Chapter 20
Impaired Driving as a Public Health Concern and Healthcare Technology Approaches

Quatavia McLester

 https://orcid.org/0000-0003-1596-0517

Capitol Technology University, USA

ABSTRACT

Drunk driving remains a pervasive issue in the United States, resulting in the tragic loss of approximately 28 lives daily, with over 10,000 annual fatalities over the past decade. While existing measures and interventions have shown some effectiveness, they remain insufficient in addressing the multifaceted nature of this public health crisis. Therefore, this inquiry endeavors to explore and develop cutting-edge healthcare technologies and public health strategies to reduce drunk driving incidents and alleviate their profound societal impact. This public health inquiry adopts a perspective paper format, synthesizing contemporary methodologies and insights from industry practices and academic literature. By exploring the development and implementation of innovative healthcare technologies and public health interventions, this chapter contributes to advancing the field and enhancing road safety nationwide. This holistic approach seeks to mitigate the devastating consequences of drunk driving, ultimately protecting individuals, families, and society.

INTRODUCTION

Alcohol is a significant factor when it comes to traffic accidents. Each day, approximately 28 people in America die in car crashes involving drunk-driving incidents, as reported by the National Highway Traffic Safety Administration (NHTSA) (NHTSA, 2021a). Over the ten years from 2010 to 2019, the NHTSA revealed that more than 10,000 individuals tragically lost their lives each year in drunk-driving accidents (NHTSA, 2021b). Notably, 2019 saw a positive shift in the trend of drunk-driving fatalities in the United States, with the number of deaths reaching its lowest level since 1982, when the NHTSA first started collecting data on such fatalities. Specifically, there were 10,142 drunk-driving-related fatalities in that year (NHTSA, 2021b).

Considering various facets of this issue, it is crucial to provide an overview of the prevailing drunk-driving statistics. Approximately one-third of car crash fatalities in the United States involve drivers impaired by alcohol, as confirmed by the NHTSA (NHTSA, 2021a). The economic impact of alcohol-related car accidents is substantial, with the annual cost exceeding $44 billion, according to the Centers for Disease Control and Prevention (C.D.C.) (C.D.C., 2021). In 2018, alcohol-impaired drivers took to the roads roughly 147 million times, underscoring the scale of this public safety concern (C.D.C., 2021).

Drunk driving is particularly perilous at night, as demonstrated by data from 2017, where 32% of all drivers involved in fatal nighttime crashes were found to be under the influence of alcohol (NHTSA, 2021a). Furthermore, a concerning trend emerges regarding the timing of these incidents, with nearly twice as many alcohol-related and fatal car crashes occurring during the weekends (NHTSA, 2021a). Gender disparities also come to light, with data indicating that in 2017, there were four male alcohol-impaired drivers for every female driver involved in such crashes (NHTSA, 2021a).

The year 2019 saw 50,930 drivers involved in fatal car crashes, with an estimated 19% being alcohol-impaired (NHTSA, 2021b). The prevalence of alcohol-impaired drivers involved in fatal car crashes varies by state, ranging from 11% in Utah to 34% in Rhode Island (NHTSA, 2021a). These statistics underscore the need for targeted interventions and public awareness campaigns to combat drunk driving effectively.

Concerningly, a significant number of teens admit to engaging in drunk driving behaviors. The latest Centers for Disease Control and Prevention High School Youth Risk Behavior Survey revealed that about 6% of teens reported driving while drinking within the past 30 days, including 7% of males. Moreover, nearly 17% of surveyed teens acknowledged being passengers in cars driven by individuals who had been drinking (C.D.C., 2021).

The impact of alcohol on traffic safety is further evident in the overall fatality rates. In 2018, 29% of all traffic fatalities were attributed to alcohol-impaired crashes (NHTSA, 2021a). Even amidst the COVID-19 pandemic, alcohol's role in traffic accidents persisted, with police reporting alcohol involvement in 9% of crashes in 2020, as indicated by the NHTSA's traffic statistics analysis (NHTSA, 2021b). The pandemic's effect on the prevalence of alcohol-related accidents is noteworthy. From March 17, 2020, through September 30, 2020, about 27% of drivers were involved in severe or fatal alcohol-related crashes, compared to 21% from September 10, 2019, through March 16, 2020 (NHTSA, 2021b). This shift underscores the complex interplay between alcohol consumption and traffic safety, even during reduced traffic volume.

PROBLEM STATEMENT

The problem of drunk driving continues to take a heavy toll on American society, with approximately 28 lives lost each day in car crashes linked to alcohol impairment (NHTSA, 2021a). Over the past decade, from 2010 to 2019, this issue has consistently resulted in an annual loss of over 10,000 lives (NHTSA, 2021b). This staggering loss of life and the associated public health and safety risks highlight a pressing concern requiring immediate attention and action. The existing measures and interventions have shown some effectiveness but remain insufficient in fully addressing the complexity of this problem. Therefore, there is a compelling need to explore and develop innovative healthcare technologies and public health strategies to combat the persistence of drunk driving and mitigate its devastating consequences on individuals, families, and society. This inquiry aims to delve into developing and implementing new healthcare technologies and public health interventions that can substantially reduce the incidence of drunk driving, thus advancing the field and enhancing safety on American roads.

17 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/impaired-driving-as-a-public-health-concern-and-healthcare-technology-approaches/336901

Related Content

Precision Medicine: Insights From Case Studies and Cutting-Edge Technologies
N. L. Swathi, Madhurita Chakrabarti, Muhammad Muzzamil, Hiba Hamdar, Ahmad Jaber, Amarelle Chamoun, Fatima Al Aminand Pooja Rathod (2024). *Medical Robotics and AI-Assisted Diagnostics for a High-Tech Healthcare Industry (pp. 257-280).*
www.irma-international.org/chapter/precision-medicine/341122

Telehealth as an Innovative Supply Chain and Logistics Management Approach
Darrell Norman Burrell (2022). *International Journal of Health Systems and Translational Medicine (pp. 1-9).*
www.irma-international.org/article/telehealth-as-an-innovative-supply-chain-and-logistics-management-approach/306971

Topical Use of Plant Extract-Based Oil Blend in Relieving the Symptoms of Primary Dysmenorrhea: An Independent Clinical Study
Amul S. Bahl (2021). *International Journal of Health Systems and Translational Medicine (pp. 47-61).*
www.irma-international.org/article/topical-use-of-plant-extract-based-oil-blend-in-relieving-the-symptoms-of-primary-dysmenorrhea/270953

Organizational Development Focused on Improving Job Satisfaction for Healthcare Organizations With Pharmacists
Amalisha Sabie Aridi, Darrell Norman Burrelland Kevin Richardson (2023). *International Journal of Health Systems and Translational Medicine (pp. 1-15).*
www.irma-international.org/article/organizational-development-focused-on-improving-job-satisfaction-for-healthcare-organizations-with-pharmacists/315297

Design and Development of EMG Conditioning System and Hand Gesture Recognition Based on Principal Component Analysis Feature Reduction Technique
P. Geethanjali (2014). *Applications, Challenges, and Advancements in Electromyography Signal Processing (pp. 304-320).*
www.irma-international.org/chapter/design-and-development-of-emg-conditioning-system-and-hand-gesture-recognition-based-on-principal-component-analysis-feature-reduction-technique/110769