

Motor Vehicle Injury Prevention (MVIIP) Research Priorities Update

NCIPC Board of Scientific Counselors Meeting
August 23, 2022



Research Priorities Update

Goal: Assess NCIPC
MVIIP research
efforts and update
the Center's MVIIP
Research Priorities

2015 MVIIP Research Priorities

1. Assess the effectiveness of policies and program strategies for preventing or reducing alcohol- and drug-impaired driving (ADID).
2. Evaluate the effectiveness of behavioral, environmental, and policy approaches for increasing restraint use.
3. Evaluate strategies for reducing disparities in motor vehicle injuries and deaths among high-risk groups and minority populations.

Goal: (continued)

Assess NCIPC MVIP
research efforts
and update the
Center's MVIP
Research Priorities
(continued)

2015 MVIP Research Priorities

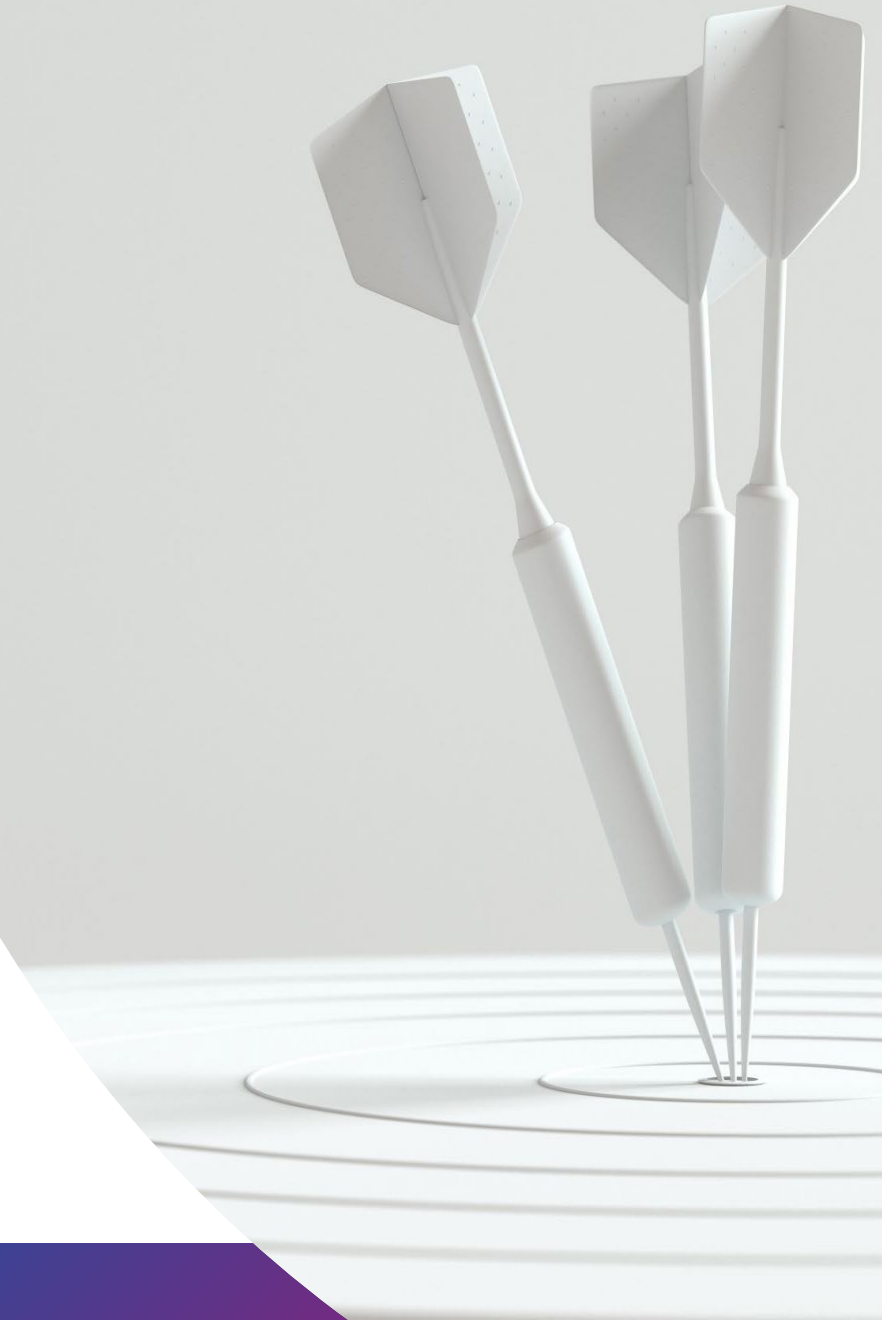
4. Identify strategies that increase the safe transportation of older adults through research on stages of mobility transition and how to increase the use of supplemental transportation systems.
5. Identify factors that influence state variations in motor vehicle injury and death rates by improving the quality, availability, and use of linked data for decision making.

