Drunk Driving: Existing Programs Fail to Stop the Problem

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Drunk Driving: Existing Programs Fail to Stop the Problem


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# Abstract

Drunk driving is a national pandemic that is occurring on the roadways in the United States.  There have been over 10,000 deaths each year as a result for drunk driving occurring (National Highway Traffic Safety Administration, NHTSA 2019).  While current drunk driving prevention methods have contributed to reduction as seen in 2014 with only 9,000 deaths.  Since 2014 the number of deaths resulting from drunk driving is steadily increasing each year (Foundation for Advancing Alcohol Responsibility, 2018). This shows that the current methods have reached a peak of reduction and is not on the increase showing they are no longer effective.  While some current methods such as DUI checkpoints and Breath Alcohol Ignition Interlock Devices are effective just underutilized and not put into effect earlier enough to succeed in true prevention.  This paper will address the effective but underutilized programs along with recommending new prevention methods and prevention strategies.

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<center>**Introduction**</center>

**Statement of The Problem**

        In the United States, drinking alcohol has been a sociably accepted practice and has become part of some people's daily routine. Driving under the influence or also referred to as drunk driving has been a problem within the United States for over 100 years since alcohol and the motor vehicle became entangled. With alcohol easily accessible to those over and under 21 years old, the legal limit, the opportunities are endless to drive a motor vehicle intoxicated.

**Brief Discussion of Drunk Driving**

        In the United States drunk driving laws did not come into existence until New York passed the first law in 1910 (History, 2018). Prior to 1939, drivers were evaluated by law enforcement for intoxication based on observations from an interview of the driver along with their performance on a certain set of sobriety tests (Voas & Lacey, n.d). Dr. Harger invented the Drunkometer in 1936 allowing blood alcohol concentration to be measured (Castaldi, 2016). This device would allow people to blow into a balloon-like device to determine their intoxication level by the color of the air when mixed with a chemical solution (Castaldi, 2016).

        Alcohol concentration was not considered until 1939 Indiana become the first state to provide a chemical test followed by Maine, New York and Oregon (Voas & Lacey, n.d). The American Medical Association (AMA) established the first blood alcohol concentration of .15% (Voas & Lacey, n.d). The research provided evidence that people with the blood alcohol concentration of .15 or greater can be presumed to be intoxicated. The AMA established that blood alcohol concentration levels of .05 to .15

were competent evidence of impairment when supported with other factors such as testimony (Voas & Lacey, n.d). These blood alcohol levels remained the standards on alcohol impairment for decades levels but the ways of measuring the alcohol concentration changed in 1953 with the development of the Breathalyzer. Robert Borkenstein developed the Breathalyzer, which was a portable device that could be used for enforcement of drunk driving (Castaldi, 2016). This allowed law enforcement to have a tool in the field to measure BAC from an offender prior to transporting them to another location to use the Drunkometer.

While the technology for in the field evaluating a blood alcohol level was developed so was the technology for obtaining a certified or evidence based sample from the intoximeter systems. In the late 1970s the Intoximeter was introduced as an evidential fuel cell instrument (Intoximeters, 2018). Along with the further development of computer technology, intoximeter integrated this technology as well and the Intoximeter IR 3000 was developed (Intoximeters, 2018). In 1993 the development of Intox EC/IR set the standard for the evidential fuel cell based systems with its infrared based analyses (Intoximeters, 2018). In 2004, the newest version of Intox EC/IR was the development of Intox EC/IR II, which is used, in statewide programs (Intoximeters, 2018).

Any law will change over time and with the driving under the influence laws initial limit of .15% being presumed impaired was starting to change in 1998. The federal government offered a federal grant to encourage states to adopt a legal limit of .08 (U.S Department of Transportation, n.d). By 2004, Congress adopted the legal limit of

.08 BAC as the national standard (Foundation for Advancing Alcohol Responsibility, 2019).

**Alcohol Effects on an Individual**

Alcohol affects each individual person in the same way when it is consumed; the only difference is how quickly alcohol will cause a person to become intoxicated. Alcohol has the same intoxicating effects when it is over consumed but how the person digests the alcohol will be different for everyone.  There are several characteristics that can have an effect on how alcohol is absorbed differently.  Common characteristics that will affect be differently can be sex, height, weight, what prescription medications someone is taking or whether or not the person is drinking on an empty stomach (Paton, 2005).

The most common difference between each individual drinking alcohol would be how much alcohol and how frequently the alcohol is consumed.  This is the most important aspect of alcohol consumption is the amount and frequency because reaching intoxication level can occur quicker with more alcohol consumption at a faster pace compared to over a long period of time.  The frequency of how often a person drinks alcohol can affect absorption as well; those that drink everyday versus someone that socially drinks will have different absorption rates.  Heavier drinkers will have a different absorption rate due to their body being more adjusted to processing alcohol (Paton, 2005).

After understanding how alcohol absorption occurs within the body the next step is to understand the blood alcohol concentration (BAC) levels.  The legal limit of .08 will occur after several drinks consumed within an hour.  The liver can process about 1

alcohol drink per hour and anything more then that will cause the BAC levels to rise (University of Notre Dame, 2019). With the rise of the BAC level different affects will start to occur within the body.  When a person achieves a BAC level of .02% the body will start to feel relaxed with their mood starting to be altered (National Highway Traffic Safety Administration, 2018).  The most important effect that starts to occur at this level is the start of loss of judgment (National Highway Traffic Safety Administration, 2018).  The loss of judgment starts to occur early with alcohol consumption and this can have an impact on later outcomes with judgment being effected.  At this BAC level there are driving effects that take place such as there is a decline in visual functions such as not being able to track rapid movement targets and the ability to perform two tasks at once (National Highway Traffic Safety Administration, 2018).

At a .05% BAC level, which is slightly under the legal limit, there is a substantial difference from the previous .02% BAC level.  At .05% movements will become more exaggerated such as getting louder or using more gestures and focusing vision becomes more difficult (National Highway Traffic Safety Administration, 2018).  This is the level where judgment is impaired and coordination is reduced (National Highway Traffic Safety Administration, 2018).  At this level driving abilities are affected because with coordination reduced individuals are not able to react as quickly as they could without alcohol in their system.

At the level of .08% BAC it is illegal to operate a vehicle because the alcohol affects are substantial.  At this level the muscle coordination such as balance, speech, vision, hearing and reaction times becomes poor and danger is harder to detect (National Highway Traffic Safety Administration, 2018).   At this level the danger to not drive a

vehicle is no longer present because the alcohol has affected this judgment and this becomes the problem with alcohol consumption at this level.  The driving ability is affected in that short-term memory is lost due to the alcohol consumption, speed control is affected and reaction ability has been compromised by the alcohol consumption (National Highway Traffic Safety Administration, 2018).  As the BAC levels increase from .08% the dangers increase.  While someone may be physically able to drive the ability to process any information while driving the vehicle will no longer exist and it just becomes an object in motion in the roadway because the ability to drive cautiously or effectively will no longer be present.

**Drunk Driving Effects on the Roadway**

Drunk driving not only effects the intoxicated person operating the vehicle but it also effects the citizens that are present during the operation of a vehicle by an impaired driver.  Innocent citizens often become victims of a drunk driving crash either from being the vehicle the intoxicated person hit, being inside the intoxicated driver's vehicle or being outside near the roadway and hit by a drunk driver.  Nearly 29 people a day in 2016 died as a result from an alcohol-related traffic crash (U.S Department of Transportation, 2017).  Looking at this daily number that is just over 1 person per hour everyday that will die from a drunk driving crash.  This number is way too large for a crime that can be prevented by taking extra steps in protecting the innocent citizens from the drunk drivers.  Drunk driving claims over 10,000 deaths per year since 2010 and it is costing $40 billion from deaths and damages as a result of a traffic crash (U.S Department Of Transportation, 2018).

