WHICH CHILDREN SHOULD START SITTING IN A FORWARD-FACING POSITION IS CONTROVERSIAL. CHILDREN SHOULD BE SEATED AWAY FROM AIR BAGS. RESOURCES TO AID IN PATIENT COUNSELLING ARE DESCRIBED.
Magnitude of the problem – Quebec

• Each year in Quebec, ~1,200 passengers aged ≤ 9 years die or are injured in car crashes
  – ~ 80 hospitalizations
  – ~ 5.6 deaths
  (L'Institut national de santé publique du Québec, 2011)

• When car seats are used correctly, the risk of death or serious injury is reduced by 70% (La société de l’assurance automobile du Québec)
Background – how safe are they?

Are we there yet? Canada’s progress towards achieving road safety vision 2010 for children travelling in vehicles

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(Received 29 March 2009; final version received 31 August 2009)

This study examines safety seat use among Canadian children and evaluates child safety seat use relative to the national policy for child occupant safety, Road Safety Vision 2010. Using a probability sample, roadside observations of car safety seat use were collected from May to October of 2006 for 13,500 children aged from birth to 9 years in 10,848 vehicles at 182 sites in nine Canadian provinces and one territory. Observations revealed that 89.9% of Canadian children were restrained in some type of restraint. However, only 60.5% of these children were restrained in the correct safety seat. When comparing rates of correct use across provinces, results were not significantly different in provinces with booster seat legislation and those without this legislation. This data may be useful for healthcare practitioners and policy makers to develop interventions aimed at increasing appropriate car safety seat use for children in Canada.
Background – How safe are they?

- In Quebec, **50.3%** of children ≤ 5 years riding in a vehicle are correctly secured in a car seat that is appropriate for their weight and height

(L'Institut national de santé publique du Québec, 2011)
Quebec Regulations

• Children must be restrained in appropriate safety seats
• 4 stages/types:
  - Rear-facing infant and child seats
  - Forward facing child seat
  - Booster seat
  - Seatbelt

LAW
Child must be secured in an appropriate child restraint if the sitting height < 63 cm.
Common patterns of misuse

• Car seat not properly secured in the vehicle
  – Since 2002, vehicles and child car seats are equipped with a universal anchorage system (UAS)
  – use the vehicle’s seat belt to secure the car seat in older vehicles.
Common patterns of misuse

• Inappropriate location of the car seat in the vehicle
  – Middle back seat is safest (furthest from impact zones)

• Premature transition to new car seat systems
  – Rear facing as long as possible
Common patterns of misuse

• Incorrect car seat for child’s age, height and weight

• Child inadequately secured
  – If chest strap is NOT at child’s axilla
  – No more than finger between harness strap and child’s clavicle
Quebec Permanent Provincial Verification Network

- Network of centres certified to verify car seats across the province
- Staff members must attend a 1-4 day workshop in order to receive certification
- Network ensures that anyone in Quebec can have their car seat installation verified by a certified person
Community Based - Car Seat Verification Clinics
Program Development

• MCH Trauma’s Injury Prevention Program partnered with:
  – local police and fire departments
  – SAAQ and
  – day care providers

• Target audience of the clinics were families of young children
Objectives of verification clinics

• Primary:
  – Make appropriate adjustments as necessary
  – Educate parents regarding road safety

• Secondary (pilot eval. Of MCH Trauma’s participation):
  – Describe patterns of car seat use with relation to choice and installation of the seat
  – Describe patterns of how the child is secured in the seat
  – Examine whether knowledge &/or use of provincial centres was related to better safety practices
Method - Design

- 6 community-based verification clinics held over 4 year period
  - 2009-2012
- Clinics were held at:
  - Community fairs, Walmart, Toys r Us, Canadian Tire, daycares
- Participants were predominantly parents
Method – Design

• A total of 395 car seats were verified:
  – 109 infant car seats
  – 221 child car seats
  – 60 booster seats
  – 5 seat belts
Method - Measures

- Questionnaires
  - SAAQ checklist
Method - Measures

• Questionnaires
  – MCH Trauma questionnaire

1. How did you hear about the car seat verification clinic?

2. Which person installed the car seat?
   - Parent
   - Verification centre
   - Other: ____________________________

3. Have you ever been to a verification centre?
   - No. Why not? ____________________________
   - Yes. If yes, have you made any further modifications? ____________________________

4. What is the reason you came to the verification clinic today?

5. What are the first 3 letters/numbers of your postal code?
Method – Data collection

- Verification of car seat by qualified verifiers
  - adjustments made accordingly
- Completion of questionnaires
- Education of road and car seat safety by MCH Trauma staff and volunteers
  - MCH Trauma Road Safety brochure
  - SAAQ child safety seat brochure
- List of local car seat verification centres
Results