Overall Process

- Set guiding principles and scope
- Establish workgroup and roles
- Gather and review materials
 - Inventory of NCIPC intramural and extramural MVIP Research review
 - Interviews with external and internal MVIP Experts
 - Literature review of the MVIP research field
 - Environmental scan of Federal agency and partner research
- Synthesize findings
- Draft new priorities

Guiding Principles and Scope

- Research priorities
 - Research questions under each priority
- For next 3-5 years
- Intramural and extramural projects
- Need to demonstrate progress
- Review research since establishment of priorities in 2015



Workgroup Members

- NCIPC Associate Director for Science office-Kate Shaw*
- Division of Injury Prevention
 - Associate Director for Science office-Mick Ballesteros*
 - Transportation Safety Team-Bethany West*, Erin Sauber-Schatz*, Laurie Beck, Vaughn Barry, Amy Schumacher, Merissa Yellman
 - Evaluation Team-Brandon Nesbit*
 - Older Adult Falls-Gwen Bergen
 - Traumatic Brain Injury-Matt Breiding
 - Tribal-Jason Hymer
 - Policy-Kelly Mattick
 - Health Economics-Curtis Florence
- Division of Overdose Prevention-Erin Parker, Brooke Hoots, Gery Guy
- Chronic Disease Center
 - Alcohol-Marissa Esser
 - Physical Activity-Ken Rose, Heather Devlin, Hatidza Zaganjor
- Division of Adolescent and School Health-Mike Underwood
- Contract support from Guidehouse

Evaluation Questions

- Are there existing research gaps/needs from CDC's 2015 MVIP research priorities?
- How has the MVIP landscape changed since 2015?
- Have emerging research issues related to MVIP surfaced?
- What of the new research priorities rises to the top for immediate focus?
- What are the largest gaps in the MVIP field that research efforts should focus on for the next 5 years?
- What is CDC's unique contribution to the MVIP research field?
- What is CDC's unique role in the federal landscape of MVIP research?
- What, if anything, does CDC need to change?
- What are the current needs of MVIP practitioners that can be informed by new/updated research?



Methodology

- 1) Compile and analyze an inventory of NCIPC's intramural and extramural MVIP research publications
- 2) Conduct and summarize key findings from a series of interviews with MVIP research experts, internal and external to CDC
- 3) Review literature of MVIP field and environmental scan of Federal agency and partner webpages for reported research
- 4) Synthesize findings across the inventory, interviews, literature review, and environmental scan and documenting insights for updated MVIP research priorities

Compile and Analyze: Inventory of NCIPC Projects – Intramural and Extramural Inputs for 2015-2021

- Division of Unintentional Injury Prevention (DUIP) and DIP Bibliographies
- Agency internal review system
- Injury Control Research Centers (ICRC) research projects
- NCIPC Office of Science
 - External Research Program Office files (ERPO)
 - Research Priorities Tracking System (RPTS)

Synthesize Findings: Inventory (2015-2021)

- 113 projects/papers initially identified
- 72 left after removing duplicates, non-research

2015 Research Priority*	Extramural	Intramural
P1: Alcohol- and Drug-Impaired Driving	10	13
P2: Restraint Use	4	13
P3: Disparities	7	15
P4: Older Adult Mobility	9	7
P5: Data Linkage	4	3

*Research activities may address more than one research priority.