Examining the effects alcohol has on a person while placing them behind a motor vehicle is important in order to affirm the current laws and providing enough data showing the important of keeping the current laws or strengthening them.  Research has shown that a BAC ranging from .06 to .099% there is impairment of balance, vision and reaction time is reduced along with your judgment is affected (University of Notre Dame, 2018).  This shows that at the level of just below the legal limit to just above the legal limit there is a significant impact on a person's ability to drive a motor vehicle.  At a BAC of .10% and above the impairments are more significant in the motor coordination with the loss of good judgment, balance and reaction time affected (University of Notre Dame, 2018).

**Statistics**

In 2015, 86.4 percent of people 18 years or older reported that they have consumed alcohol in their life (National Institute on Alcohol Abuse and Alcoholism (NIAAA), 2018).  According to the National Survey on Drug Use and Health (NSDUD), in 2015, 70.1 percent of people reported drinking alcohol within that past year. A report by the National Highway Traffic Safety Administration revealed that around 17 million people in the past year have admitted to driving while intoxicated (Anonymous, 2010).  These statistics have shown there are a significant amount of people that have consumed alcohol in their lifetime but also a significant amount of people that have consumed just within the past year.   When examining those statistics there is a large number of people that could potentially get behind the wheel of a vehicle intoxicated and drive.

Drunk driving has been on the decline over the past three decades but still is the cause of over 10,000 deaths from vehicle collisions according to the National Highway Traffic

Safety Administration (2017).   While drunk driving related deaths declined between 1982 and 2014 with over 21,000 deaths and over 9,000 deaths respectively, the death totals have started to increase since 2014 (Foundation for Advancing Alcohol Responsibility, 2019).  Since the 2014 low there has been a slight increase in the number of deaths from drunk driving crashes to over 10,000 deaths each year since (Foundation for Advancing Alcohol Responsibility, 2019).

**Methods of Control**

Drunk driving fatalities are preventable deaths. The rise in the number of deaths since 2014 shows that the current methods of preventing these deaths are no longer as effective.  Currently informal control methods are being used to create public awareness through state and national campaigns.  For an example, the Saving Lives Project was enacted in Massachusetts with the goal to provide awareness to preventing drunk driving. It was successful at reducing fatal crashes by 33% but that did not reduce the number of drunk driving crashes overall in its five year existence (Kelly-Weeder, Phillips & Rounseville, 2011). Comparing the number of fatalities in Massachusetts this decline was 42% greater than observed for the rest of the state (Kelly-Weeder, Phillips & Rounseville, 2011).

Formal control methods have also been used to try to prevent drunk driving. These methods include the use of sanctions from the government to aid in preventing this crime. Unlike informal control, formal control can place sanctions on a person for committing the crime rather then just making a statement - hoping people will listen and follow the advice given on to not drink and drive.

General deterrence has been the primary basis for formal sanctions related to reducing instances of driving under the influence. General deterrence methods used are standardized breath alcohol levels, criminal charges, and Ignition Interlock Devices being used. Zero Tolerance is another example of general deterrence for those not legal to drink alcohol but still consume alcohol and drive. Zero Tolerance reduced drunk driving fatalities from 50.6 percent in 1990 to 42 percent in 2009 (Chambers, Liu, & Moore, 2017). However general deterrence tactics have failed to prevent driving under the influence from occurring but has continued to fail to prevent the crime from decreasing any further. According to Chambers, Liu, & Moore (2017), it was estimated that 4 million adults reported driving under the influence at least once creating nearly 112 million driving incidents where they were under the influence. That is a staggering amount of impaired drivers on the roadway even after all of these formal control methods have been put in place.

The true challenges of creating a method that prevents this offense is challenging in that alcohol is legal for adults over 21 and alcohol is easily accessible. What makes this truly challenging is that alcohol affects a person's judgment and decision-making process with the more alcohol consumed. According to University of Notre Dame (2018), with a breath alcohol amount of just .04 your loss of judgment starts to occur. This means that the chances of making a safe decision starts to minimize and rational thought starts to disappear. And that is only half of the legal limit amount allowed under law where judgment and decision making processes are affected. Creating successful formal control methods can help take away the need to make rational choices after drinking alcohol and

individuals make the proper choice not to drive prior to consuming the alcoholic beverage.

**Purpose of the Research**

The purpose of the study is to bring awareness to how current methods with formal control methods being used to prevent drunk driving are not working to decrease drunk driving related crashes and deaths. While these programs have decreased drunk driving fatalities the methods have hit a plateau and death rates are starting to increase. Common formal control methods that exist are after the arrest for drunk driving have occurred such as the BAIID (Breath Alcohol Ignition Inter-Lock Device) programs, DUI Courts, attending treatment facilities or going to support groups. These methods are designed for after arrest in prevention for re-offending. The purpose of this study is to examine the current formal control methods being used and provide recommendations for new formal control measures in aiding to reduce drunk driving.

**Significance of Research**

The significance of the study is to identify new methods for making formal control methods more successful along with implementing new measures and modifying current ones. The importance of improving these measures will have a positive impact on decreasing drunk driving fatalities and prevent drunk driving from occurring. With addressing the limitations these programs have, recommendations for creating a more successful formal social control method. The goal of preventing drunk driving can be achieved with understanding how to apply these changes.

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**Literature Review**

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**What is Drunk Driving**

Drunk driving is defined as driving a vehicle while under the influence of alcohol or drugs (DUI).  There are multiple different terms that can be used for explaining impaired driving such as driving under the influence (DUI), operating while intoxicated (OWI), driving while intoxicated (DWI) or the commonly used drunk driver term.  While the definition should seem straightforward the word drunk or intoxicated needs to be further described for legality purposes.  It is important to examine the legal definitions of intoxication and under the influence.   As with other crimes the criminal element of intent or knowingly will be present in a legal definition of a crime against a person or property but that does not exist with DUI laws.  Under Illinois vehicle laws the definition of driving under the influence is defined as, "a person shall not drive or be in actual physical control of any vehicle within the state while under the influence of alcohol" (Illinois General Assembly, 2019).  This criminal offense does not require the person to be knowingly intoxicated while operating a vehicle.  In order to arrest a person for drunk driving, a person has to be determined to be intoxicated through a series of field sobriety tests that are conducted to observe potential indicators of impairment.

Intoxication is loosely interpreted and to complicate the issue further each state has a different definition for what they define as under the influence or intoxicated.  In Wisconsin under the influence is defined as follows, "when his or her ability to operate a motor vehicle is impaired, a person's ability to operate a motor vehicle is impaired if he or she is less able to safely control the vehicle because of the consumption of alcohol" (State of Wisconsin Department Of Transportation, 2018).   Wisconsin criminal statue 346.63 states, "No person may drive or operate a motor vehicle while the person has a prohibited alcohol concentration" (Wisconsin State Legislature, 2018).  In Illinois there is

no set definition for under the influence but according to the jury instructions approved by the Illinois Supreme Court it is defined as, "a person is under the influence of alcohol when, as a result of drinking any amount of alcohol, his mental or physical faculties are so impaired as to reduce his ability to think and act with ordinary care" (Azhari, 2010).

Comparing both of the definitions for Wisconsin and Illinois the similarities were that an individual only has to be seen driving a motor vehicle while under the influence. While either being in control of a vehicle or driving a vehicle are similar but the actual definition are vaguely described with the words impairment.

The National Highway Traffic Safety Administration (NHTSA) (2018) has identified the problems with higher BAC level effect while operating a vehicle on the roadway. The blood alcohol concentration (BAC) has gone through a lot of change over the years as the DUI laws changed. Initially to be considered legally intoxicated the individual needed a BAC level was .15% Moskowitz and Fiorentino (2000) completed a study on the effects of alcohol impairment and concluded at a .08% level there was a 94% reported impairment. This study completed showed at a .08% BAC there was a reported physical and mental effect from the alcohol level (Moskowitz & Fiorentino, 2000). This study concluded that a person is impaired at a .08% level (Moskowitz & Fiorentino, 2000).

