State Department of Health and University Collaborations: Past Successes, Challenges and Opportunities Ahead

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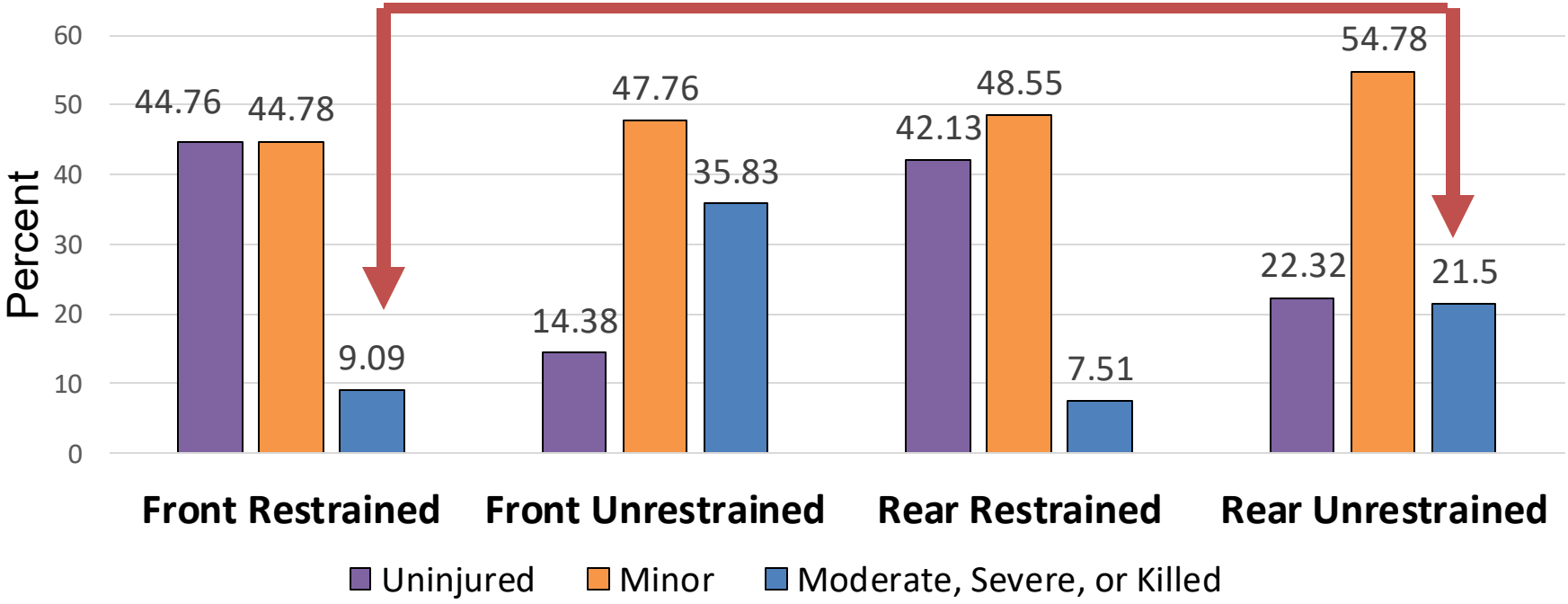
Collaborations

- Through the DOH's Statewide ICIG meetings, we began collaborations and met collaborators across the state
- Most of our collaborations have centered on motor vehicle injury
- An example of this impact:
  - Novelty lighters fashioned to look like toys that were manufactured in NYS, but causing pediatric fire injury across the nation and beyond
  - Organized write in campaigns--Ask for NYS Assembly to require labeling of the items so that caregivers and parents knew they were lighters
  - NYS Assembly responded with a ban on the manufacture and distribution of these items
- Motor vehicle-related collaborations
  - Alcohol-related crashes in NYS
  - Pediatric safety in taxis/vehicles-for-hire
  - Rear seat MV mortality and injury and related hospital charges
  - Factors contributing to pandemic-related increases in NYS MV injury and mortality
  - Pandemic era injury and mortality in motorized two wheelers

NYS Injury Severity by Seating Position and Restraint Status in Adults



Rear-Seated Restrained vs. Rear-Seated Unrestrained Occupants

Compared to restrained rear-seated occupants, unrestrained rear-seated occupants had:

- Nearly three times higher moderate-to-severe injury/death (21.5% vs. 7.5%, P<0.0001)
- Nearly four-fold higher hospitalization
- Ninety percent (9 of 10) of rear-seated deaths were unrestrained
- More than 95% of ejections were unrestrained
  - Ejections had 7-fold higher medical charges
- Among the rear-seated, unbelted lengths of hospital (LOS) stay were nearly double that of restrained passengers (7.6 vs. 4.2 days)