• Appropriate selection of car seats:
  – 98% of car seats were selected appropriately for the child’s age, weight and height
  – Only 40% (2/5) of children using seatbelts were appropriate for this type of restraint
Results

• Correct installation of car seats
  – < ½ of child car seats were installed correctly
Results

• How well was the child attached in the car seat?
  – 286 children present at verification clinic
  – Well attached:
    • 28% in infant seats
    • 34% in the child car seats
    • 55% in the booster and
    • 60% with seat belts
Results

• 204 parents completed the MCH Trauma questionnaire
  – 149 parents (73%) reported never having previously been to a provincial mandated verification centre
  – Of the 55 parents who had reported having previously attended a provincial mandated verification centre, 14 (25%) of these car seats needed further modifications at our community-based verification clinic
• Reasons for Attending the Verification Clinic today?
  – 66% to ensure proper verification & adjustment of the car seat
  – 16% to ensure child’s safety & security in the car seat
  – Other reasons - unintentionally, advised to and recent MVC in media
Results

• Reasons for not attending a provincially mandated verification centre:
  – 50% were unaware of existence or had never heard about them
  – 23% assumed it was installed correctly
Discussion

• Education alone will unlikely prevent the misuse of car seats

• Combined community-based interventions including an occupant-restrain reinforcement program, mass media and an education program have shown improvements in:
  – either injury outcomes
  – increased use of car restraints

  within the intervention communities

(Turner et al, Accident Analysis & Prevention, 2005)
Conclusions

• The province has in place an elaborate system of verification centres, however, based on MCH study results, the majority of respondents who had never been to a car seat verification centre were unaware of their existence.

• This type of partnership highlights the trauma centre’s role in sharing their expertise as it applies to outreach initiatives within local communities.
Conclusions

• Other role of a pediatric trauma centre:
  – Health care professionals have an opportune time to implement effective road-safety injury prevention measures at discharge
    • Verify infant in car seats
    • Distribute educational material re: regulation and safety
    • Provide families with list of local car seat verification centres
Teen Drivers
Background

- Teen drivers account for 10% of drivers on Quebec roads, yet account for 23% of drivers involved in crashes (SAAQ, 2011)

- Major causes of fatal and nonfatal crashes in Quebec teens are inexperience & recklessness

  Teens engage in unsafe driving behaviors:
  - speeding
  - texting
  - drinking alcohol
  - drug use
  - not wearing a seat belt
Background

- New drivers are 4X more likely to die in a car crash (The Center for Injury Research and Prevention, 2007)
- Speed is a major factor in > 50% of crashes involving teens (SAAQ, 2011)
- Texting while driving is like having your eyes closed for 4.6 seconds out of every 6 seconds (Virginia Tech Transportation Institute, 2009)
Background

- Young drivers with a BAC > 0.05 g/dl are 2.5 X more likely to crash than adults with same BAC (WHO, 2011)
- Marijuana affects alertness, coordination, concentration and reaction time (National Institute of Health, 2011)
- Wearing a seatbelt can reduce the risk of death in a crash by 61% (WHO, 2011)
Program Development and Objectives

- Given that MVC remains the leading cause of death in teens, MCH Trauma partnered with 2 injury prevention organizations to develop a *Reality-Based Program* in order to:
  - positively influence the attitudes of teens towards safe and responsible driving
  - prevent injuries and their consequences caused by impaired driving and other risky teen behaviors
Teen Programs work

Teaching adolescents safe driving and passenger behaviors: Effectiveness of the You Hold the Key Teen Driving Countermeasure

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Available online 11 January 2008

Abstract

Problem: Unsafe driving and passenger behaviors place teens at increased risk for fatal and nonfatal crashes. This study evaluated the short- and long-term efficacy of the You Hold the Key (YHTK) Teen Driving Countermeasure. Method: A two-page survey was completed by high school students at pretest, posttest, and long-term (6-month) posttest. Results: YHTK was associated with significant immediate and long-term improvements in teen seatbelt use, safe driving, and perceived confidence in preventing drunk driving. Compared to pretests, students at immediate and long-term posttest more frequently wore seatbelts when driving or riding, required passengers to wear seatbelts, and limited the number of passengers to the number of seatbelts in the vehicle. Students were more likely at both posttests to avoid drinking and driving and to say no to riding with a friend who had been drinking. Summary: YHTK was associated with increases in safe teen driving and passenger behaviors. Impact on Industry: Success of YHTK is most notably due to its comprehensive nature. Future programs should consider comprehensive strategies when attempting to modify teen behaviors.

