Today’s Agenda

• Data Sources
• Challenges to collecting and using this data
• Story telling through data
• Discussion
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Distracted and Impaired Driving: Data Collection and Dissemination

Community of Practice Webinar
November 3, 2014

Debbie Ascone,
National Center for Statistics and Analysis
National Highway Traffic Safety Administration (NHTSA)
Outline

- Definitions
- NHTSA Data Sources
- Distraction
- Alcohol-Impairment
- Drug-Involvement
- Available Resources
Definitions

The following are definitions that focus on the crash data and how NCSA uses the definitions in publications and data dissemination.
Definition - Distraction

- Specific type of *inattention* that occurs when a driver diverts their attention from the driving task to focus on some other activity.
- Distraction-affected crashes are those crashes in which the driver *was identified* as distracted at the time of the crash.
- Acknowledge that the actual occurrence of distraction may not be the same as the reported occurrence during a crash.
Definition - Alcohol-Impairment

- Driver has a blood alcohol concentration (BAC) of .08 or greater
  - Focus is the driver’s BAC because of the law
  - NHTSA collects BAC data on passenger and non-occupant fatalities
- Alcohol-impaired driving crash refers to a fatal crash in which the driver’s BAC was .08+
- Alcohol-related driving refers to a fatal crash in which the driver’s BAC was .01+
- Alcohol-involvement refers to a crash (more commonly used with injury/crash types) without a specific BAC value
Definition - Drug Involvement

- Upon testing, drugs were found in the individual’s system
  - Focus on the driver, but sometimes get additional information
- Includes illicit drugs, over the counter and prescription medications (list is over 400 meds)
- Does not contain a measure of amount, rather presence – thus involvement rather than impairment
NHTSA Data Sources
Data Sources

• NCSA
  ▫ FARS
  ▫ NASS GES
  ▫ NASS CDS
  ▫ State Data System
  ▫ NiTS (distraction)

• Research
  ▫ 100-Car Study
  ▫ SHRP2
  ▫ Special research for vehicle development
FARS - Fatality Analysis Reporting System

- **What cases go into FARS?**
  - Census of all fatal traffic crashes
  - Motor vehicle crash on a trafficway that is open to the public
  - At least 1 death as a result of the crash within 30 days of the crash

- **How is the data collected?**
  - Each state has a FARS analyst – gather, translate, and transmit data
  - Original data sources: PAR, state vehicle registration, state drivers licensing, state highway dept., vital records, death certificates, coroner/medical examiner’s reports, EMS reports, toxicology reports

- **What does FARS include?**
  - Crash file, vehicle file, person file
  - Over 140 data elements
  - Location data for geospatial tools
NASS - National Automotive Sampling System

- Nationally representative random sample of minor, serious and fatal crashes
- Passenger cars, vans, pick-ups, large trucks, motorcycles, nonoccupants
- Sample selection is from the police accident reports
- Two components: General Estimates System (GES) and Crashworthiness Data System (CDS)
NASS GES - General Estimates System

- National sample
  - Not designed to develop state-level estimates
- Injury estimates (has fatality as well but FARS is the census)
- Crash estimates – total number of crashes, property damage only crashes, injury crashes
- Standardized the FARS and GES data elements recently so information is similar when we present fatality and injury data
NASS CDS - Crashworthiness Data System

• Limited selection of cases and vehicles
• Research teams sent to investigate the vehicles involved
• Interview with victims and review of medical records
• Aids vehicle safety areas of NHTSA
Distraction
Distraction Data Collection & Dissemination

- Collected through the PAR
  - Limitations – PAR limitations (fields), collection limitations (behavior, fatality, proof)
- Disseminated in various ways
  - Annual reports – NCSA report currently does not contain state data; contains limitations section
  - Public data files
  - Distraction website
  - Awareness campaigns
  - Note – trend data does not cross 2009-2010
- NMVCCS and 100-Car Study contain distraction data
Alcohol-Impairment
Alcohol Data Collection

