IMPAIRED DRIVING DATA:
A KEY TO SOLVING THE PROBLEM

Working **G**roup on DWI System Improvements

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IMPAIRED DRIVING DATA: A KEY TO SOLVING THE PROBLEM

This brochure from the Working Group on DWI System Improvements illustrates the value of good data to inform decision-making at all levels of the system and consequences of using poor quality data. It also describes some of the barriers that can impede the collection of high quality data and recommendations for change. Finally, it identifies some of the key pieces of data that are critical to guide decision-making to improve the DWI system.

The Working Group on DWI System Improvements is a coalition of influential organizations representing front-line professionals in all segments of the criminal DWI system. This coalition was formed in 2003 to advance the recommendations stemming a comprehensive review of the DWI system (available at **www.tirf.org**).

During its six year tenure, this consortium has shaped the focus on and development of drunk driving initiatives with its unique perspective on the translation of legislation, policies and programs into operational practices. The Working Group is a recognized source of institutional knowledge and expertise that has become a resource to practitioners, agency administrators and policymakers.

Why are good data important?

Data provide researchers and policymakers with the information they need to determine the scope of the impaired driving problem and how best to deal with it. Such data must, however, be valid, complete, readily accessible, and available in a timely manner.

Without good data, it is impossible to accurately determine the magnitude and characteristics of, or trends in the impaired driving problem. This impedes the ability of legislators, policymakers and administrators to establish priorities regarding which programs and policies are most needed, and to allocate resources accordingly. Similarly, if data are incomplete (e.g.,

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data are not available about the entire population of interest) or are not recognized as being incomplete, then results can be misinterpreted and faulty conclusions made. Moreover, without good data it is impossible to gauge the effectiveness of programs and policies in reducing the problem. High-quality, complete, and timely data are essential to inform decision-making, set priorities, and measure outcomes.

Solid data also permit an identification and understanding of where and why weaknesses in the DWI system are occurring and what strategies will be most effective in addressing these problems. This means that good data can form the basis for thoughtful, achievable and effective legislation to guide implementation efforts, close loopholes, and ensure that offenders are subject to appropriate policies and programs. By pinpointing areas that require improvement, data are a powerful tool to help the justice system meet its goal of reducing impaired driving and recidivism.

Data that measure systems' outcomes are also critical to inform research and ultimately help practitioners match appropriate interventions to targeted offenders. There is much research demonstrating the negative consequences that can occur when offenders participate in programs that do not reflect the level of risk they pose or their specific needs. In this regard, more research is needed to determine how best to reduce recidivism by specifically targeting the needs and issues of different categories of offenders – good data are the linchpin of such research and can help determine what strategies have the greatest success for both first and repeat impaired driving offenders.

Practitioners who have access to good data tend to have better outcomes and conviction rates, which speaks to the power of possessing complete information about the impaired driving offender population.

What are the consequences of poor quality data?

The consequences of poor quality data are profound and affect decision-making at all levels of the system. Poor quality data can result in:

> legislation that does not address impaired driving priorities and/or that is not adequately supported with appropriate resources;

> the development of ineffective programs and policies and lead to the ineffective delivery of impaired driving programs and penalties;

> poorly targeted educational initiatives for practitioners;

> public misunderstanding of the issue or ways it can be addressed;

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> wasted resources or the misallocation of resources that ultimately sustains the revolving door approach that currently exists and fails to protect the public from drunk drivers.

For these reasons, it is critical that quality data are available and that the proper systems are in place to collect and assemble these data.

What are some of the barriers that impede the collection of quality data?

Individualized data systems and/or legacy data systems. Many state agencies that are tasked with collecting impaired driving data operate unique, individual data collection systems that are distinct to their respective agency, rendering the sharing of data problematic. At the same time, these systems may have not kept pace with advances in technology in the past few decades.

There are some unfortunate consequences associated with maintaining older data systems.

> System maintenance costs increase dramatically and the addition of new system features may become impossible.

> Because agencies recognize that older systems will have to be re-written eventually, only bare minimum maintenance is funded to retain existing functionality.

> Of greatest concern, emerging issues may be impossible to address with such data, and this can result in jurisdictions developing work-around solutions that provide partial information such as conducting sample-based studies or focusing on specific sub-populations to get "something" that provides insight into the issue.

This situation can result in agencies that are unable to efficiently measure their own objectives, identify gaps in operations, determine when changing conditions require changes in practice, or predict future needs. Of greater concern, these agencies also may waste precious resources by duplicating data collection efforts, or by relying upon inefficient means to access needed information because of system incompatibilities. The consequences of this are profound and ultimately result in agencies that lack a complete understanding of the facts on which to make decisions, many of which may have long-term implications for their agency.