In October 2000, the Department of Transportation's 2001 Appropriations Act (HR4475) was passed forcing all states to have a .08 per se law by 2004 (National Highway Safety Transportation Administration, n.d). With enacting HR4475 this allowed a set standard for the alcohol level determination of legal intoxication.

Establishing a legal intoxication level allows the use of BAC as an indicator of impairment.

**Statistics about Drunk Driving**

While overall since 1982 drunk driving has been on the decline from over 21,000 deaths to only over 9,000 in 2014 but the death total has started to increase since 2014 (Foundation for Advancing Alcohol Responsibility, 2018).  Since 2014 the lowest number of deaths from drunk driving crashes, there has been a slight increase to over 10,000 deaths each year since (Foundation for Advancing Alcohol Responsibility, 2019). 30 people everyday or almost every 48 minutes in the United States will die as a result from a drunk driving crash (National Highway Traffic Safety Administration, 2018). Everyday in the United States there are over 300,000 people that will drink intoxicated on the roadway with only 3200 of them that will be caught (Mothers Against Drunk Driving (MADD), 2019).  That is a staggering amount of intoxicated drivers on the roadway that are a potential risk to others in causing harm too.

With the number of deaths have plateaued around 9,000 but since they have never declined further it shows that the current prevention strategies and programs are no longer working or effective in the prevention.  Initially with the decrease of deaths occurring from the higher 21,000 per year to the lowest point shows that these programs were effective in that the numbers were on the decline after being put in place.

These strategies or programs have not changed significantly since they have been created which could also lead to the problem of no longer being effective as people have become to use to the prevention programs or no longer believe in the program.  While laws do not change substantially once they are created and only have slight changes that

are usually not even noticeable because the element of the crime is still present but often only penalties or sentencing length may be the only change. The other difference is that people may no longer view the problem at hand as a big enough problem anymore or they do not believe they will be affected by it not stopping it from occurring.

**How Is Drunk Driving Detected**

The effort to combat the national problem of driving under the influence has been ever evolving to try to reduce and stop this preventable crime. Since the combination of alcohol and vehicles, the crime of drunk driving was created. With the creation of driving under the influence laws there had to be measures created in being able to identify someone as intoxicated. The first step in detecting an impaired driver prior to making contact with the driver is to observe driving behaviors associated with impairment. According to National Highway Traffic Safety Administration (2018) there are several common traffic laws that are indicators of possible impairment such as maintain lane positions, or speed or braking problems. Other indicators of possible impairment would be abnormal driving behaviors such as stopped at a green light, driving against traffic in the wrong traffic lane or forgetting to use your headlights while driving at night.

Standardized Field Sobriety Tests (SFST) were developed in the 1980's in order provide a standardization way to be able to provide a way to show intoxication of person operating a motor vehicle (National Highway Traffic Safety Administration, 2015). Prior to Standardized Field Sobriety Tests (SFST) the only method of examining a drunk driver would be from the interview with the driver and the driving behavior from either a traffic violation or a traffic crash.

The SFST were developed and tested in order to bring a standard method for law enforcement to use in evaluating someone to being impaired.  These methods have been validated by other agencies in the effectiveness of these tests in order to show these tests are not only very effective but also accurate when examining the clues.  Stuster & Burns (1998) performed tests on 297 motorists that had a BAC ranging from .117 to .122 percent and there was a 91 to 94 percent success rate on detecting when motorists were at least at .08 BAC level.  The results of the study were used in help to provide clear evidence in validating the standardized field sobriety tests being used to establish probable cause (Stuster & Burns, 1998).

With standardized field sobriety tests being used as the single way to evaluate drivers there are different methods employed in trying to locate these impaired driver's on the roadway.  These methods employed can be roadside safety checks, targeted patrol enforcement, and increased enforcement efforts through grants.  There are post arrest prevention strategies as victim panel programs and ignition interlock devices that are being used after an arrest for driving under the influence.

Roadside safety checkpoints are one strategy not commonly used in every state because there are different opinions on allowing using this technique.  Roadside safety checks and sobriety checkpoints are also known as DUI checkpoints which are specific locations that law enforcement will set up a place to stop vehicle traffic.  DUI checkpoints have law enforcement officers stationed and will stop vehicle traffic briefly to speak with the driver to detect any alcohol odor present during the brief contact.

Vehicles are not stopped long so this process can remain legal because the stop is short and does not infringe on rights (Michigan Department of State Police v. Sitz. (N.D).

Targeted patrol enforcements are used in order to create deterrence for drunk driving with higher visibility. With the police targeting areas that are known for drunk driving such as common business streets or neighborhoods with bars present can be places for targeted enforcing. Targeted enforcement allows police to put themselves in places where the likelihood of discovering an impaired driver is applicable. According to Fell, Waehrer, Voas, Auld-Owens, Carr & Pell (2014) increased drunk driving enforcement reduces drunk driving related traffic crashes compared to non-drunk driving related crashes.

Along with targeted enforcement is high visibility enforcement. This is similar in that visibility of law enforcement serves the purpose of creating deterrence but unlike-targeted enforcement, high visibility is an increased number of law enforcement officers present that what is normally present. Grants for specialized increased visibility enforcement are used in order to combat drunk driving with a goal of on locating impaired drivers.

## Current Methods of Curbing Drunk Driving

### General Deterrence Theory

General deterrence is used order to stop deviant behavior from occurring. General deterrence is used into making someone choose a non-deviant behavior with them knowing the consequences that can occur if caught in the act. General deterrence is used to stop a person from committing a specific offense such as stopping them to

commit a drunk driving occurrence.  General deterrence is different in that it focuses not on just a single individual but address everyone in creating a law with severe sanctions in to order to prevent crime from occurring or re-occurring (Tomlinson, 2016).

General deterrence is used with trying to stop drunk driving from occurring by placing specific penalties and sanctions for those that choose and get caught drinking and driving.  According to Lapham & Todd (2012) suggests that punishment may decrease the likelihood of reoffending.

In some states harsher laws have been enacted in attempt to prevent those from considering to drink and drive. General deterrence can be applied in different ways and there is no set standard ways general deterrence can be applied when trying to achieve the same result of prevention of drinking and driving.  In Arizona there are mandatory jail terms and fines imposed for those that are caught drinking and driving for the first time (Arizona Department of Public Safety (ADPS), 2019).  There are other states such as Wisconsin that does not impose such hard penalties for the first time offense of being caught for drinking and driving.  In Wisconsin a first time offender will not be sentenced to any jail for any length of time (Wisconsin Department of Transportation (a), 2019). While both these states use deterrence to try to prevent the crime and they are both applied differently but they both still have the same common problem of they are failing to prevent the crime from occurring.  Both Wisconsin and Arizona are still having a large number of people arrested yearly for drinking and driving (Foundation for Advancing Alcohol Responsibility, 2019).

Drunk driving enforcement has employed a lot of different general deterrence methods with high visibility enforcement or checkpoints; another aspect of general

deterrence can be applied with the DUI laws that were created. Implied consent, setting

different driver's license sanctions, absolute sobriety laws for those under 21 and setting

national legal BAC levels. In Illinois, for example, implied consent means that anyone

who was driving a vehicle or in actual physical control of the vehicle has been deemed to

given consent for a breath, blood or urine test during an arrest for driving under the

influence (Voigt, 2019). The driver has a right to refuse on breath, blood or urine test but

under implied consent if there is a refusal there will be additional sanctions invoked on

the driver's license. Under Illinois law if someone was to refuse to breath, blood or urine

test his or her license is automatically suspended for one year or three years if there was a

previous conviction within the last five years (Voigt, 2019).

