

More Than an Ounce of Prevention:

The Incidence, Outcomes, and Prevention of Pediatric Motor Vehicle-Related Trauma

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INTRODUCTION

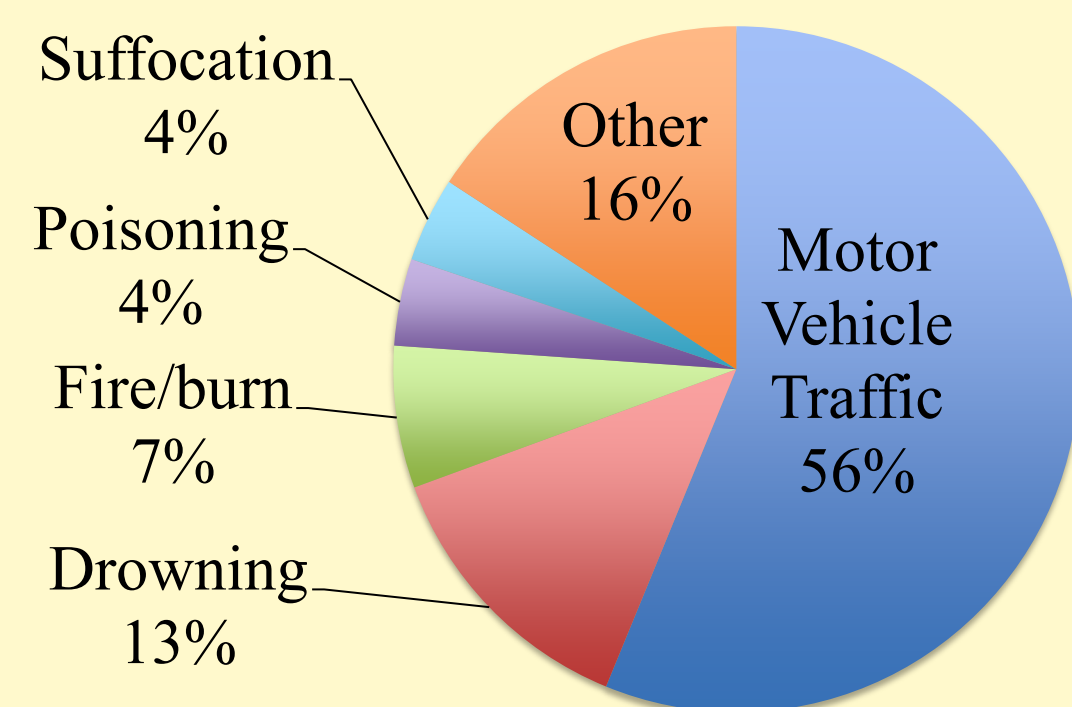
Goals: Examine pediatric trauma from motor vehicle collisions (MVC) to understand preventative measures that are in place and improvements still needed in Worcester.

Progress: Learn the epidemiology of pediatric MVC-related trauma and examine three prevention programs in Worcester.

Outcomes: 1) Participate in prevention programs helping youth learn to make smart decisions as drivers and pedestrians; 2) Understand the importance of partnerships between professions for successful injury prevention.

EPIDEMIOLOGY

Unintentional Injuries: The Leading Cause of Death in the US (2000-2010) in Ages 1-17¹