Policies that hinder information-sharing. In the past decade, information-sharing across agencies has become increasingly difficult due to the proliferation of privacy policies and laws. This has two important consequences. First, agencies responsible for protecting the public may be unable to access relevant data. For example, it is extremely challenging

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to obtain complete criminal history information that includes arrests, convictions, and dispositions. This information is essential to accurately gauge an offender's risk level to ensure that appropriate conditions of monitoring or treatment are imposed. Similarly, it is essential to collect information about case outcomes to enable agencies to measure the effectiveness of interventions. Second, the inability of agencies to share information with researchers that includes some type of unique identifier (in lieu of personal information) makes it extremely challenging for them to evaluate the effectiveness of programs and policies designed to protect the public and change offender behavior. As a consequence, agencies are unable to determine if the decisions they make are truly protecting the public in a cost-effective manner.

The implications are costly. Agencies that are unable to share relevant information stripped of personal identifiers can waste precious resources by duplicating efforts, focusing on competing or inappropriate priorities, and pursuing strategies that do not produce the desired results.

Inconsistent data collection protocols. Key data terms and variables are not uniformly collected or defined across agencies and jurisdictions. Discrepancies that occur in the collection process can result, for example, in impaired driving offenses being counted differently across jurisdictions and lead to an incorrect estimation of the extent of the overall problem.

This lack of uniformity can result in confusion and lead to inaccurate information and also the faulty interpretation of the information. For example, the term "recidivism" is currently defined and used in different ways by various agencies. In some instances recidivism may refer to any re-offense while in others it may refer specifically to new impaired driving offenses only. Depending on the definition that is being applied, the magnitude of the recidivist drunk driver problem can vary substantially, impacting the ability of decision-makers to gauge the priority of this problem. Similarly, "convictions" can be counted in different ways and this also has implications on how different jurisdictions measure their success in dealing with impaired driving offenders. For example, impaired driving convictions may or may not include plea agreements that permit offenders to plead to reduced charges or to participate in a diversion program.

The inconsistent definition of key data terms detracts from the ability of decision-makers to gain a complete understanding of the problem and impedes meaningful comparisons across jurisdictions. The reliance on common data collection procedures can reduce these discrepancies and create a more uniform data source that researchers can use to investigate the impaired driving problem and that decision-makers can use to set priorities and develop policy.

Recommendations for improving data on impaired driving

Steps can be taken to improve the availability, timeliness and access to valid impaired driving data. These steps include:

1. Convene a State task force to examine existing data collection practices and make recommendations for improvement.

The first step towards understanding the magnitude and scope of data collection issues in each jurisdiction is to determine which agencies currently collect data, what data are collected, how they are collected, the way that key terms are defined, the data systems that are employed for storage and processing, and any gaps in the system. In order to guide the activities of the task force, it may be helpful for political leaders to provide task force members with a list of critical questions about impaired driving that require answers to inform decision-making. These task forces can also be the first step towards achieving a longer term goal of harmonization and reciprocity across jurisdictions.

*Examples of key pieces of information to collect are identified in the next section.

2. Streamline data collection practices to create an accurate data source.

Uniformity is critical in data collection. Leadership is needed to bring consistency to data collection and to reduce discrepancies which impede the accurate interpretation and comparisons of data sources. These types of data collection systems already exist in some jurisdictions and are being used to measure the magnitude and characteristics of the impaired driving problem. The DWI Tracking System from the National Highway Traffic Safety Administration and the Tennessee DUI Tracker (**http://duitracker.com**) are two examples of uniform data collection systems.

In particular, the DUI Tracker is a central data collection system that has been successful in improving information-sharing and has resulted in an increase in conviction rates for impaired driving cases. The web-based application gathers over 400 variables per case providing a breadth of information for researchers to analyze. The system relies upon DWI coordinators to enter the data. The biggest benefit of this system is that it enables targeted training – i.e., it can identify locally where problems are occurring and enable judicial educators to use the data to educate practitioners accordingly regarding effective strategies to handle the issue.

One additional option is to streamline state court data collection by requiring all court reporting to be managed by the State Supreme Court to create consistency in reporting methods. It should be noted that Tribal Courts are unique and independent entities, and for this reason, it is also

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important that positive relationships are brokered with Tribal Courts to ensure these data sources are included in any collection processes.

3. Support and fund technology initiatives to improve data systems.

All jurisdictions are currently developing and/or implementing plans to replace the legacy systems that are in operation. This is an important positive step and political and agency support of these initiatives is vital. At the same time, it is essential to allocate adequate funds to support these plans and ensure proper implementation that enables agencies to reach their goals. The automation of data collection systems can make it easier for practitioners at all levels to collect, input and analyze information that results in greater efficiencies in decision-making and in practice.