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Evaluation of an Adolescent Hospital-Based Injury Prevention Program

Tanya Charyk Stewart, MSc, Denise Polgar, EMCA, Murray J. Girotti, MD, FRCSC, FACS, Evelyn Vingilis, PhD, Daniel Caro, MSc, Bradley A. Corbett, PhD, and Neil Parry, MD, FRCSC, FACS

Background: IMPACT (Impaired Minds Produce Actions Causing Trauma) is an adolescent, hospital-based program aimed to prevent injuries and their consequences caused by alcohol or drug impairment and other high-risk behaviors. The overall objective of this evaluation was to determine the effect of the program on students’ knowledge and behavior regarding drinking and driving, over time.

Methods: A randomized control trial between students randomly selected to attend IMPACT and those not selected served as a control group. Students completed a questionnaire before the program and at three posttime periods (1 week, 1 month, and 6 months). Panel data models were used to analyze the effects of the experiment on students’ knowledge of alcohol and crash issues and negative driving behaviors (no seat belt, driving while using a cell phone, involved in conversation, eating, annoyed with other drivers, and drowsy). Descriptive statistics and logistic regression models were used to analyze the effect of IMPACT on students’ influence on friends and family about road safety.

Results: This study consisted of 269 students (129 IMPACT; 140 control) with an overall response rate of 84% (range, 99% presurvey to 71% at 6 months). The IMPACT group had a 57%, 38%, and 43% increase in the number of correct answers on alcohol and crash issues during the three time periods, respectively ($p < 0.05$). Students in the IMPACT group would try to influence friends and family to improve their road safety twice as often as 1-week postprogram (odds ratio 1.94, confidence interval 1.07, 3.53). The models did not suggest that the program had an effect on negative driving behaviors. Men and students who drove more frequently had worse driving behavior.

Conclusions: Our evaluation demonstrates that the IMPACT program had a statistically significant, positive effect on students’ knowledge of alcohol and crash issues that was sustained over time. IMPACT had an initial effect on students’ behaviors in terms of peer influence toward improving road safety (i.e., buckling up, not drinking, and driving) 1 week after the program, but this effect diminished after 1 month. Other negative driving behaviors had low prevalence at baseline and were not further influenced by the program.

Key Words: Evaluation, Injury prevention, Randomized control trial.

Teen Programs work

Effectiveness of the P.A.R.T.Y. (Prevent Alcohol and Risk-Related Trauma in Youth) Program in Preventing Traumatic Injuries: A 10-Year Analysis

Joanne M. Banfield, RN, BA, Manuel Gomez, MD, MSc, Alex Kiss, PhD, Donald A. Redelmeier, MD, MSHSR, FRCPC, FACP, and Frederick Brenneman, MD, FRCSC, FACS

Background: The P.A.R.T.Y. (Prevent Alcohol and Risk-Related Trauma in Youth) program is a 1-day injury awareness and prevention program for youth aged 15 years and older. The goal is to teach adolescents to recognize their injury risks and make informed decisions to reduce them. This study assessed the effectiveness of the P.A.R.T.Y. Program in preventing traumatic injuries during a period of 10 years (1992–2004).

Methods: P.A.R.T.Y. participants (STUDY) were matched with subjects having the same age, gender, residential area, and initial year in database, who did not attend the P.A.R.T.Y. Program (CONTROL). Data from hospital discharge database, and provincial health claims, were searched to determine the incidence of traumatic injuries in both groups. Statistical comparisons were made for the two groups, gender, calendar year, and before and after the graduating driver licensing system was implemented, using the $\chi^2$ and conditional logistic regression analysis with a $p < 0.05$ considered significant.

Results: Of 3,905 P.A.R.T.Y. participants, 1,281 were successfully randomly matched on the above 4 variables with 1,281 controls. The most frequent injury was injury by other or homicide 373 of 2,562 (14.8%). There were fewer traumatic injuries in the STUDY group than in the CONTROL group (43.3% vs. 47.4%; $p = 0.02$; OR, 1.22; 95% CI, 1.03–1.45). This difference was stronger in females (44.4% vs. 49.0%; $p = 0.04$) and before the graduating driver licensing system implementation (60.1% vs. 67.2%; $p = 0.04$).

Conclusions: The P.A.R.T.Y. Program effectively reduced the incidence of traumatic injuries among its participants. This effectiveness was stronger among females and before the driver licensing system was implemented.

Key Words: P.A.R.T.Y. Program, Prevention, Traumatic injuries, Effectiveness, Youth.