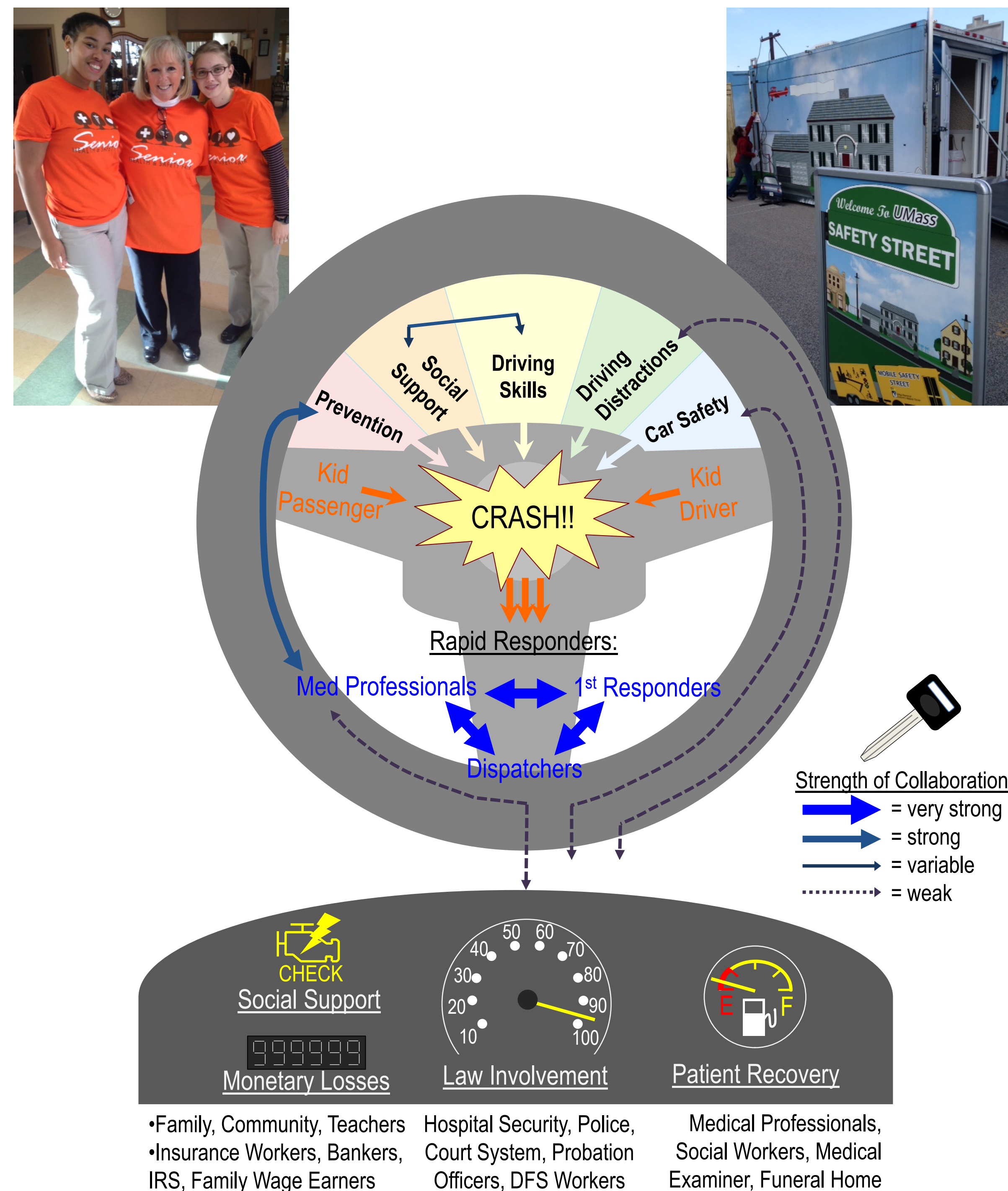
- Every hour ~150 children aged 0-19 are treated in the emergency department for motor vehicle traffic injuries.²

Social Determinants:

- Children with low socioeconomic status are at increased risk for mortality and hospitalization from trauma.³
- Hispanic & African American children are less likely to wear seat belts than Caucasian & Asian children.⁴
- In-vehicle distractions (cell phones, passengers, etc.) increase teen drivers' risk of MVC.⁵

Social Manifestations/Implications:

- Victims of MVC suffer physical injuries and are prone to posttraumatic stress, depression, and anxiety.⁶
- US unintentional child injuries cost ~\$11.5 billion and are the leading cause of medical spending in children.⁷



INTER-PROFESSIONAL NETWORKS

The schematic shows professions influencing the incidence and outcomes of pediatric MVC-related trauma. There are 5 determinants of pediatric MVC (arc of wheel). After a MVC, rapid responders care for patients and other professionals deal with long-term health outcomes (dashboard). Strong collaboration exists between rapid responders (thick arrows). Some professions lack adequate collaboration (thin arrows). Rectifying this could strengthen injury prevention efforts.

HEALTH ADVOCACY

Injury prevention programs looked at during our clerkship:

- **Teen D.R.I.V.E.** - A driving simulation program that demonstrates the risks & consequences of risky driving.
- **Mobile Safety Street** – An interactive learning experience for young children, enforcing the importance of safety in the home, on the bus, and on the street.
- **Teen R.I.D.E.** – A program for teenagers who partake in risky and illegal driving. This is a 1 day experience that walks participants through the implications of a MVC.

KEY TAKE AWAY POINTS

- If it's predictable, it's preventable
- Prevention programs can reduce trauma incidence
- Partnership between professions is needed for prevention

REFERENCES

¹Centers for Disease Control and Prevention (2013). Injury Prevention & Control: Data & Statistics (WISQARS). Retrieved Oct. 24, 2013 from <http://www.cdc.gov/injury/wisqars/>. ²Centers for Disease Control and Prevention (2013). Protect the Ones You Love: Child Injuries are Preventable. Retrieved Oct. 24, 2013 from <http://www.cdc.gov/safekid/>. ³Birken, C. S., & MacArthur, C. (2004). Socioeconomic status and injury risk in children. *Paediatr Child Health*, 9(5), 323-325. ⁴US Department of Transportation, NHTSA. (2013). *Traffic safety facts* (DOT HS 811 767). Retrieved from NHTSA website: <http://www-nrd.nhtsa.dot.gov/Pubs/811767.pdf>. ⁵Neyens, D.M., & Boyle, L.N. (2007). The effect of distractions on the crash types of teenage drivers. *Accid Anal Prev*, 39(1), 206-212. ⁶Moroz, K. (2005). The effects of psychological trauma on children and adolescents. *Report Prepared for the Vermont Agency of Human Services Department of Health Division of Mental Health Child, Adolescent and Family Unit*, 1-43. ⁷Centers for Disease Control and Prevention (2013). Protect the Ones You Love: Child Injuries are Preventable. Retrieved Oct. 24, 2013 from <http://www.cdc.gov/safekid/>.

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