- **FARS collection**
  - One variable is for the police reported assessment with or without knowledge of a chemical test result
  - BAC measurements – various state entities collect
  - Impute data for unknown BAC
  - Every person has a BAC associated
  - Can get state-level alcohol involvement

- **GES collection**
  - Variable for police reported assessment at the scene
  - No measurement of BAC
  - Reported as alcohol-involved
Alcohol Data Dissemination

- Annual Traffic Safety Facts Sheet
- Public data file
- Media planners
- Publications
- Data requests
- STSI
Drug-Involvement
Drug Data Collection & Dissemination

- FARS collection comprises three variables that identify if a test was performed, the type of test and the results
- FARS groups drugs into categories
- Not everyone in the crash is tested; driver is the most frequently tested but varies by state
- Data is currently available by request
- Crash Stat published in 2010
- Accompany data requests with a one-page discussing limitations
Available Resources
Accessing NHTSA Data

- NHTSA website, Data Tab
  - Publications by Category, Type
  - Key documents include:
    - Traffic Safety Facts Annual Report
    - Traffic Safety Facts Sheets
    - State Data System Crash Data Report: 2000-2009
  - FARS data tables
    - National data and State data
  - State Traffic Safety Information
    - State, County data
    - Pinpoints for specific crash locations
Accessing NHTSA Data

• Public files
  ▫ FARS, GES, Auxiliary data files
  ▫ Look for “Download Raw Data from FTP Site”

• Understanding the data
  ▫ Manuals
    • Instructions for coding (includes explanations and examples)
    • Coding over time (if changes to variables/attributes)
  ▫ Police Accident Reports by State
  ▫ Model Minimum Uniform Crash Criteria
Accessing NHTSA Data

• NHTSA Main Page
  ▫ Key Issues section links to program-specific information
  ▫ Safety in Num3ers
  ▫ Latest News and Information
  ▫ Latest Research/Reports
Challenges to collecting and using data

Rebecca Spicer, PhD, MPH, Director
CSN, Economic & Data Analysis Resource Center
Pacific Institute for Research & Evaluation
November 3, 2014
Data Polls
Types of data

- Crash (e.g. State crash data, FARS)
- Prospective surveillance (e.g. observed hand-held phone use)
- Existing surveys (e.g. YRBSS)
Challenges in collecting the data

Data can be lost along the way

• Crash site
• Police report
• State compilation of police reports
• Federal compilation of state data (FARS, GES)
FARS and GES distraction variables

- By Other Occupant(s)
- By a Moving Object in Vehicle
- **While Talking or Listening to Cellular Phone**
- **While Manipulating Cellular Phone**
- Adjusting Audio or Climate Controls
- While Using Other Component/Controls Integral to Vehicle
- While Using or Reaching For Device/Object Brought Into Vehicle
- Distracted by Outside Person, Object or Event

- Eating or Drinking
- Smoking Related
- Other Cellular Phone Related
- Distraction/Inattention
- Distraction/Careless
- Careless/Inattentive
- Distraction (Distracted), Details Unknown
- Inattention (Inattentive), Details Unknown
- Lost in Thought / Day Dreaming
FARS and GES impairment variables

- Ill, Blackout
- Asleep or Fatigued
- Walking with a Cane or Crutches
- Paraplegic Or Restricted To Wheelchair
- Impaired Due To Previous Injury

- Deaf
- Blind
- Emotional (depressed, angry, disturbed, etc)
- Under the Influence of Alcohol, Drugs or Medication
- Physical Impairment
Challenges in using data

• Underreporting
• Overestimation
• Crash may not be attributable to impairment/distraction
• Impairment and distraction
• State comparisons difficult
Challenges: Impairment data

- A constant pre- during- and post- crash
- Not all drivers tested
- Alcohol test using breath
- Drug test using urine/blood
- Can test positive for drugs even if you are not impaired (e.g. marijuana)
- Alcohol often occurs with other risky driving behaviors (Shyhalla, 2014)
Challenges: Distraction data