## Formal Control Methods

### DUI Check Points

Sobriety checkpoints are designed to prevent or stop drunk drivers from being on

the roadway by stopping vehicle traffic and having police make contact with every

passing driver. Once contact is made with the driver there is a brief assessment of the

driver to see if they have been drinking or not before they are allowed to leave. This

interaction is brief so it is considered non-intrusive. While the check points have been

brought to court for right infringements it was declared that they do not violate the Fourth

Amendment and are constitutional (Bodnar, 2008).

U.S Supreme Court case Michigan v. Sitz found that the use of roadside safety

checks does not violate the Fourth Amendment because of the limited interaction when

stopping all traffic to check for impairment (Voas & Fell, 2013). While the U.S Supreme

Court ruled that roadside safety checks could be used they allowed each state to decide

on whether or not they may implement the use of them (Fell, Lacey & Voas, 2004). While most of the states allow the use of roadside safety checkpoints there are many states that choose to not allow the use of roadside safety checkpoints. There are 13 states that do not allow for the use of checkpoints and 37 states allow them Fell, Lacey & Voas, 2004). Some states have outlawed checkpoints deeming them unconstitutional. For example, Wisconsin does not allow the use of sobriety checkpoints and that it is prohibited under their state statue (Advancing Alcohol Responsibility, 2019).

While the government has deemed it does not violate someone's rights, individual states have enacted laws banning them from being used. While only 37 states actually use DUI checkpoints while other states either do not use them or have found them to be illegal to use. Connecticut for an example allows check points to be used but do not frequently use them. There are many arguments against the use of checkpoints including them not being worth the amount of manpower needed to operate the checkpoint and overall ineffectiveness (Voas & Fell, 2013).

Checkpoints are used as a deterrent for getting those to considering driving after they have been drinking by being present. Checkpoints are designed to be noticed and to be broadcasted around the town in order to get the deterrent to be effective. Knowing the checkpoints exist also serves as the deterrent because drivers may feel that the likelihood of getting caught driving drunk is increased. Often the issue with checkpoints is that they are not used enough to prove as an effective source as a deterrent because they are not frequency used. In order to gain the full effect of the deterrent they would need to be used often so the visibility and the fear of one being setting up would become more relevant. Often these checkpoints are only used during DUI specific grants or holidays to

bring attention with increased vehicle traffic with the greater risk of a traffic crash occurring with more vehicles on the roadway.

**Implied Consent**

Implied consent laws were created as another drinking and driving enforcement action that can be taken against a driver. Implied consent means that when a person obtains a driver's license they have agreed to provide a chemical test of breath, blood or urine when requested by the police during a drinking and driving investigation (Voigt, 2019). After implied consent has been given if a driver refuses a test requested by the police there would be separate sanctions for the refusal. In Illinois there is a criminal charge for the driving under the influence and then there is a separate penalty for being over the legal limit. Additionally in Illinois if someone refuses to complete a certified breath, urine or blood sample under implied consent they will lose their license for 1 year just for the refusal for not providing breath, blood or urine. When a defendant has given a refusal, the refusal can be used against the defendant by trying to prove guilt by saying that refusal against them implying such refusal is a sign of guilt too (Voigt, 2019). Under implied consent if they refuse to complete the test that was requested it would be a one-year license suspension for their first offense (Voigt, 2019). If there is no refusal for the test then the punishment would not be as serve with following implied consent laws (Voigt, 2019).

**Zero Tolerance Laws**

Wisconsin's zero tolerance law is like many other states that does not allow for any amount of alcohol under the age of 21 in their system (Wisconsin Department of Transportation (b), 2019). Zero tolerance laws are created to try to stop underage

drinking and driving.  Underage drinking is a large problem with minors in that it is reported that approximately 7.7 million people from 12 years old to 20 years reported drinking alcohol (National Institute on Alcohol Abuse and Alcoholism, 2017).  This means that those under the legal drinking age are now potentially putting others at risk and they are not even the legal drinking age.  With those that are legal to drive are already putting others at risk the public has now have to worry about those not legal to drink as well putting others at risk when the operate a vehicle under the influence.

Zero tolerance laws are designed as a deterrent for stopping those under age from driving a vehicle if they have consumed alcohol.  Unlike DUI laws where the legal limit for a BAC is .08 or below, zero tolerance does not have a legal limit.  This means that the underage person cannot have a BAC over .00.  Any amount of alcohol detected is a violation of the law; the individual does not need to be impaired to be arrested for zero tolerance and the penalties differ for a zero-tolerance charge versus a DUI charge (Voigt, n.d).

This type of deterrence is a considered a specific type of deterrent in that it targets those under the legal drinking age and specifically applies to only those underage.  This is an additional deterrent for those underage to consider when they decide to drink and drive.  With the lower thresholds this deterrent can be more effective because impairment is not needed for this charge to apply to an underage person.

There are arguments that zero tolerance laws do not work because this only applies to a person that has been stopped by the police or have had police contact.  If no police contact was made then the law cannot be applied to an underage person.  In

Wisconsin in 2015 there were over 23,000 arrests for OWI and 1700 of those arrests were with defendants under the age of 21 (Wisconsin Department of Transportation (a), 2019).

**Strict Penalties**

Drunk driving laws were created in hope for serving as a deterrent by making it illegal to drive a vehicle intoxicated.  While laws serve as an attempt to stop deviant behavior from occurring often they only serve as a reminder of the consequences for being caught.  Having a law created and enforceable does not always stop deviant behavior from occurring.  Some states have more strict laws in order to try to gain compliance from a person to not commit the crime.  These stricter laws are designed to try to stop or get someone to re-think their actions knowing that if they were caught the severe consequences would not be worth it.  Many times people will evaluate the risk versus the reward in contemplating whether or not they will do something that could have a negative effect on their life.  Stricter laws regarding driving while intoxicated can be of those in that if they are caught the punishment would be severe, which could ultimately cause someone to change their mind on doing that action.  In comparison states with less strict laws would not stop someone from driving intoxicated if the punishment was something they could accept or view as not enough deterrence to stop them.

Arizona drunk driving laws are some of the strictest in the United States.  Arizona has placed not only fines for a person that is arrested for a DUI offense but also several other sanctions as well.  In Arizona with your first offense DUI that is a minimum jail sentence of 24 hours but can up to 10 days (Arizona Department of Public Safety (ADPS), 2019).  Along with having to serve jail time there is a fine imposed with a license suspension in-between 90 days to 1 year (Arizona Department of Public Safety,

ADPS, 2019).  The ignition interlock device is also required in Arizona with a first

offense DUI arrest unlike other states that do not require it after the first offense.  In

comparison with Arizona, Florida has strict laws as well that are enforced for first time

offenders.  In Florida a first time offender can serve up to 9 months in jail along with

their license being suspended for 6 months (HG, 2014).


## Informal Control Methods

### Awareness Campaigns

   Awareness campaigns are used to target the public in influencing them on making

decisions that are socially acceptable.  Awareness campaigns can reach a large amount of

people in a short amount of time.  These campaigns are condoning negative deviant

behavior and in trying to prevent these deviant acts from occurring.  With addressing

these deviant behaviors as a negative it is trying to influence the public to agree with

these and preventing them from occurring.  Using these methods the goal is to have an

impact on public opinion getting them to react on preventing this crime from occurring

without governmental pressures forcing them to change (Rosenfeld, 2017).  This method

is very non-intrusive compared to other measures that are forcing a change of behavior

with government influence.

   Drive sober or get pulled over is a nationally well-known campaign that promotes

drivers to not operate a motor vehicle while they have been drinking.  This campaign

promotes drivers to drive when they have had no alcohol in there system otherwise they

will be pulled over if they have been drinking (National Highway Traffic Safety

Administration, 2019).