(J Trauma. 2011;70: 732–735)
Description of the Trauma…Surviving, But in What State? Program

COMMON THEME:
BE INFORMED
BE RESPONSIBLE
MAKE THE RIGHT CHOICE!
Teen Program Description

ThinkFirst Quebec

Main presenter

- explains the effects of alcohol/drugs
- gives alternatives to impaired driving
- student interaction to educate about traumatic brain & spinal cord injuries
- videos of crashes (realistic scenarios)
Teen Program Description

ThinkFirst Quebec

A trauma survivor talks about

- experience during the acute phase
- experience during the rehabilitation phase
- life altering consequences
Teen Program Description

SPVM officer

– defines what is impaired driving
– explains laws and penalties
– provides statistics regarding deaths & injuries in Quebec related to impaired driving, texting, and speeding
Teen Program Description

MCH Trauma expert

- describes the implications and consequences of impaired driving and being involved in an MVC
  - at the scene
  - in the ER
  - in the OR
  - ICU
  - impact on friends/family
  - intensive rehabilitation
Study Objective of the Program

- To evaluate the effectiveness of the Trauma... *Surviving, But in What State?* Program on the students’
  - knowledge
  - attitudes
  - behavior
towards safe driving habits before and immediately after the presentation
### Methods

- Students complete pre-questionnaire
- Students complete post-questionnaire

### Please Fill Out After Presentation

Please answer the following questions by checking the number that best represents what you think.

1. **How much do you know about traumatic brain and spinal cord injuries?**
   - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
   - Not much
   - a lot

2. **The legal blood-alcohol concentration permitted by a driver holding a licence is?**
   - □ 0.00 % □ 0.01 % □ 0.05 % □ 0.08 % □ 0.1 %

3. **Based on what you learned today, how often will you?**

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<thead>
<tr>
<th>Action</th>
<th>Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
<th>Not applicable</th>
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</thead>
<tbody>
<tr>
<td>Wear a seat belt</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>Obey the speed limit</td>
<td>□</td>
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<td>□</td>
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<tr>
<td>Text while driving</td>
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<td>Get into a car knowing the driver drank alcohol</td>
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<tr>
<td>Drive after I’ve drank alcohol</td>
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<tr>
<td>Get into a car knowing the driver took drugs</td>
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<tr>
<td>Drive after I’ve taken drugs</td>
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<tr>
<td>Wear a helmet for wheeled activities</td>
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</tbody>
</table>

4. **Based on today’s presentation, do you think that you can decide if you would be too impaired to drive?**
   - □ never □ sometimes □ often □ always

5. **Would you recommend this type of presentation to other secondary 5 students? Why or why not?**

6. **How would you rate this presentation?**

<table>
<thead>
<tr>
<th>Type of Presentation</th>
<th>Poor</th>
<th>Neutral</th>
<th>Fair</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>Think First</td>
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<td>Police department</td>
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<td>Trauma Centre</td>
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<td>Student interaction</td>
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<td>VIP</td>
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<tr>
<td>Questions &amp; answers</td>
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</tbody>
</table>
Results

• Questionnaires were filled out by 1149 secondary 5 students from 11 high schools in the urban Montreal area (2010 - 2011 school year)
Results

Knowledge:

- Increased by > 40% post-presentation
Results

Attitudes:

- Texting: Pre: >50% reported texting while driving
  Post: ~70% plan to NEVER text while driving
- The majority will NO longer drive impaired or be in a car with an impaired driver

![Graph showing percentage of students with "NEVER" attitude concerning risky behaviours and driving]
Results

Attitudes:

- The number of students who reported that they planned to always obey the speed limit doubled
Results

Feedback:

“Hearing about someone's life story makes it more realistic.”

“It really opened my eyes up and helped me understand the importance of making the right choice.”

“It really helped me to see that drinking & driving is very serious.”

“It opens the students' minds and makes them realize they are not invincible.”
Feedback:

“It makes us realize the consequences for our actions.”

“Every teen should have these consequences put into perspective as clearly as it was this afternoon.”

“It could save many lives.”

“It was very informative and effective.”
Results

Satisfaction:

- Overall satisfaction with the project was very high: 99% found it relevant and would recommend it to other secondary 5 students
Conclusion

• This reality-based teen program had a short term positive influence on the attitudes and knowledge of adolescents towards safe and responsible driving.
Conclusion

• To reduce the number of MVCs in young drivers, further work on the long term effectiveness of this program is necessary in conjunction with initiatives from other key players:
  - stricter driving regulations
  - parental guidance and structure
  - more vigilant law enforcement
  - environmental modifications
  - increased injury prevention awareness
Take Home Message

Injury prevention is the best form of trauma treatment!

To get involved contact:
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23458

Liane.fransblow@muhc.mcgill.ca
23422
“Never doubt that a small group of thoughtful committed citizens can change the world. Indeed, it is the only thing that ever has.”

-Margaret Mead