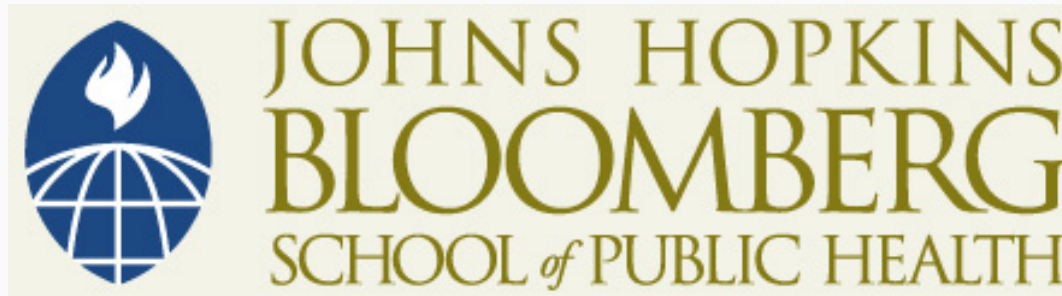


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*How Did an Air Bag Get into My Steering Wheel?
A Case Study in Injury Prevention Policy*

Shannon Frattaroli, PhD, MPH
Johns Hopkins University

- Overview
 - Apply Bardach's framework to the U.S. motor vehicle injury problem
 - Review air bag policy history
 - Analyze the political, policy, and legal ramifications for pursuing mandatory air bag policy in the U.S.



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Section A

Motor Vehicle Injuries as a Public Health Issue

Air Bag Policy in the U.S.—An Introduction

- Injury is a leading cause of death and disability
- Motor vehicle injuries are the leading cause of injury mortality
- Motor vehicle injuries are the leading cause of death for people 4–33 years old
- Over 90 percent of transportation fatalities are traffic related
- Motor vehicle crashes caused more than 40,000 deaths and more than 3 million nonfatal injuries in 2001

The Problem

- Too many people die and are seriously injured as a result of motor vehicle crashes
- Technology is available to protect motor vehicle occupants from “secondary crash”
 - How best to bring that technology to the market is a subject of debate

■ Mortality

- During the 1980s, approximately 45,000 died annually as a result of motor vehicle injuries
- Motor vehicle–related deaths are the largest source of injury deaths
- About one-third of motor vehicle deaths occurred among 15–24 year olds

- Epidemiology of car crashes
 - Multiple risks factors have been linked to crash risk and injury severity
 - ▶ Road conditions, driver factors, vehicle characteristics

- Epidemiology of car crashes
 - More than 60 percent of motor vehicle fatalities involve front-end or front-corner collisions; in comparison, less than 5 percent of rear and rear-corner impact crashes result in death to the occupants

- Economics
 - Motor vehicle injuries were estimated to cost approximately \$49 billion in lifetime costs in 1985



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Section B

Continuing with the Policy Analysis Procedure

Air Bag Policy in the U.S.—Alternatives

- Air bags
- Safety belts
- Driver education
- Enhanced enforcement of existing drinking and driving laws



The Criteria

- Reduce deaths
- Reduce severity of injuries
- Easy to use
- Ready to implement
- Universally applicable
- Affordable
- Easy to maintain

Air Bag Policy in the U.S.—Projected Outcomes I

	Air bags	Safety belts	Driver education	Enforcement
Reduce deaths				
Reduce injury				
Ease of use				
Ready to implement				
Universal				
Affordable				
Easy to maintain				

Projected Outcomes II

	Air bags	Safety belts	Driver education	Enforcement
Reduce deaths	++	++	0	+
Reduce injury	++	++	0	+
Ease of use	+++	+	0	+
Ready to implement	+	+	+	++
Universal	+++	++	+	+
Affordable	+	++	+	++
Easy to maintain	++	+	+	++

Projected Outcomes II

	Air bags	Safety belts	Driver education	Enforcement
Reduce deaths	++	++	0	+
Reduce injury	++	++	0	+
Ease of use	+++	+	0	+
Ready to implement	+	+	+	++
Universal	+++	++	+	+
Affordable	+	++	+	++
Easy to maintain	++	+	+	++

Projected Outcomes III

- Post-assessment policy alternatives
 - Air bags
 - Safety belts

Projected Outcomes IV

- Government and industry projections on effectiveness of air bags
- Controversy between pro-regulatory community and auto industry

Projected Outcomes IV

- Government and industry projections on effectiveness of air bags
- Controversy between pro-regulatory community and auto industry

Air Bag Policy in the U.S.—Trade-offs

- Considering the public's health
 - From a public health perspective, we are interested in the secondary crash, or the collision that occurs inside the involved cars in response to crash forces
- Maximizing resources

- Mandatory air bag policy

Air Bag Policy in the U.S.—Story

- Elements of a story in support of mandatory air bag policy
 - A motor vehicle death that could have been prevented with an air bag
 - Emphasize the magnitude of the problem
 - Emphasize the preventability of the problem
 - Need for government intervention to assure minimum safety standards; don't want technology differentially applied
 - Passive protection and low seat belt usage
 - Universal impact—everyone spends time in a car



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Section C

What Really Happened with Air Bag Policy?

Air Bag Policy in the U.S.—Part Two

- How air bag policy happened
 - Beyond Bardach
- Policy analysis skills—analyzing political, policy, and legal ramifications of the decision

- Chronology of air bag policy
 - Setting
 - Innovation
 - Action

- Chronology of air bag policy
 - Resistance
 - Inaction
 - Response

- Chronology of air bag policy
 - Resistance
 - Inaction
 - Response

- Chronology of air bag policy
 - Final rule
 - Standard 208



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Section D

Role of Regulation, Legislation,
and Litigation in the Policy Process

Air Bag Policy in the U.S.—Overview of Policy Tools

- Regulation
- Legislation
- Litigation

Examples of Regulatory Actions

- Government interest
- Department of Transportation role in standards regarding air bags
- Consideration of industry petitions for delay
- Consideration and negotiation of voluntary action by industry
- Research

Litigation

- Auto industry vs. government
- Insurance industry vs. government
- Individuals vs. industry

Litigation

- Auto industry vs. government
- Insurance industry vs. government
- Individuals vs. industry

Examples of Legislative Actions

- Amend and create legislation providing regulatory authority
- Commission GAO reports
- Respond to use of regulatory authority
- Pass laws specifying standards



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Section E

Update and Lessons Learned

Air Bag Policy in the U.S.—Post-mandate

- Ongoing debate and new technology
 - Children and small-stature adults
 - ▶ On-off switch
 - ▶ De-powered air bags
 - ▶ Smart air bags
 - Side impact air bags

Air Bag Policy in the U.S.—Post-mandate

- Ongoing debate and new technology
 - Children and small-stature adults
 - ▶ On-off switch
 - ▶ De-powered air bags
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 - Side impact air bags

- Role of multiple strategies and perspectives to accomplish this aim
- Relationship between industry and advocacy
 - Costs and benefits of adversarial relationships?
- Policy is not a finite process (Beyond Bardach)
 - Implementation
 - Revision

Lessons for Public Health Policy

- Role of multiple strategies and perspectives to accomplish this aim
- Relationship between industry and advocacy
 - Costs and benefits of adversarial relationships?
- Policy is not a finite process (Beyond Bardach)
 - Implementation
 - Revision

- Science and statistics
 - Different standards of proof
 - Difficulty in predicting future impact
 - Range of estimates and power of assumptions

Message to Future Policy Professionals

- Patience
- Persistence
- Flexibility
- Perspective