**Victim Panels**

Victim panels are not a new technique used for crime victims and criminal offenders to interact in aiding the recovery process for the victims and to stop offenders from re-offending. The goal of is this program is to allow the victims to and offenders to interact in a controlled environment where the victims are allowed to explain what happened to them or someone that was a friend of family member and the suspect having to listen to the negative impact the offender has caused them. This is used to try to show the offender how they affected their lives in hopes of getting them to connect and not to re-offend.

In 1982 Mothers Against Drunk Driving (MADD) introduced victim panels in attempt to reduce the occurrence of drunk driving (Rojek, Coverdill, & Fors, 2003). The victim panels were introduced as a way for drunk driving victims to express how the offender has impacted their lives without criticizing the drunk drivers action (Rojek, Coverdill, & Fors, 2003). Drunk driving victim impact panels are used after an arrest for DUI as a way to prevent re-occurrence with the offense. The victim impact panel is a form of informal social control in that the government is using this intervening method to try to stop the offender with re-offending. Victim impact panels are assembled with those affected by drunk drivers such as a drunk driver killed their family member or they were involved in a serious crash with a drunk driver and served the crash. These victims of drunk drivers speak with those arrested for drunk driving tell their story and explain how their choice to drink and drive has permanently effected their lives for the worse.

Examining the effectiveness of these programs is mixed in results because this type of program may not have an effect on everyone that participates in the program.

According to Rojek, Coverdill, & Fors, (2003) with this type of program it shows the first two years are the most effective at reducing re-offending rates but that effectiveness substantially decreases after those two years.

## Theoretical Framework

### Rational Choice Theory

Cesare Beccaria and Jeremy Bentham developed the rational choice theory in the eighteenth and nineteenth that was focused on the control of crime through penal sanctions instead of observing the criminals themselves (Moran, 1996). Rational choice theory is based on the choice of an individual and that a person choices their own destiny and that the offender choose to commit that crime on their own (Moran, 1996).

The rational choice theory states that someone is not forced to commit a crime or deviant behavior but chooses on their own to commit a crime or deviant behavior (Moran, 1996). The rational choice believes that each person make's the decision on their own to commit a crime and conduct deviant behavior (Moran, 1996). This theory posits that when a person chooses to commit a crime they will examine the cost and benefits of that crime before actually committing the crime. For example before a crime would be committed the offender would consider is obtaining the goal from deviant standard be more beneficial by committing the crime and the risk of getting caught versus non-deviant behavior and obtaining the same goal.

Driving under the influence is a behavior that can be explained under rational choice theory because this is a decision that is made solely by a person without any other factors forcing them to make this decision. Drinking and driving is a decision that is

usually made prior to the drinking commencing because planning for a designated driver

is usually planned prior.  Using rational choice theory with drinking and driving can be

applied in that there are a lot of options a person will consider.  The person drinking will

examine whether or not the risk of driving intoxicated will outweigh the benefit they are

seeking to achieve.  Choices that can be considered would be the distance that needs to be

traveled when getting home, amount of alcohol consumed, length of time consuming

alcohol or society pressure or peer influence.  A person choosing to drink and drive can

be influenced by others around them in that does anyone stop the person from driving

their vehicle or do they just let me them without any input in stopping them.  Another

consideration would be the likelihood of getting caught while driving intoxicated.  The

police presence with high visibility, roadblocks or sobriety checkpoints can make a

difference whether someone chooses to drink and drive with making them evaluating the

risks.

**Social Control Theory**

Travis Hirschi developed social control theory in that those with low self-control

would commit crimes or conduct in deviant behavior (Chriss, 2007).  Social control

theory states that people break the law because of the lack of societal bond they have

(Chriss, 2007).  Societal bonds would be relationships to family, school or relationships

with friends could have an impact on behavior.  A person having a strong bond with

society will be less likely or diminish someone's tendency to commit deviant behavior.

When these societal bonds are weakened or broken then a person's likelihood of deviant

behavior increases according to this theory.   According to Bouffard & Rice (2011) those

individuals with fewer social bonds will exhibit less self-control in their decision-making when it comes to making a negative choice.

Informal social control is a subsection of social control theory. Informal social control refers to someone conforming to the norms or values of a society that are learned from socialization. This form of social control is learned from family members, peers, or other non-government influencers such as teachers. Informal social control uses a reward and sanction system in guiding behavior. A person's environment such as family members or peers involvement in deviant activity can have an impact on a person's decision-making process by what they have seen being done. Informal social control methods can have a stronger impact in lower areas that do not have high drunk driving fatality incidents (Ying, Wu & Chang, 2013).

Peer pressure can have a negative or positive impact on a person's behavior and affect a person's decision making based on those positive or negative inactions with their peers. According to Sela-Shayovitz (2008) there were peer pressure indicators that had an effect on driving under the influence such as apprehension of friend's evaluation and peer intervention decisions. This means that depending on the viewpoints of the peers on whether or not they believe drunk driving is positive or negative can have an impact on a person's decision whether or not to drive drunk. Peers that do not view drinking and driving as a negative or do not see it as something that should not occur can influence another's decision to drive rather than not. According to Tome, Matos, Simoes, Camacho & Diniz (2012) a study was completed with 4,800 people indicating that peer influence has a direct effect on deviant behavior. This study shows that peers involved in deviant are more likely to have a direct influence on others choices to commit deviant

behavior.  Hoorn, Crone, & Leijenhorst (2017) completed a study that showed risk-taking behavior increased with the presence of peers.

**Formal Social Control**

Formal social control is used to set guidelines for people to go by while being an active member of society.  Without formal social control put in place society would not be able to function properly without a set of guidelines to follow.  With no guidelines put in place there would be no way for someone in society to function positivity because there would no boundaries set forth for them needing to follow or expected to follow. Formal social control allows those boundaries such as penalties to be established for those to be able to operate within those specific boundaries (Little & McGivern, 2013). These boundaries regulate ones behavior in trying to modify of impact their decisions. For an example alcohol is legal to consume for those over the age established legal but there are boundaries set forth that being intoxicated while operating a vehicle becomes illegal.  These boundaries set for making it illegal are trying to stop or modify behavior in order to try to maintain public safety.  Being intoxicated while not driving a vehicle is not as dangerous as driving a vehicle being intoxicated so the consequences will have different sanctions.

The most common form of formal social control is establishing laws to be followed.  While creating laws is not the only method of formal social control it is the most notable or recognized by citizens because it is commonly referred to when a deviant behavior takes place.

**General Deterrence**

Cesare Beccaria and Jeremy Bentham established the general deterrence theory in that individuals make a decision based on pleasure verse punishment unless a deterrent exists (Tomlinson, 2016). Beccaria believed laws should be clearly written and established the law clearly with the punishments known to the public for the consequences for such deviant behavior (Tomlinson, 2016). This type of method was the deterrence method of clearly established laws with known punishments was designed in hopes of deterring such behavior. The main assumptions by the deterrence theory was a specific message would be relayed to people indicating certain deviant crimes such as stealing or killing someone would have a swift and consistent punishment for that crime (Tomlinson, 2016).

General deterrence is used order to stop deviant behavior from occurring. General deterrence is used into making someone choose a non-deviant behavior with them knowing the consequences that can occur if caught in the act. General deterrence is used to stop a person from committing a specific offense such as stopping them from committing a drunk driving occurrence. General deterrence is different in that it focuses not on just a single individual but addresses everyone overall whereas specific deterrence will focus on a single individual trying to stop a specific crime from occurring or re-occurring.

General deterrence is used to try to stop drunk driving from occurring by placing specific penalties and sanctions for those that choose and get caught drinking and driving. Lapham & Todd (2012) suggest that punishment may decrease the likelihood of reoffending.