• In-the-moment pre-crash variable
• No reliable way to assess pre-crash distraction:
  – Driver admits distraction
  – Witnesses
  – If the state does not have a cell phone use law
    then no motivation to collect data
  – May be noted later, but not officially recorded
  – Phone record use complex
Example: Underreporting due to challenges in collecting behavioral data

NSC identified 180 fatal crashes where evidence indicated a driver was using a cell phone, 2009-2011 (NSC, 2013)

Percent of cases coded in FARS as involving cell phone use:

- 2011: 52%
- 2010: 35%
- 2009: 8%
Example: Possible overestimation due to drug/alcohol testing selection bias

Alcohol-related fatalities, Minnesota, 2012
(Adapted from Table 2.06, Minnesota Crash Facts 2012)

<table>
<thead>
<tr>
<th>Traffic Role</th>
<th>Killed</th>
<th>Tested</th>
<th>% tested</th>
<th>.00</th>
<th>.01-.07</th>
<th>.08-.09</th>
<th>.10+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car or Truck Driver</td>
<td>74</td>
<td>68</td>
<td>92%</td>
<td>7</td>
<td>3</td>
<td>1</td>
<td>57</td>
</tr>
<tr>
<td>Motorcycle Driver</td>
<td>14</td>
<td>13</td>
<td>93%</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>ATV Driver</td>
<td>4</td>
<td>2</td>
<td>50%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Snowmobile</td>
<td>1</td>
<td>1</td>
<td>100%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Pedestrian</td>
<td>14</td>
<td>8</td>
<td>57%</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Bicyclist</td>
<td>3</td>
<td>3</td>
<td>100%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>
So the data aren’t perfect ....

- Understand the data so you can qualify your interpretations
- Estimate (e.g. FARS imputations of alcohol involvement)
- Use a proxy (e.g. single-vehicle crashes)
- Use a variety of sources to tell your story:
  - Crash data
  - Surveillance
  - Surveys
  - Anecdotes
- Opportunity: Prepare evaluation before law is implemented
Contact Information

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Center for Injury Research and Policy
The Research Institute at Nationwide Children's Hospital
Storytelling Through Data
Distracted and Impaired Driving CoP Data Webinar
November 3, 2014
Nichole Hodges, MPH, MCHES
Chair, Ohio Injury Prevention Partnership
Injury Prevention Coordinator, Center for Injury Research and Policy of the Research Institute at Nationwide Children’s Hospital
• The **Ohio Injury Prevention Partnership (OIPP)** is a statewide group of professionals representing a broad range of agencies and organizations concerned with the prevention of injury.

• Members work to provide a coordinated statewide effort for injury prevention programming.

• The OIPP was convened in 2007.
Mission:
To prevent injuries in Ohio using data and collaborative partnerships.

Vision:
Working together to create a safe and injury free Ohio.
• Coordinated by the Ohio Department of Health (ODH) with funds from the Centers for Disease Control and Prevention (CDC).

• Advises and assists ODH and ODH’s Violence and Injury Prevention Program (VIPP) with establishing priorities and future program direction.
OIPP Goals

• Assess needs and increase availability and quality of injury data in Ohio.

• Build infrastructure and sustainability for Injury Prevention (IP) in Ohio.

• Promote IP as a public health priority in Ohio.

• Promote evidence-based IP programs and policies throughout Ohio.

• Increase statewide collaboration around IP in Ohio.
Preventing Injuries in Ohio:
A Resource for Policy Makers, 2012

- Modeled after a resource developed by the Johns Hopkins Center for Injury Research and Policy
- Included U.S. and Ohio data on 10 injury topics
- Distributed to Ohio lawmakers in 2012
Policy Guide 2.0

• The first policy guide was great, but we felt it was missing a “personal touch.”