Seating Position, Restraint Status, LOS and Insurance Status

- Total length of stay tended to be higher in rear-seated than front-seated passengers
  - This difference was driven by the substantially higher proportion of rear-seated passengers who were unrestrained
  - Compared to front-seated occupants, those rear-seated were approximately 5 times more likely to be **unrestrained** (21.2% vs. 4.3%, P<0.0001)
  - Among the restrained, rear-seated passenger mean length of stay was one day shorter than for front-seated passengers
- Compared to restrained occupants, unbelted front and rear-seated occupants were:
    - Less likely to be privately insured
    - More likely to be self-pay or uninsured

NYS CODES data, 2016-2017

A Safe System Approach Incorporates:

FARS variables were grouped into 5 Pillars of the Safe System:

- Safer Road users
- Safer Vehicles
- Safer Roads
- Safer Speeds
- Post-Crash Care

The outer circle shown here depict the principles of the Safe System

Mortality by Road User Type Pre-Covid-19 and in the Covid-19 Era

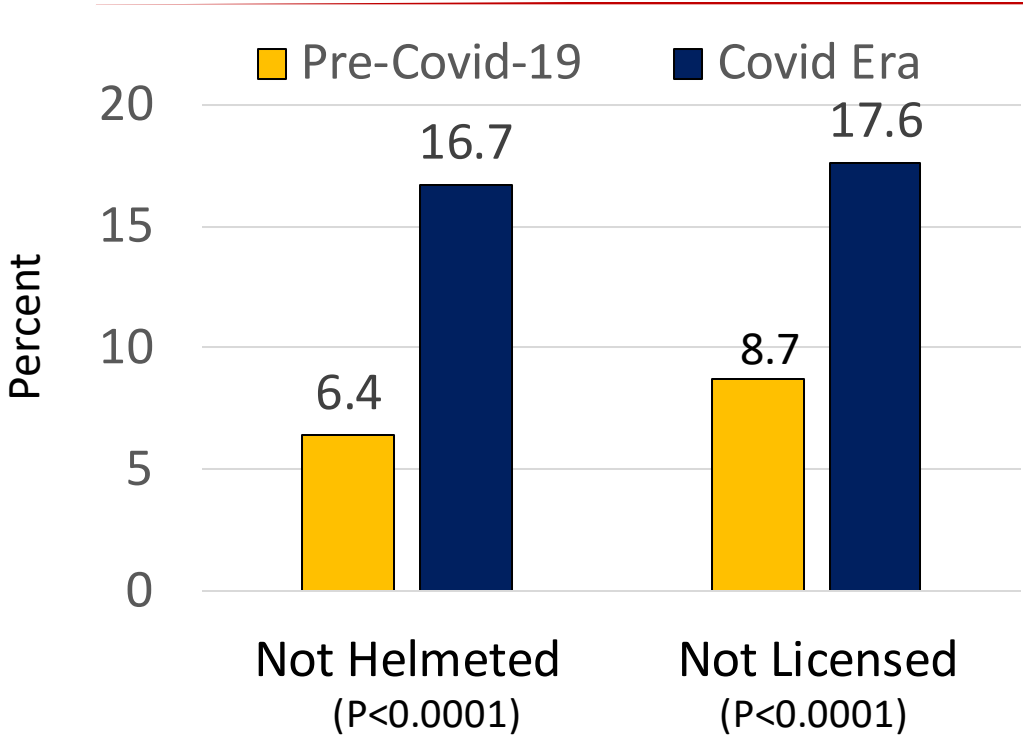
Road User Type	% Change During Covid-19	Deaths Pre-Covid-19 (n,%)	Deaths During Covid-19 (n,%)
Total deaths	16.5	1,725	2,010
Motor vehicle occupant	19.6	868 (50.3)	1039 (51.6)
Motorized 2-3 wheelers	45.1	286 (16.6)	415 (20.7)
Bicycle, non-motorized	5.6	72 (4.1)	75 (3.7)
Pedestrian	-6.8	487 (28.3)	455 (22.6)