In some states harsher laws have been enacted in attempt to prevent those from considering to drink and drive. Enacting stricter laws can serve as a deterrence in stopping someone from committing the offense but can also have the opposite affect if the law is not strong enough. General deterrence can be applied in different ways and there is no set standard ways general deterrence can be applied when trying to achieve the same result of prevention of drinking and driving. In Arizona there are mandatory jail terms up to ten days and fines imposed for those that are caught drinking and driving for the first time (Egan, 2019). There are other states such as Wisconsin that does not impose such hard penalties for the first-time offense of being caught for drinking and driving (Wisconsin Department of Transportation, 2018). While both these states use deterrence to try to prevent the crime and they are both applied differently but they both still have the same common problem of they are failing to prevent the crime from occurring. Both Wisconsin and Arizona are still having a large number of people arrested yearly for drinking and driving.

## Program Effectiveness

### Roadside Checks

Roadside checks are an under utilized tool that allows law enforcement to stop motorists briefly to check for impairment without infringing on their Constitutional rights. Greene (2003) identified the importance of capturing drunk driver offenders was more important then punishment as a deterrent and that the use of checkpoints was an effective deterrent. According to Greene (2003) using frequent checkpoints will deter potential offenders from committing drunk driving.

The effectiveness of this program has impacted the reduction in fatal alcohol related crashes. Bergen et al. (2014) conducted a systematic review from 2000 to 2012 of the effectiveness of the checkpoints showing reduced fatality crashes by 8.9%. This study confirms the effectiveness this program can positively impact a community in reducing alcohol related deaths. Lacey, Ferguson, Kelley-Baker and Rider (2006) conducted a study on two counties with fewer law enforcement personnel at roadside checkpoints and they were deemed effective. The study conducted weekly sobriety checkpoints for one year which with two counties while another two counties that were not adjacent conducted checkpoints but not on a weekly basis (Lacey, Ferguson, Kelley-Baker & Rider 2005). The study concluded that conducting weekly checkpoints showed a 70% reduction in BAC less than .05% (Lacey et al, 2006). This study confirmed with the use of limited personnel it did not have a negative impact on this type of enforcement from being effective in preventing drunk driving. This means there does not need to be a large number of police personnel presence for this to be effective, it just needs to be specifically enforced.

The downside of using this type of method is the negative backlash it has brought causing may states to not allow them to be used. This negative attention on this type of prevention method has affected the use of them along with even being deemed illegal in some states. According to Fell, Lacey, & Voas (2004) thirteen states do not utilize checkpoints due to legal or policy issues within that state. Only 12 states use checkpoints weekly and the remaining who use checkpoints only conduct them once or twice a year (Fell, Lacey, & Voas 2004).

**Implied Consent**

Implied consent laws are enacted in all 50 states and were created in establishing guidelines for those obtaining a driver's license. Implied consent establishes that prior to obtaining a driver's license the driver agrees to conform to all traffic laws and agree to complete any requests from law enforcement during a DUI investigation. Driver's not willing to cooperate with the implied consent laws are subject to additional sanctions for not complying. This type of deterrence using a law with specific sanctions for punishment is not the most effective in that it requires the drunk driver to be caught in order to have the sanctions be applied. According to Voas, Kelley-Baker, Romano & Vishnuvajjala (2009) those who refuse to comply with implied consent is negatively impacting the success of prosecution and a weak relationship with lowering traffic crashes.

Implied consent sanctions for refusing to complete further requested tests from law enforcement are longer license suspensions. Imposing a longer license suspension creates deterrence by trying to gain compliance or attempt to stop someone from committing the crime by avoiding the license suspension period. Imposing a license suspension does not have the desired deterrence effect that it was created to serve. Voas, Tippetts & McKnight (2010) conducted an examination of 40 million driving records that showed that license suspensions can impact by reducing impaired driving but 75% of offenders will continue to drive with a suspension. This shows that even though driving license suspensions may have a slight impact in reducing impaired driving more than half of the offenders will continue to drive with a suspension deeming this type of deterrence as not effective.

**Targeted Enforcement**

The goal of targeted DUI enforcement is to address the specific occurrence of drunk drivers and aiming at getting those drivers off of the roadway. While being able to identify and specifically locate a drunk driver while on the roadway can be a difficult task with all the cars on the roadway.

Washington completed a pilot program utilizing specific enforcement zones in the largest three counties in the state. The program was utilized for 27 months that showed not only was DUI enforcement effective in reducing DUI and DUI fatality crashes but also other programs such as speeding and seatbelt violations were enforced (Cicchino, 2012). The program concluded with a total of a 34% reduction in alcohol related traffic fatalities along when the county was experiencing an increase in fatalities (Cicchino, 2012). The program contributed to lowering the traffic fatalities involving speed with a reduction of 43% seen when in the past there was a steady increase of 13% traffic fatalities involving speed over the last five years (Cicchino, 2012). This program was successful in reducing DUI fatality crashes but also had an unexpected and additional success rate for deterring speeding traffic fatalities.

**Increased Visibility Enforcement**

High visibility enforcement is a deterrent strategy used in trying to deter deviant behavior from occurring. Johnson (2016) completed a survey with nearly 7000 college students to collect a baseline for the survey. Johnson (2016) completed a follow up survey after increased high-visibility enforcement had taken place over the weekends showing that with increased high-visibility enforcement showed a reduction in those drinking and driving. With this short term high visibility enforcement that was conducted showed that it can have a significant impact on those deciding to drink and drive by

getting some of those driver's to reconsider just on the presence of law enforcement. According to Tay (2005) an increased number of police presence and apprehension rate this created a significantly reduced number of serious alcohol related crashes on the roadway.

**BAIID**

Breath ignition interlock programs are used for offenders that were arrested for drunk driving and court ordered to have this device installed in their vehicle.  This device is used to stop a re-occurrence of drunk driving by stopping the vehicle from being able to be operated with this device.  A 4-year study was completed in Maryland examining the effectiveness of ignition interlock devices with 1,927 drivers.  During the 4-year study some of the drivers had the device installed and the other driver's did not.  The conclusion of the study showed that ignition interlock devices reduced re-offending by 36% compared to the control group that did not have the ignition interlock device (Rauch, Ahlin, Zador, Howard & Duncan (2011).  A study conducted by Marques (2009) verified the beneficial use of the alcohol ignition interlock device in DUI offenders showed there was a 65% recidivism reduction with offenders repeating there offense.  This is a significant decrease in offenders re-offending and shows an effective counter measure for DUI prevention.

The downside to the alcohol ignition interlock device is that it is for offenders that have been arrested for DUI and stopping them from another offense.  The other drawback to this program is that if the offender does not install the device in all vehicles they drive or own this device cannot be fully effective (Mothers Against Drunk Driving, 2013).

**Zero Tolerance**

Zero tolerance laws have been created in all states in the United States and impose a sanction for those consuming alcohol under the legal drinking. While zero tolerance laws were designed to stop those who were underage to drink and drive with allowing them to be charged being under the legal alcohol limit. In Washington the creation of zero tolerance in 1994 showed an increase in arrests when those BAC'S were lower of the legal limit (McCartt, Blackman & Voas (2007). In Washington the underage arrests increased but those arrested for lower under the limit BAC'S more than 25% likely to re-offend (McCartt, Blackman & Voas (2007). This study shows that the zero tolerance law may be enforced but the result is that more than a quarter of those arrested are re-offending. This program is partially solving the drunk driving problem but also contributes to re-offending.

According to Grant (2010) zero tolerance laws have little effect on a driver's behavior. A study by Grant (2010) was conducted from 1988-2000 showed that zero tolerance laws did not have any effect on the total number of single vehicle traffic fatalities. Lewis (2009) conducted a study in Pennsylvania and Ohio that showed both states had increased arrests for those under the legal drinking age but did not have a decrease in traffic fatalities. In Ohio the zero tolerance policy did not have an impact on perception of certain and serve punishment from being caught and did not impact their decision to infrequent their behavior (Lewis, 2009).