MVIP Expert Interviews

Experts in MVIP research from CDC and other external agencies and organizations

- Understand how the MVIP field has changed in the past five years
- Assess the understanding of CDC's role in advancing MVIP research
- Reflect on whether adequate progress has been made towards the 2015 MVIP research priorities
- Describe potential gaps present in NCIPC research agenda and field
- Provide insight on which MVIP research questions should be the focus of NCIPC research for the next 5 years

Conduct and Summarize: MVIP Expert Interviews

Health and Human Services experts

- CDC/NCIPC Division of Overdose Prevention
- CDC National Institute for Occupational Safety & Health
- CDC National Center for Health Statistics
- Indian Health Service

Other Federal Agencies

- National Highway Traffic Safety Administration
- National Transportation Safety Board

External experts

- Insurance Institute for Highway Safety
- National Safety Council
- Former CDC staff (retired)
- Johns Hopkins University
- Columbia University
- Transportation Research Board
- Bloomberg Philanthropies
- FIA Foundation

Conduct and Summarize: Interviews with Key SMEs – Key Findings

1. Position NCIPC as a leader in researching health disparities and promoting health equity in MVIP
2. Continue researching and supporting evidence-based MVIP strategies
3. Address emerging issues related to impaired driving
4. Continue to monitor for and address new and existing issues related to mobility and access
5. Improve quality, availability, and use of linked data for decision-making

Literature Review

A literature review focused on MVIP and public health review articles was conducted

- 20 publications were reviewed:
 - 10 systematic literature review and research summary articles
 - 3 overviews of evidence-based strategies
 - CDC-produced field guide
 - Reports to Congress
- This literature review highlighted that there are still research gaps in these topic areas within MVIP:
 - Impaired Driving
 - Restraint Use
 - Older Adults
 - Health Equity

Proposed New Priorities (1)

1. Impaired Driving— Understand differences in and prevention strategies for impaired driving (i.e., alcohol-, drug-, and polysubstance-impaired) especially among populations disproportionately affected by impaired driving.

1. What are the risk and protective factors for driving while impaired, and how do these differ among subgroups of the population?
2. What are the population- and setting-specific barriers and facilitators to not driving while impaired?
3. In what ways do different substances (e.g., cannabis, opioids) alone or in combination (polysubstance use) impact driving behaviors and motor vehicle crashes, injuries, and deaths?
4. What strategies are effective for the prevention of alcohol-, drug-, and/or polysubstance-impaired driving in the current landscape, and does the effectiveness and acceptability of strategies to prevent impaired driving vary by demographic groups and settings?

Proposed New Priorities (2)

- **2. Restraint Use—
Examine key factors
and effective
strategies for
increasing
consistent and
proper restraint use.**

1. How do those who never, sometimes, and always use seat belts differ by characteristics such as age, sex, race/ethnicity, geographic location, seating position, and reasons for using seat belts?
2. What are barriers and facilitators to consistent restraint use among sub-groups of the population at higher risk of inconsistent restraint use (teens/young adults, people living in rural areas, people of certain races/ethnicities)?
3. What unique risk and protective factors, as well as the population- and setting-specific barriers and facilitators (e.g., child restraint laws), contribute to health inequities in premature graduation (e.g., prematurely moving from a booster seat to a seat belt) for child passengers, and how do these differ among sub-groups of the population and SDOH?

Proposed New Priorities (3)

**3. Older Adult
Mobility— Identify risk
and protective factors
and effective
strategies for reducing
transportation-related
injuries among older
adults while
preserving their
mobility and
increasing safe
transportation.**

1. What are the risk and protective factors for MVC injury risk among older adults, and how do these differ among sub-groups of the population, including but not limited to race/ethnicity, health conditions, and road user type?
2. What risk and protective factors contribute to health inequities in transportation access and mobility access among sub-groups of older adults?
3. Among older adults, what are the shared, modifiable risk and protective factors for MVC and fall injuries and how do these vary and contribute to health inequities by age, sex, race/ethnicity, SDOH, or location? How can these shared factors be used to inform future prevention activities to improve health equity for both MVC and fall injuries?
4. To what extent are healthcare providers aware of and willing to recommend strategies (e.g., medication safety) that promote older driver safety?

Proposed New Priorities (4)

4. Emerging or Evolving Trends— Better understand risk factors for new, emerging, or evolving trends in transportation safety including prevention of pedestrian injuries and deaths.

1. What risk and protective factors explain MVC-related pedestrian injury rates?¹
2. To what extent does the implementation of traffic safety policies and [roadway design countermeasures](#) (e.g., crosswalks, roundabouts, variable speed limits, etc.) positively or negatively impact equity?

¹ Involves working with partners, including the National Highway Traffic Safety Administration (NHTSA), to link crash data and injury health data.

Thank you!

Discussion

The findings and conclusions in this presentation are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