• As a result, we decided to incorporate a storytelling component into the 2013-2014 policy guide.
Poll Question--Storytelling
Gathering the Stories

• OIPP members were asked to help identify individuals who would be willing to share a personal story about how injury has impacted their life.
• Stories were collected based on their relevance to the topics we planned to address in the 2013-2014 guide.
• Individuals were asked to submit their story in their own words (500 words or less), along with a photo.
• OIPP members selected the stories that would be included and assisted with editing the stories for length.
Preventing Injuries in Ohio: A Resource for Policy Makers, 2013-2014

In Their Words:
Stories of Injury and Violence in Ohio
Table of Contents

• Youth Bicycle Safety
• Concussion in Youth Sports
• Falls among Older Adults
• Prescription Drug Abuse
• Teen Driving Safety

• Infant Safe Sleep
• Child Passenger Safety
• Suicide Prevention
• Interpersonal Violence
• Alcohol and Injury
Each topic featured the personal story of an Ohioan who was impacted by injury.

Stories were accompanied by photos submitted by the participants.

Katie’s Story

Cincinnati, OH

In the early hours of February 26, 2006, my daughter Katie was driving home on I-775 with her daughter, Emma. They were coming home from the hospital after a trip to the emergency room that helped stabilize Emma’s chronic asthma. That morning, my daughter was killed by a 19 year old so drunk beyond comprehension that he was driving the wrong way on I-775. He drove his pick-up truck directly into Katie’s car.

Katie was killed and Emma, her 10 year old daughter, spent the next month at Children’s Hospital in the intensive care and rehabilitation units. Emma experienced brain trauma and injury. Her body swelled. I prayed that God would not let her die too. Then I was told that I needed to tell Emma that her mother had died. The stress was unbelievable. I didn’t know whether to pray that I live for Emma or die to be with Katie.

Emma worked hard to heal her injuries. On July 18, 2006 nearly 5 months after her mother’s death, Emma was released from outpatient therapy. She is now physically better but her heart continues to hurt as does mine. I cry nearly every day thinking about how much Katie wanted to live, be married, raise Emma, and have more children. I feel robbed, cheated of her love, life, her happiness and our future together.

Emma lives with me and soon will be 17. Back when she was at the hospital, I had to focus on her medical care. Now, 7 years later, I focus on her emotional costs which are incomprehensible! Emma lost her mother, home, dog and future life with her mother in one second.

“I feel robbed, cheated of her love, life, her happiness and our future together.”

I am asking myself, again, how do I sum up the impact of that 19 year old’s choice to drink and drive and Katie’s death on my life? I can only hold onto this thought. Katie made a huge impact in our community in the short 27 years of her life. She loved people and especially children with special needs. She dedicated her work to helping them have a voice. I can only pray that Emma and I will also use our talents to make a difference in our community, using our voices for those who will listen.

Story told by Katie’s mother, Susan. Susan and Emma pictured above.
Each topic also included a member highlight describing an organization that is active in the OIPP.
• Used the same data format as in 2012.
• The burden of injury is described in reference to the U.S. and Ohio and includes injuries, deaths, and economic costs.
• Evidence-based injury prevention policies are described.
Each topic includes links to additional resources and references.
Sharing the Stories

• The new policy guides were distributed to Ohio lawmakers and other interested parties in 2013 and 2014.

• The policy guides are available on the OIPP Injury Prevention Policy and Advocacy Action Group website, along with additional policy-related educational tools: https://sites.google.com/site/ippaag/home

• Currently the OIPP has plans to begin work on a revised policy book for 2015-2016.
Questions?

Contact the Ohio Department of Health
Injury Prevention Program at 614-466-2144


Or Nichole Hodges, OIPP Chair, at
Nichole.Hodges@NationwideChildrens.org
or 614-355-5870
Thank you for your participation

Please take a moment to complete our short evaluation:

https://www.surveymonkey.com/r/QHQ5HY3

Questions or Comments? Contact:

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