The studies that were conducted all had similar results in that the arrests did increase with the zero tolerance laws created but they did not have a positive impact on punishment deterrence or lead to decreasing fatality rates. While this intervention and

deterrent method may create arrests, they are not having a long-term impact on drunk driving.

**Strict Penalties**

Strict penalties falls under the category of general deterrence in trying to get a large amount of people to not commit an offense with a generic deterrence with enacting a tougher law for those arrested for drunk driving. Wagemaar et al (2007) conducted a study examining the stricter penalties and mandatory jail time for those arrested for DUI for their first offense. The study concluded with only an 8% decrease of re-offending with stricter fines and a 6% decrease in single vehicle crashes (Wagemaar et al, 2007). The conclusion of this study was these increased or tougher sanctions did not produce a significant number of decreased drivers re-offending. The negative side of this type of enforcement is that it is too generic to create a deterrent effect in that the offender must be caught before the sanctions can be in place and the fear of being caught is not significant enough to get drivers to not drive while they are intoxicated.

**DUI Courts**

DUI courts are specifically designed to review a person charged with DUI and specifically address the DUI charge in creating a punishment that will deter from further re-offending. DUI courts goals are to reduce the re-offending rate with specifically addressing the crime rather than being placed in other courtrooms for various crimes. In Idaho a study was conducted over a 4.5-year period comparing DUI courts effectiveness over non-DUI courts. The study showed that offenders not enrolled in DUI courts were 1.6 times more likely to re-offend compared to those involved in DUI courts (Ronan, Collins & Rosky, 2009).

Mississippi conducted a 3-year study on DUI courts that showed the effectiveness for first time offenders. A study completed by Robertson, Gardner, Xu, Chi & Mccluskey (2009) showed that over a 3 year period those who attended a DUI court were less likely to re-offend compared to those who did not attend.

DUI courts are shown that they can be effective in reducing the number of re-offenses occurring but the time and money that costs run these courts can have an impact on the success. According to Eibner, Morral, Liccardo Pacula & MacDonald (2006) DUI courts are effective for second and third time offenders but costs more than traditional courts for first time offenders. DUI courts are more cost beneficial for those caught re-offending rather than a first time offender.

DUI courts have mixed reviews on when they are truly effective either for second or third offense offenders or for first time offenders. The specialized court may cost more but with proven reduced recidivism rates it could help with re-offending, but this method cannot be used until an arrest has been made for drunk driving.

**Awareness Campaigns**

Awareness campaigns are designed to reach a large amount of people throughout a community, state or region with the least amount of means used. Awareness campaigns can be a cost effective way to spread a message or try to reach a large of amount of people in trying to influence their decision making process into non-deviant or non-socially acceptable behavior. The benefit to this type of prevention method is that it is not intrusive with making personal contact with anyone and it is not forcing anyone to observe the content but rather just being voluntary shown. According to Wakefield, Loken & Hornik (2010) mass media campaigns can produce a positive change or prevent

negative changes across a large population. Mothers Against Drunk Driving has saved

350,000 lives since they were founded in 1980 through their use of mass media

campaigns along with encouraging new laws to be created (American Addition Center,

2017).

**Victim Panels**

Victim panels are used to bridge the gap between victim and offenders and allow

the victim to speak directly to those arrested and convicted of a crime to learn the impacts

their crimes have caused on the victims. The goal of this program is to stop the criminal

pattern of the offender and for them to not offend with making a personal contact with the

crime victims.

There are various perceptions of the effectiveness of the victim impact panels on

whether or not they are effective. According to Rojek, Coverdill & Fors (2003) they

completed a 5-year follow up to a DUI victim impact panel that showed those who

participated in the victim panel re-offend 15% of the time with another DUI offense

compared to 33% from those who did not attend the victim impact panel.

The goal for any program is not to fail but some prevention methods are more

effective in reaching the goal of crime prevention. A 2-year study completed by

Wheeler, Rogers, Tonigan & Woodall (2004) compared first time offenders enrolled in a

victim impact panel verse those not enrolled in the program which showed the victim

panel had no impact on offenders. This program did not reduce recidivism from those

first time offenders who participated in the program. Crew & Johnson (2011) completed

a study on victim impact panels that showed offenders who completed a victim impact

panel program that it did not have an effect on them for not re-offending and they were

just as likely to re-offend compared to those who never attended the program.

**Treatment Programs**

Treatment programs are another post arrest prevention method for reducing re-offending by the offender seeking treatment. Treatment programs can be used to try to stop addiction. Addiction to alcohol could be a contributing factor to someone's arrest for drunk driving. Addition to alcohol could be the contributing factor for the occurrence of DUI and that the actual crime of DUI would be a secondary affect from the addiction. With addressing the addiction to alcohol it could lead to the stopping of the offender committing another drunk driving occurrence. According to White & Gasperin (2007) approximately 40-70% of first time DUI offenders have had prior alcohol or drug related charges in the past. This shows that there is a primary problem that is occurring with the offender that is contributing to the possible DUI arrest. 80% of DUI offenders have had a problem with alcohol of drugs (White & Gasperin, 2007). This data suggests that with the higher number of alcohol related problems that a DUI offender may have that obtaining treatment for those problems may slow down or halt the secondary effect of being charged with DUI.

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**Recommendations**

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**Requiring BAIID on all Vehicles**

The main goal of preventive measures for preventing drunk drivers is to save lives from drunk drivers and stopping those from being killed. Carter, Flannagan, Bingham, Cunningham and Rupp (2015) conducted an analysis from 2006-2010 examining the injuries and fatalities that occurred as a result of a drunk driver. The study estimated that with a universal BAIID installed approximately 85% of motor vehicle deaths and 84-88% of nonfatal injuries could be prevented over a 15-year period (Carter, Flannagan,

Bingham, Cunningham and Rupp, 2015).  The estimated cost to save in injury costs would be approximately 343 billion over a 15-year period (Carter, Flannagan, Bingham, Cunningham and Rupp, 2015).

Breath alcohol ignition interlock device are installed in the vehicles ignition system that regulates whether a vehicle will start based on the breath sample provided. The device is installed with an allowed BAC tolerance regulation such as the highest standard would be set at .02 BAC.  The vehicle will not start with a BAC detected higher than the allowed standard stopping a drunk driver from operating a vehicle.

Breath alcohol ignition interlock devices are used on vehicles for those who have been arrested and convicted on driving under the influence of alcohol.  These devices are only installed once a person had been caught, arrested and convicted or come to a plea agreement for the offense. The devices otherwise are not used on vehicles unless there has been arrest.

BAIID are an effective measure for preventing the occurrence of drunk driving. It has been proven that ignition interlock devices are effective when being put into place for repeat offenders.  Marques (2009) showed study that re-offending was reduced by 65% with the use of the ignition interlock device.  Kaufman & Wiebe (2016) conducted a study examining the 18 states that use interlock devices verse the other 32 states that do not which showed a 4.7% reduction in alcohol related crashes with the use of ignition interlocks.

Many states use these devices as a first offender programs to prevent the reoccurrence because the device is used to stop someone who has a BAC over the legal limit from driving.  Once the vehicle is started and being driven the device will require

the person to provide another breath sample.  The breath sample will be evaluated and if the breath sample is below the required level set the vehicle will continue to operate otherwise of the sample is above the set standard the vehicle will no longer run.

While this measure has been shown as the most effective countermeasure for preventing re-offending, the issue of drunk driving is still present because this method has been used only after an offender has been caught for drunk driving (Whiteman, 2015).