4. Develop uniform definitions for key pieces of data that can be used across jurisdictions and that can facilitate meaningful comparisons.

The use of uniform definitions provides greater and a more accurate understanding of the magnitude and characteristics of the impaired driving problem. It enables the identification of priorities for program and policy change. The acceptance and use of uniform definitions can streamline data collection and facilitate comparisons across data sets to determine priorities and to strengthen research findings. In this regard, the development of a state data dictionary that is uniformly applied by state agencies could be very beneficial. One example of such an initiative is the Global Justice Initiative which serves as a Federal Advisory Committee and advises the U.S. Attorney General on justice information-sharing and integration strategies. The goal of this initiative is to support the exchange of justice and public safety information in a way that is timely, accurate, accessible, and secure. More information about this initiative can be found at **http://www.it.ojp. gov/global**.

5. Improve information-sharing practices across agencies and data systems.

Agencies require appropriate policies and protocols that specifically enable them to share relevant data as appropriate without violating privacy laws. Political leadership is also needed to ensure that, as new data systems are purchased and installed, these systems will be compatible with data systems in other state agencies, and nationally in the longer-term.

In addition, there are also opportunities that can be leveraged to facilitate linkages with other data systems. For example, the National Information Exchange Model (**NIEM - http://www.niem.gov/index.php)** of the Global Justice Initiative is a framework to bring agencies together to share information and can help to create a larger and more complete pool of
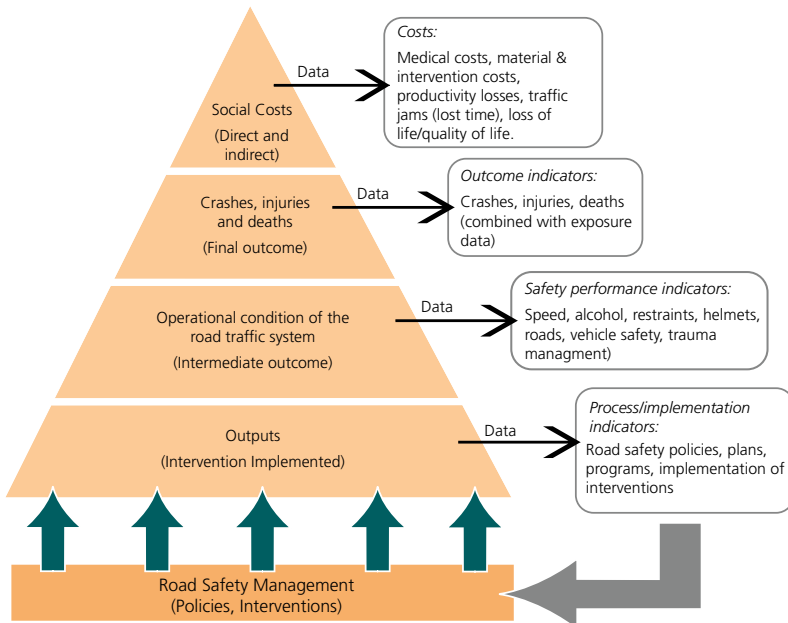
data. The inclusion of impaired driving information in this system would be very beneficial.

6. Engage populations and communities that are over-represented in impaired driving crashes as partners in data collection and information-sharing.

It is essential that good data are collected to reflect the magnitude and characteristics of the impaired driving problem in high-risk populations in particular (e.g., Native American populations; women are also a growing high-risk population). These data are critical to the identification of priorities and effective ways that these populations, in particular, can be addressed. The ability to share information with these communities also permits researchers to better understand the nature of the problem, why it is occurring, and most importantly, to identify appropriate strategies that will be embraced by these communities.

What are the key pieces of data that each jurisdiction should collect?

There are several key pieces of data that policymakers should rely upon to provide a complete understanding of the impaired driving problem and solutions to address it. These pieces of data are referred to as indicators (variables used to measure change) and can be organized into five main categories: social costs, outcome indicators, safety performance indicators, process/implementation indicators and road management indicators.

The pyramid diagram (bottom to top):

- **Road Safety Management** (Policies, Interventions)
- **Outputs** (Intervention Implemented) — Data → *Process/implementation indicators:* Road safety policies, plans, programs, implementation of interventions
- **Operational condition of the road traffic system** (Intermediate outcome) — Data → *Safety performance indicators:* Speed, alcohol, restraints, helmets, roads, vehicle safety, trauma managment
- **Crashes, injuries and deaths** (Final outcome) — Data → *Outcome indicators:* Crashes, injuries, deaths (combined with exposure data)
- **Social Costs** (Direct and indirect) — Data → *Costs:* Medical costs, material & intervention costs, productivity losses, traffic jams (lost time), loss of life/quality of life.