Percent Change in Mortality by Vehicle Type and Covid-19 Era

Vehicle Type*	% Change	Pre-Covid-19 (n,%)	Covid-19 Era (n,%)	Total Population (n,%)
Total Deaths	40.2	428	600	1028
Motorcycle, 2-wheeler	25.6	407 (95.1)	511 (85.2)	918 (89.3)
Motorcycle, 3-wheeler	100.0	3 (0.7)	6 (1.0)	9 (0.9)
Motorcycle, off road	375.0	4 (0.9)	19 (3.2)	23 (2.2)
Moped, motor scooter/mini-bike	361.5	13 (3.0)	60 (10.0)	73 (7.1)
Motorcycle, unknown type	300.0	1 (0.2)	4 (0.7)	5 (0.5)

* P=0.0001

Not Helmeted and Not Licensed to Drive on a U.S. Roadway



Mortality by helmet status

- 25.3% increase in mortality for helmeted riders
- 270.4% increase in mortality for non-helmeted

Mortality by driver's license

- 23.7 % increase in mortality for fully licensed
- 325.0% increase for intermediate/GDL licensure
- 188.6% increase for not licensed

COLUMBIA UNIVERSITY
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NEW YORK STATE Department of Health

Collaborative Peer-Reviewed Publications

- Pressley JC, Aziz Z, Pawlowski EM, Hines L, Roberts A, Guzman JC Bauer MJ. Using a Safe System Framework to examine the roadway mortality increase pre-COVID-19 and in the COVID-19 era in New York State. Int. J. Environ. Res. Public Health 2025, 22, 61. https://doi.org/10.3390/ijerph22010061

- Zhang L, Pawlowski E, Hines LM, Bauer MJ, Pressley JC. Risk and protective factors for injury in adult front- and rear-seated motor vehicle occupants in New York State. Int. J. Environ. Res. Public Health 2024, 21, 663. https://doi.org/ 10.3390/ijerph21060663

- Pressley JC, Pawlowski E, Hines LM, Bhatta S, Bauer MJ. Motor Vehicle Crash and Hospital charges in front- and rear-seated restrained and unrestrained adult motor vehicle occupants. Int J Environ Res Public Health. 2022 Oct 21;19(20):13674. doi: 10.3390/ijerph192013674. PMID: 36294253; PMCID: PMC9603584.

- Michael Bauer, MS, Leah M. Hines, MPH, Emilia Pawlowski, MS, Anne M. Scott, MPH and Joyce C. Pressley, PhD, MPH. Using Crash Outcome Data Evaluation System to examine injury in front vs. rear-seated infants and children involved in a motor vehicle crash in New York State. Injury Prevention (2021) 8:32 https://doi.org/10.1186/s40621-021-00328-8

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Collaborative Peer-Reviewed Publications

- Pressley JC, Hines LM, Bauer MJ, Oh SA, Kuhl JR, Liu C, Cheng B and Garnett M. Using Rural–Urban Continuum Codes (RUCCS) to examine alcohol-related motor vehicle crash injury and enforcement in New York State. Int. J. Environ. Res. Public Health 2019; 1346:1-17. doi:10.3390/ijerph16081346.

- Prince P, Hines LM, Bauer MJ, Liu C, Luo J, Garnett M, Pressley JC. Pediatric restraint use and injury in New York City taxis compared to other passenger vehicles. Transportation Research Record, Sage Publications 2019; 1–9. National Academy of Sciences: DOI: 10.1177/0361198119843091

- Pressley JC, Hines LM, Oh SA, Bauer MJ, Kuhl JR, Liu C, Cheng B and Garnett M. Factors associated with alcohol-related motor vehicle crash injury and alcohol-related enforcement in the Upstate and Long Island Regions of New York State. 2019; TRB compendium. http://amonline.trb.org/68387-trb-1.4353651/t0032-1.4361963/1632-1.4362136/19-02215-1.4362152/19-02215-1.4362153?qr=1.

- Smith LS, Wilkins N, Marshall SW, Dellapenna, A, Pressley JC, Bauer M, South EC, Green K. The power of academic-practitioner collaboration to enhance science and practice integration: Injury and violence prevention case studies. J Public Health Manag Pract. 2018 Jan/Feb;24 Supplement, Injury and Violence Pre[illegible] oi: 10.1097/PHH.0000000000000675.

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Summary

- We have used some of DOHs fact sheets and our collaborative peer review publications to support education of our legislators
- NYS has successfully passed several pieces of MV legislation
  - A near universal rear-seat restraint law
  - Removal of the vehicle-for-hire restraint exception
  - A recent new piece of legislation requiring commercial motor coaches that transport children in NYS to have restraints available for passengers
- Synergistic in that universities can and are expected to conduct activities that DOHs may not be able to do as easily
- Our DOH – CU collaboration operates successfully despite distance of being in different cities--Albany and NYC

Questions