The downside to using this device is that it can be easily defeated with a passenger providing a breath sample if they were not drinking.  With the passenger providing the breath sample that would keep the vehicle moving as long as they have not been drinking.  The use of these devices is only being used after an offender has been caught and arrested for drunk driving.  This device is not being utilized prior to the apprehension of an offender.

Active preventive measures are the future for drunk driving prevention in stopping the crime from occurring the first time.  With approximately 300,000 drunk drivers on the roadway each day and only 3200 caught within the same day leaves a lot of impaired drivers on the roadway (Mothers Against Drunk Driving (MADD), 2019). Research has shown that BAIID are effective but only used as a preventive measure for second offense preventions.  Proactive preventable measures take away the choice from the individual and makes them comply with the preventive measure without being given a choice to not comply with the measure.  This ensures that compliance is done, and that the prevention measure is being used and effective.  An example of a preventive measure

that is being utilized by legalization of being installed are seat belts.  Seat belts are mandated by law to be used but also mandated to being installed in vehicles.

Research has shown this prevention method is effective as a preventive method for second offenses in trying to stop drunk driving from occurring.  Installing this device as a preventive measure can ensure compliance can be achieved with the device properly installed.  Taking away the choice from an individual and creating a mandatory compliance reduces the chances for errors in allowing a drunk driver to operate a vehicle.  Reducing the chances for a drunk to get operate a vehicle is the goal and preventive measures instituted allows for the errors to be reduced.

The additional cost to implement this device in every vehicle would not be an enough that would impact the production cost of the vehicles.  It is estimated that the cost of a device installed in each vehicle would be approximately $400 per vehicle (Carter, Flannagan, Bingham, Cunningham and Rupp, 2015). This estimated cost is not large enough to have a negative impact on being installed in every vehicle.  With the cost being added on at the production level the cost would be absorbed by the original purchasing of the vehicle and the buyer would not be impacted any further.  Establishing the cost earlier with the vehicle would pose as a positive attribute in that the consumer would not have to do anything further and would become a normal viewed as standard equipment with a vehicle such as seat belts.

In 2008 the Automotive Coalition for Traffic Safety (ACTS) and the National Highway Traffic Safety Administration (NHTSA) joined together to create the Driver Alcohol Detection System for Safety (DADSS) Research Program that was testing the proof of concept (Driver Alcohol Detection System for Safety (DADSS), 2019). The

DADSS program was installing two types of devices: an ignition interlock device on select newer vehicles and a touch system that could detect alcohol through touch of the fingers from an infrared sensor (Driver Alcohol Detection System for Safety (DADSS), 2019) With the two devices the alcohol limit was set at .08 BAC and the vehicles were designed to turn off if the level was exceeded.  In 2013 the program was continued but the devices were redesigned to become smaller but more efficient.  The analysis of the data showed with newer vehicles installing these devices there could be approximately 7,000 lives a year saved (Insurance Institute for Highway Safety Data, 2011).

There is limitation with this device in that it must be installed in the vehicle and they can be easily removed.  Having someone else provide the breath sample for them can allow a drunk to operate a vehicle briefly.  These limitations are significant in that a potential drunk driver could be allowed behind the wheel again posing a danger but if they are caught the sanctions should be stricter.  The Interstate Commerce Clause allows the government to make regulations that are in the interest of safe traveling while on the interstates or roadways (Spivak, 2017).  This government clause would allow the mandate ignition interlock devices on all vehicles without violating any person's rights (Spivak, 2017).  This is similar to seatbelts being installed in all vehicles without being in violation of any civil laws.

With the devices mandatory on all vehicles the sanctions could be imposed more severely for the first offense verse waiting to be imposed on a second offense, which should help create a stronger deterrent.

**Increased Targeted Enforcement**

Increased enforcement can be a combination of preventive drunk driving programs that are combined into a single enforcement strategy.  Increased enforcement is another leading method in preventing drunk driving offenses from occurring.  Increased visibility and aggressive enforcement can create deterrence.  The most effective increased targeted enforcement would be sobriety checkpoints.

An underutilized technique for reducing drunk driving is the use of sobriety checkpoints.  While this technique is not used often by states it is a proven technique in reducing drunk driving occurrences.  This provides high visibility enforcement with the increased presence of law enforcement as a specific location along with targeted enforcement.  Increasing the frequency of checkpoints allows the public to view the focused enforcement and creates in deterrence the risk of getting caught in one of the checkpoints established.  Increasing the number of checkpoints will create the verbal communication between citizens in creating awareness of the increased enforcement allowing citizens to make alternative plans for transportation prior to drinking.

Highly visible and publicized enforcement can have beneficial effects in being able to create deterrence.  In Georgia they have a highly publicized but highly visible enforcement strategy for several years that has contributed to the lowest impaired driving related fatal crashes in the nation (Fell et al, 2014).  Georgia's drunk driving related crashes has declined from 34% in 1982 to 15% in 2011 with a total 56% reduction rate in that time span (Fell et al, 2014).  This study shows that having a constant and consistent enforcement strategy can have a positive effect in reducing a specific crime.  The important of utilizing an effective measure and not stopping that effective enforcement is a key component in reduction of drunk driving. Within that study the increased number

of traffic stops was examined with the significant impact the increased enforcement can have on decreasing drunk driving occurrences.  Fell, Waehrer, Voas, Auld-Owens, Carr and Pell (2014) showed a positive correlation of increased traffic stops conducted by law enforcement resulted in lower odds of impairment detection.  The study showed with increased amount of traffic stops led to the reduction of drunk driving in that it was creating a deterrence in drunk drivers operating a vehicle.  With the increased amount of traffic stops the likelihood of being caught increased.

The problem with utilizing this type of enforcement is taking up resources from other patrol duties.  Police departments across the country do not have the resources to solely dedicate their attention on drunk driving prevention because all of the other duties they are tasked with.  Police departments with special units for drunk driving enforcement are small and are not big enough to dedicate their time to active prevention.  This is the biggest obstacle that is currently in the path of prevention is having enough personnel to create a deterrence for drunk driving while not neglecting the other duties needed to be completed by law enforcement.

**Summary**

In conclusion the importance of addressing the drunk driving epidemic is an important problem that needs to be addressed.  With so many lives being taken away from a preventable crime needs more attention then what has been given.  Drunk driving not only injuries and kills innocent citizens but also causes a substantial financial impact on insurance companies.  It has been proven that billions on dollars in resources are spent paying for the damages drunk driving occurs each year.

According to research the most effective measures to preventing drunk driving is proactive prevention measures. While informal control can have an impact on decreasing drunk driving but at a much smaller rate compared to formal control measures. Research has shown that formal control methods can reduce drunk driving re-offending but that was only after the first arrest. While reducing re-offending after the first offense is important it is more crucial to stop the initial offense because often a drunk driver is not caught after the first time driving impaired.

Active prevention methods are the best solution in reducing the number of drunk driver occurrences. The best method would be to install an ignition interlock device on each vehicle from the factory removing the opportunity of someone to being able to operate a motor vehicle. With an ignition interlock device already installed in the vehicle this would stop the decision-making process of a drunk driver stopping them from operating a vehicle even when they are believing they could operate a vehicle. This method takes away the decision-making process and forces only the correct behavior of non-impairment to operate the vehicle.

A second best non-intrusive method would be increased targeted enforcement through methods of sobriety checkpoints and targeted increased visibility. This method has been proven to be effective but not as effective as more intrusive methods. Increased enforcement requires personnel to specifically address the drunk driving problem with targeted enforcement.

While both methods have limitations the similarities of both methods specifically address the drunk driving problem. The key to reducing drunk driving occurrences is the need to specifically the problem at hand. While research has shown when addressing the

issue first hand can have positive reduction effects but the obstacle is the need to

specifically use resources for a single crime prevention.  Law Enforcement personnel are

limited on the number of resources they can specifically use for a single crime prevention

so the need for a larger prevention method is needed.

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