* Source: Hakkert, A.S, Gitelman, V. and Vis, M.A. (Eds.) (2007) *Road Safety Performance Indicators: Theory.* Deliverable D3.6 of the EU FP6 project SafetyNet.

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Collectively, these indicators are needed to assess what has and has not been achieved and can be used to measure the magnitude of the impaired driving problem, gauge risk, and assess how policies and practices influence road safety management. Combined, these indicators can inform decision-making at all levels.

Policymakers and agencies are encouraged to determine what indicators of impaired driving are currently being collected in their respective jurisdictions, and to identify existing gaps in the process so that additional information can be captured to enhance decision-making.

A brief description of the categories of indicators that should be collected is provided below along with some examples in each category. This list is not intended to be exhaustive.

Social cost indicators. These indicators facilitate comparisons of the impact of traffic injuries with outcomes in other policy areas such as medical costs, loss of productivity, etc. These types of comparisons are important for decision-making as it can help influence the creation of new policies and practices. Some examples of social cost indicators are:

> dollar amount invested in education awareness campaigns;

> level of resources needed to sustain an intervention on a per unit (offender) basis; and,

> cost-benefit analyses for the different sanctions that are available.

Outcome indicators. These indicators are used to measure the final outcomes of impaired driving crashes, injuries, and deaths. When combined with exposure data (the quantity and quality of driving), outcome indicators can facilitate comparisons across jurisdictions and reveal the prevalence of impaired driving crashes across the nation. Some examples of outcome indicators are:

> number of alcohol-related crashes, fatalities, and injuries (together with an explicit definition of each), along with information on the driver(s), vehicle and conditions; and,

> blood alcohol concentration (BAC) levels from all alcohol-related crashes; information about the driver testing rate; information about test refusals.

Safety performance indicators. These indicators are closely linked to outcome indicators. These indicators have a causal relationship with crashes as it is the behavior that leads to the outcome. These indicators may include:

> number and percent of drinking drivers based on observation (roadside surveys) broken down by BAC categories, together with information about the driver, passengers, trip origin, and destination;

> number and percent of drinking drivers based on self-report data gathered through public opinion polls; frequency of the behavior together with estimates about being over the legal limit;

> number of sobriety checkpoints conducted annually with the number of drivers stopped, the number tested, and the number positive for alcohol (and at what BAC if available); and,

> pre-stop driving behaviors that are most common in drunk driving arrests.

Process and implementation indicators. These indicators provide insight into how well road safety management is functioning and what interventions, policies, and programs are being implemented. It is important to note that any gaps or missing data can influence the value of the indicator. For example, case dismissals as an indicator can be influenced by what measures are included - plea bargains, prosecutorial time limits, witnesses/officers failing to show up, and cases being re-filed in other courts. Hence it is important to specify what measures are/are not included in an indicator so indicators are correctly interpreted.

Of interest, these indicators however, do not allow for the measuring of impacts – evaluations are needed to determine whether or not impaired driving interventions are having the desired impact. Some process and implementation indicators include:

> number of administrative license suspensions for drinking and driving, standardized, if possible by population, mileage, and licensed driver;

> number of arrests for drinking and driving, standardized, if possible by population, mileage, and licensed driver;

> number of plea reductions (e.g., pleas to lesser charges including the specific lesser charge) and the types of reduced charges that are offered;

> number of impaired driving convictions (categorized according to plea agreement, guilty plea, conviction at trial) and acquittals at trial;

> type of sentences that are imposed categorized by penalty type (e.g., fines, screening, probation supervision, ignition interlocks, home electronic alcohol testing/random testing, vehicle impoundment, treatment intervention, jail, license suspension, alcohol education, victim impact panel); and,

> number of sentences that are successfully completed.

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For the purposes of evaluation, it is important to be aware of the outcomes of sentences that are imposed to determine what penalties are most effective with which types of offenders.

Conclusions

The importance of high quality data to inform decision-making and strengthen the DWI system cannot be overstated. These data are a linchpin to the effective allocation of resources, to improving understanding of the impaired driving problem, and to the identification of the appropriate laws, policies and programs needed to reduce drunk driving and protect the public. The first step towards improving the quality of data is to gain a better understanding of current practices and available information to guide the development of achievable improvements in the long term. Data are a critical tool that can help jurisdictions better manage budgets and develop strategies to do more with less.

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The mission of the Traffic Injury Research Foundation (TIRF) is to reduce traffic-related deaths and injuries. TIRF is a national, independent, charitable road safety institute. Since its inception in 1964, TIRF has become internationally recognized for its accomplishments in a wide range of subject areas related to identifying the causes of road crashes and developing programs and policies to address them affectively.

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